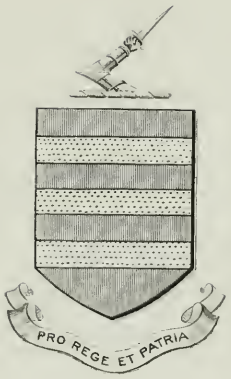

THE JOURNAL

OF THE

American Medical Association

A MEDICAL JOURNAL CONTAINING THE

OFFICIAL RECORD OF THE PROCEEDINGS OF THE ASSOCIATION, AND THE PAPERS READ AT THE ANNUAL SESSION, IN THE SEVERAL SECTIONS, TOGETHER WITH THE

MEDICAL LITERATURE OF THE PERIOD

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BY

GEORGE H. SIMMONS, M.D.

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Address.

THE SCOURGE OF NOSTRUMS AND IRREGULAR PRACTITIONERS.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, JUNE 7-10, 1904.

OLIVER T. OSBORNE, M.A., M.D.

Professor of Materia Medica and Therapeutics at Yale University.

NEW HAVEN, CONN.

One of the duties of your chairman is to open the annual session by an address, and such should embody recommendations for the improvement and betterment of this section. I can not expect to match the valuable recommendations, elegant diction and masterful delivery of my predecessor, but thank him for setting a mark at which it is an honor to aim.

Our program shows the attempt of your officers to give due attention to each part of our expansive title in so far as it is of interest to medical men.

The subject of pure foods and pure drugs should especially interest our section, and each member should keep himself posted concerning the most frequent adulterations of foods and drugs. Every senator and representative in congress should receive all resolutions passed by medical societies bearing on this subject, and it should not be by our neglect that they do not understand the necessity for active legislation in this matter.

I should urge that the executive committee, which consists of the last three presidents, be made the nominating committee. This requires no special permission or ruling by the House of Delegates, but can be voted by you at any meeting. This will insure the careful and thoughtful selection of your future officers.

I also suggest that each year you elect a vice-chairman, one whom you are willing to advance the following year to full chairmanship, and who would serve as chairman if for any reason the elected chairman was unable to attend to his duties. A vice-chairman could also well relieve the chairman of some of his administrative work.

Another matter needs your careful attention and consideration. A committee should be appointed to present a plan for the best method of beginning a systematic war against patent medicines, nostrums, fake cures, the reckless sale of poisons and harmful narcotics, fraudulent advertisements, the swindling use of the mails and the illegitimate practice (without medicine) of fakers, illusionists, rubbers, weaklings, monomaniacs, rascals who charge for divine power and those deluded creatures who watch disease gain a permanent hold on the helpless while they in an unchristianlike manner "wash" the sick with multitudinous masses of unscientific, nauseating, meaningless and senseless words, and then demand tangible monetary compensation for time and life wasted. To this end, and knowing that we can never do more good than when we are preventing harm, I propose to present to you briefly the exact status of this scourge of poison venders and pseudo-practitioners in our country to-day.

While wonderful cures and more wonderful curists have been in vogue ever since Hippocrates, and while the ignorance and superstition of the dark ages fostered and nurtured all such delusions, there was probably never more belief in or reaching after mysterious means of treatment or more taking of mysterious mixtures than now. The cause of this is that the nervous, high tension of our daily lives requires more mind sedatives, whether they be narcotic drugs or harmless mixtures taken because the high price and lavish promises on the labels cause autosuggestion of rest and cure, or whether some person outside the pale of ordinary life appeals to the imagination by hypnotism, suggestion, apparatus, massage, letters, literature, divination, or more gross quackery. All (actually, if narcotic drugs) quiet the nervous system and appeal to the mind, and in either case some unscrupulous person or persons reap pecuniary benefit out of all proportion to the small amount of good done or in spite of the gross harm inflicted.

The increased knowledge of disease and of medical science and of medical problems possessed by the laity and disseminated by the press has not been kept pace with by proper protection against the greed of the human man-eater who preys on his sick brother. The same press, on the same sheet that it gives wise sanitary advice lauds (irresponsibly, of course, but for pay) "cures" that do not cure, "harmless" preparations that are not harmless, and publishes the "cures" and certificates of cures that do not take place, that are forgeries, or that are cases of hypnotic influence that should be prohibited by law. Hence the credulous—and all are more or less credulous in the mysteries of medicine—begin to pay for these advertisements with their money and their life blood.

These certificates of nostrum cures are no new thing, for even before Hippocrates the tablets in the temples of the Asclepiadæ told of wonderful cures effected by the most absurd means or ridiculous methods. But would it not seem that we had outlived such unscientific clinical reports?

That the people of the United States to-day crave narcotics, or something to quiet nerve debility is proved too surely by the ever-increasing sale of alcohol, opium and cocain. The use of alcoholic beverages in the United States has nearly doubled since 1880, and in 1902 the per capita expense for alcohol sold in the

United States was $17.33.[1] This increased use of alcohol is not due to the increase of individual use or to an increase of the number of individuals using it as such. I am told that one patent medicine firm uses 500 barrels of whisky per week in making its product.

Russia, Germany and France as well as ourselves are at work on this liquor question. It is not the work of the "total abstinence" and "no license" advocates alone that will succeed in diminishing the amount of alcohol consumed. What the people should know, and especially temperance organizations, is that most patent medicines and nostrums contain alcohol, and the use of those that contain it is ever on the increase.

Some of these nostrums have been investigated by state boards of health, notably by that of Massachusetts. To say nothing of the morphin and cocain that some of these patent medicines contain and the harm they will thus do, and to say nothing of the enormous amount of coal-tar nostrums that is taken for pain, notably headache, and which sooner or later deteriorate the system, causing more or less permanent debility, let us note what the alcohol content is of the most used patent so-called tonics.

According to Dr. Hiss of Chicago, the annual sale of patent medicines in the United States must reach the enormous sum of $60,000,000,[2] and a large portion of this does positive harm. It is stated that one of our smaller middle west cities alone turns out 21,000,000[3] barrels of patent medicines per year, and in France they even have slot machines for vending patent medicines. A tonic strongly recommended against alcoholism was found to contain 40 per cent. of alcohol, and is probably rated as a sure cure.[4] Another nostrum contains 23.5 per cent. of alcohol in the form of whisky, and in some communities its sale is at least 25,000 bottles per 100,000 people. Many other popular nostrums contain from 17 to 41 per cent. of alcohol, and some Jamaica ginger sold in no-license towns contain 90 per cent. For more detail of this subject, I would refer to the pamphlet published by Mrs. Martha Allen of Syracuse, N. Y., to the Massachusetts State Board Analyst, Document No. 34, and to the *Ladies' Home Journal* of April 23, 1904.

Enough has been said to show that it is time for some one to act in this matter and to seek means to prevent the free sale of alcohol-containing nostrums. Austria, Belgium, Germany, Sweden, Brazil, Russia and Japan regulate the sale of patent medicines.

Now, what shall we do with the press? Were it not for the daily papers and periodicals this enormous sale of patent medicines could not take place. This autosuggestion of disease and disease symptoms and then the positive promise of cure causes frail human nature to give the stuff a trial, and as is expected, the narcotic or the alcohol gives a taste for more.

It is a pleasure to note that the *New York Times* refuses all objectionable advertisements. The same is true of *Truth*, a Buffalo weekly paper, and *Everybody's Magazine* announces that patent medicine, curative and other objectionable advertising will be declined. Doubtless many other papers and periodicals also decline to take objectionable advertising matter, though I am not cognizant of their names, but can we not hope unitedly, little by little, to obtain the above ruling by many papers and journals? Michigan and Iowa take the lead in suppressing nasty quack advertisements, and let us trust that other states will soon follow. But what shall we do with a journal that states that it is "for the home" and "for the young" having the following in its advertising columns:

"For ladies only. Private tips. Should the number of babies be limited? This book will bring you relief."
"Ladies' never failing monthly remedy."
"Ladies! Harmless; relief sure and certain."
"Ladies, when in need."
"The folly of being good. Four full length pictures."
"How to be happy in love."
"An easy road to marriage life."
"A young girl's book of experience."
"Only a boy; for sports only; exposes the wiles of the libertine."
"The social hell."
"Lost vitality."
"Weak men cured free."

Even some of the religious press is not free of these advertisements; in fact is full of them, and consumption cures, cures for Bright's disease and cancer cures are rampant.

What does it need more than for us as a body to see that the postal laws of the United States are enforced to stop the publication of such frauds? As Dr. Gould so well says in *American Medicine*, "Why do we leave to others work that we should do ourselves? All honor to *Physical Culture*, which has exposed the fraud of thirteen Koch serum institutions."

Now to turn to the pseudo-practitioners. We have no statistics of their number in this country, but we have some from Germany that state that there are more than 100,000 men and women irregularly practicing medicine in that small country. One statistician says that he has found 150 cases of cancer in his province, and of these 25 were attended by authorized physicians and 108 by quacks, and he thinks that it is nearly as bad with other diseases.

The German government and England have begun a systematic fight against these charlatans, and shall we be behindhand? We carry our free to come and free to go, free to live and free to die, free to cheat and free to be cheated too far. We should seek for combined action through the American Medical Association with the American Pharmaceutical Association and the medical press.

Probably in many nostrums and in some of the pseudo-medical treatments of disease or disturbances there is a grain or two of truth, which, however, has been so magnified and lauded for financial gain that nothing but quackery, deceit or insanity is left. Dr. Oliver Wendell Holmes' definition of a pseudo-science can not be improved on. He says[5] that the beliefs consist of positive assertions, and all sustaining evidence is received and all negative evidence is denied, and "it is invariably connected with some lucrative practical application. Its possessors and practitioners are usually shrewd people; they are very serious with the public, but wink and laugh a good deal among themselves. The believing multitude consists of women of both sexes, feeble-minded inquirers, poetical optimists, people who always get cheated in buying horses, philanthropists who insist on hurrying up the millennium, and others of this class, with here and there a clergyman, less frequently a lawyer, very rarely a physician, and almost never a

1. Amer. Med., April 18, 1903. (Abstract from American Grocer.)
2. Martha Allen's Pamphlet, 348 Delaware St., Syracuse, N. Y.
3. THE JOURNAL A. M. A., March 21, 1903. (Abstract from New York Commercial.)
4. Massachusetts State Board of Health Reports.
5. New York Med. Jour., Nov. 28, 1903.

horse jockey or a member of the detective force. A pseudo-science does not necessarily consist," he says, "wholly of lies. It may contain many truths, and even valuable ones. The rottenest bank starts with a little specie. It puts out a thousand promises to pay on the strength of a single dollar, but the dollar is very commonly a good one."

Official examination of every nostrum, official investigation of every so-called cure, official sifting of every new discovery, and laws to protect against irregular practice, illegitimate advertising, unwarranted promises, and the prevention of hypnotism and undue influence in any form would soon eradicate this scourge from our country.

The power of mind over body (perhaps increasing as we evolute into something higher) is and always has been recognized by practitioners of medicine, but we should view this power more closely and study it in reference to the wonderful growth of believers in mind cures.

From ancient times down through the middle ages the use of talismans, amulets, charms, incantations, words, letters, verses or other nonsense was in vogue. The most persistent of these supposed protections against disease or harm have been amulets and charms. The horsechestnut, the coral necklace, the iron ring, the rabbit's foot, the camphor bag, have all the same effect which they always have had and are as efficient as Pope Adrian's dried toad and Sir Walter Scott's "parings of nails and hair wrapped in a lump of clay," or as were Perkins' tractors, or the wonderful nonsense cure of hydrophobia for which the Empire State of New York paid $1,500 less than a hundred years ago. Even the surrounding of a smallpox patient with red light is only a revival of what was done in the time of Edward II of England, and in the late South African war the English had difficulty in preventing the Boer refugees from painting their entire bodies with green paint when they were sick.

All of these things doubtless have a certain power to prevent fear by the impression which is made on the mind, and we recognize the influence fear has during periods of danger or epidemics. It is sometimes difficult to ascertain whether a person has the disease that is epidemic or an imitation of it, and these charms make the same impression on the mind as does Eddyism, and the imitation disease is cured.

We are just now suffering from an epidemic of psychologic disease evidenced by the growth of medical quacks and the number of their more or less seriously demented followers. All of these different means or methods of impressing the mind appeal to the emotional, the weak-minded and the hysterical. Each of these different cults despises not only regular medicine but all other cults.

All honor to the various medical editors who are impressing the profession with the fact that something should be done to stop these fanaticisms that are gaining such ground in our country, and especially are we indebted to Dr. George M. Gould, editor of *American Medicine*, for doing much to prevent our continued lethargy in this important problem, and I must thank him for considerable of my data.

The beginning of each of these cults or sects is either with a desire to gain money through hypnotic suggestion, or is a species of insanity, giving its most typical evidence in the great "I am," though in a few instances notoriety seems to be all that the leader desires. Another prerequisite to success seems to be an absolute lack of medical knowledge. The less a man knows of the human body in health and disease the greater his egotism and the more success he has in obtaining followers. Some of these cults combine a religion with their healing, others combine the teaching of how to make money or obtain success in life with the healing. The more unintelligible their writings and the more illiterate their articles, the more their publications seem to have circulation.

When we refer to old Roman history we think how quickly and cheaply they prepared medical men in their quack schools, but what of this in our own country, now, to-day. The diploma-selling age is not yet passed, as medical diplomas have lately been advertised for sale for $15, $20 or $25, depending on the character of the material on which they are printed. This certificate carries with it no necessity for studying medicine or any branch of it, for in April, 1902, the so-called "National School of Osteopathy" offered "Our full mail course in osteopathy, bound in five parts, examination papers and degree D.O., for $10 instead of $25." The circular goes on to say:

> To compensate ourselves, however, for this reduction of price, we must withdraw the offer of the anatomic chart and books on anatomy and physiology which we offer to our $25 students. However, as these latter works are not essential to your success as an osteopath, you will probably be much better pleased with this $10 offer. There will be no further reduction in the cost of our course at any time. We do not find that any of our students are unable to pass our examinations, because our instruction is so plain.

And these are the people that some of our state legislatures are licensing, and for whom some of our noted writers appear before legislators to advocate the issuing of such licenses.

A recent investigation in Berlin shows that 60 per cent. of the quacks who are doing good business were ordinary day laborers before they became so-called "benefactors of mankind;" that only 40 per cent. had had an elementary common school education; that 85 per cent. of the women had been servant girls, and that 30 per cent. of the total number of quacks had criminal records.

In 1903 there was an institute in Baltimore under the name of "Christ's Institution Medico-Chirurgical and Theological College," conducted by six colored men, which gave among other degrees the medical degree. This institution was incorporated in 1900, and had only one M.D. as its originator, and he signed his mark instead of writing his name. In 1903 he was a bachelor of arts, master of arts, bachelor of divinity and doctor of philosophy. Candidates for the degree of M.D. must pay $50 per annum for their instruction.

Do we think that the king's touch and the laying on of hands has gone by? Not at all. Only as late as 1895 Francis Schlatter, a shoemaker of Denver, claimed that he had the gift to heal. He was beset by such crowds wishing to shake hands with him that he stood out of doors from 6 o'clock in the morning until 4 o'clock in the afternoon for a period of three months, and during this time was visited by two hundred thousand people. As he was unable to shake hands with them all, he blessed handkerchiefs which he gave to them. His mail was enormous and reached the number, according to Huber,[6] of two thousand letters a day. This man refused all money, and hence must be placed in the

6. Huber: Philadelphia Med. Jour., March 28, 1903.

class of the harmlessly insane. He was lost sight of for a number of years, until finally we find him, Sept. 7, 1901, arrested and confined in a workhouse in Washington, D. C.

Impressions made by newspapers and the tendency of certain brains to copy can be no better shown than by some recent statistics from Vienna, which show that in the first nine months of 1902, 250 men and 98 women committed suicide in that city, and 365 other people made the attempt unsuccessfully. The ages varied from 87 to 3. The women preferred jumping out of windows, poisoning, and drowning; the men tried shooting, hanging and throwing themselves under trains. Hence it is not surprising that some one should follow Schlatter.

There was a man who called himself Francis Truth, who, in 1900, claimed through the daily press that he had wonderful powers of curing. He was arrested for fraudulent use of the mails, and during the short time that he was in detention 32,600 letters directed to him were confiscated, nearly all of which contained money.

Then we have T. Elijah Hall of Chicago, who gives "preternatural healing,"[7] and says that the germ that is present in some diseases possesses life and intelligence, and, as all animal intelligence is amenable to instruction from man's higher intelligence, it may be driven from the body with a positive forceful thought addressed to the subjective cell-intelligence. The fees for addressing forceful thoughts to these germs range from $2 to $50. He calls this "subjective cell-intelligence," but I should call it "objective sell lunacy," as the disease in the patients who seek his treatment.

Next we have a book offered us advertising an appliance which will lengthen a man's bones, cartileges and sinews at the cost of $1.25 an inch. The book states that "this system has done more toward bettering the condition of the human race than the combined results of any other ten discoveries,"[8] and some one probably believes this.

We next note the magnetic healers, and one of them issued a circular, in November, 1902, agreeing to heal those who answered the circulars sent through the mails by absent treatment, thinking about them fifteen minutes a day at $5 a case, or really $5 a thought. This man, or rascal, was taking in $2,500 a day, and was therefore agreeing to give 125 hours of absent treatment to his patients in each day of 24 hours.

Another wonderful calculator is the editor of a periodical called *The Christian*,[9] who, in an editorial, says that he is sending out 30,000 copies of his paper every month, and to each person receiving the paper he also sends his "healing and success vibrations," and says that the name of each of these 30,000 persons is "called every day in the healing-room," and as the editor of *American Medicine* says, "at the rate of 1,800 names an hour this would take 17 hours of uninterruptetd 'calling' and 'healing.'" And yet some poor, demented creatures must believe this sort of trash.

The most successful exponent of this absent treatment is the Weltmer Magnetic Healing concern of Nevada, Mo. This firm claims not only to cure by correspondence, but also pretends to aid its dupes in money-getting by absent treatment or influence. Here is another fraudulent use of the mails, even if one believes in the power of absent treatment. This man promises to give individual attention to each case, yet his mail keeps eighty typewriters busy, and he was supposed to be treating, in 1902, 25,000 patients at once.

Though clairvoyancy is slightly on the wane, still, in March, 1903, one of the Cornell typhoid students was treated in Middletown, Conn., by a woman clairvoyant who gave him absent treatment. The young man died, and the state did nothing.

While the other cults are booming, spiritualism, not to be outdone, has come to the front with a half-page advertisement in the Sunday *Boston Herald*, Aug. 9, 1903, with a "School for Spirit Mediums," "where trances are taught and second sight and other supernatural powers are developed."

Also, in September, 1903, we find in Brooklyn, N. Y., a "Manna Mysteria," whose press agent is St. Peter, "reincarnate," he says. It costs 50 cents to hear this medium utter unintelligible mutterings. On one evening, when a reporter was present, St. Peter said that he did "not think Matthew, Mark and John would be present that evening, but he rather expected Luke." "James, the son of Zebedee," he said, "had an engagement elsewhere, and Stephen was down in Jersey" (he did not say whether or not he was at Atlantic City), and "Thomas the doubter was also out of town." And people in the city of Brooklyn were actually paying 50 cents to hear such rubbish.

In Germany prayer healing has become such a fad that pharmacopeias of prayers have been published, different prayers being carefully designated for different diseases and conditions.

Mental scientists, or believers in mental science, are separated by their believers from Eddyites and Eddyism. Mental science really means absent treatment, and, perhaps, there is no better exponent of this faith than Helen Wilman, and, as is so characteristic not only of this sect, but of the Eddyites, their literature is teeming with English language thrown together in heterogeneous masses, a sort of "diarrhea of words and a constipation of ideas," and a good purgative would not leave a single fact clinging to the membrane of truth. She says "each patient has instructions about how to come to me in thought, but if he can not understand these instructions, I go in thought to him, and I cure at least 80 per cent. of my patients and seldom have one who has not been discharged by a regular physician as incurable." The United States Court at Jacksonville, Fla., has recently found her guilty of fraudulent use of the mails.

A Reverend of Connecticut claims to diagnosticate disease by placing the patient's hand over his ear. He then treats them mentally at a distance. This same power of diagnosing disease has been claimed by the Dr. Flower of recent newspaper fame.

In Trenton, N. J., is an institution for instruction in mechano-neurotherapy, which graduates, with a degree, full-fledged practitioners of this ilk in ten months.

We now more closely approximate medieval history, medical healing getting closer to religion, and we have first the "Holy Ghosters," who have their headquarters in Maine, and consist of about two thousand souls. These demented creatures believe that the Holy Ghost takes care of the sick and injured; all they must do is to baptize the converts by dipping them three times, face downward, in a river, in the winter, through holes cut in the ice. This sect was quarantined this last winter on account of having neglected smallpox among their members, and now one Sanford, their leader, has been found guilty of compelling his son of 6 years to fast 72 hours

7 Amer. Med., Oct. 17, 1903, p. 610.
8. Ibid., Dec. 19, 1903.
9. Ibid., Dec. 5, 1903.

and of refusing to allow a physician to see a boy of 14 who later died of diphtheria.

The next on the list are the "Gospel Workers," which they call themselves, and the "Holy Rollers," which the uninitiated call them. They roll around on the floor during their religious enthusiasm, and then rub oil on the heads of the converts "to get the devils out of them." This sect originated in Elgin, Pa., in 1894. One of their bishops, a Mr. Pettinger of Michigan, says that he healed a bedridden woman of 93 years of age, and that after he had administered to her she was "took with the power" and jumped out of bed. She danced around like a girl of 16, but, in an aside, he said that he preached her funeral service three weeks afterward.

Next come the crazy Doukhobors, who are Russian emigrants who have settled in Manitoba. This religious mania broke out in October, 1902, and was characterized by their sudden belief that it was sinful to kill animals for food or to use them for work or pleasure, or even to wear clothing made from animals. They consequently set adrift all their live stock, threw away their clothing, and neglected their harvests. In May, 1903, they were on the march, looking for Jesus, the men having discarded their trousers and marching in their boots and coats.

Then we have the vital physicians, who place "V.P." after their names. They belong to the society called "Vital Friends," and have an institution for teaching vitaphysics. And do we think that we have left the dark ages? Here is a treatment by a "vital physician" for a patient with hip-joint disease. The patient was commanded to drink the milk from a black cow in which had been mixed chopped-up hair from the man's head. This was to strangle the worms in the man's stomach, which were the cause of his hip-joint disease. This patient was also ordered to say invocations to his stomach before eating, and to do various physical exercises, with which he was successful in all the movements except those of his ears, which he could not budge, then or since, although his physician, the "V. P.," could move his readily.

Another recent sect are the Ralstonites, a sort of health secret society with several degrees and with a great many dire punishments for betraying secrets. To quote from one of their books: "We believe that Ralstonism is the lever that has been designed by the Creator for the work of uplifting the world," and "no one pretends that there is any other channel of help to mankind except that offered by Ralstonism." In this book of the Ralstonites are 2,237 maxims. The following are a few samples:

"Onions tell if the bowels are out of order."

"The vegetable kingdom includes everything not in the animal kingdom."

"Consumption is often due to iron."

"The optic nerve is weakened by too much starchy food."

"In diphtheria, lockjaw and other torturing maladies the agonies inflicted by germs are unnecessarily excruciating, malicious, malignant, cruel, relentless, satanic and devilish."

Poor germs!

And then this wonderful truism: "The body is a part of Nature's general plan." And we in our ignorance almost thought it was a counterpart of the sublime.

We also have the "Koreshan Universology" and the "Sun Worshippers" in Chicago, the "Chiropractics" of California, the "Cercopathics," and, to quote from Huber,[9] "The Fire Baptized Holiness Association," "The Peculiar People," "The Holiness Society of West Virginia," the cure in Maryland "by saying words," "The Pennsylvania Hexen Charms," "The Viticulturists," "The Somatotherapists," "The Magnetic Healers," "The Phenopathists," "The Sun Curists," "The Esoteric Vibrationists," "The Venopathists," "The Psychic Scientists," and the magnetic cups, instruments, harnesses, Ozone Therapists, etc., etc.

Very little need be said of Alexander Dowie, who made himself so obnoxiously prominent in New York last fall. His wonderful magnetism and hypnotic influence over individuals gave him money and followers, and he built the unique city of Zion. No doctors, no dentists, no drug stores, no alcohol, no tobacco, no shellfish, no hogs, no property that does not belong to him, and no stock that does not pass through his hands, are the rules and regulations of Zion City. Strange that his daughter, who set herself afire, should be taken for treatment to one of the proscribed physicians. Whether his disease is overpowering egotism or rascality, or a form of dement a, has not now been determined. But this is the kind of hypnotic influence, causing a person to lose his individuality and incidentally a portion of his income, that should be prevented by law.

Now, what is osteopathy? A recent editorial in an osteopathic journal said, "Still, the founder of this sect did what Lorenz did long before he ever thought of it, and did it much better." The promulgator of this quackery, founded on the real value of scientific massage, is one Dr. Still, who is president of the American School of Osteopathy. He has lately in an article advocated the use of a Spanish fly blister as rendering a patient immune from smallpox, and as better than vaccine for this purpose. Dr. Newton[10] says that an Italian peasant woman, Madame Dolchin, came to this country in the early 70's and was the real originator of this sect, she asserting that disease was caused by slight deviations or displacements of the bones.

In a recent number of the journal called *The Osteopathic World* are the following words, occurring in the beginning of an article:

> Osteopathy marks the climax in the development of the healing science and art, in the culmination of evolutionary movements that have been deeply and secretly working in the development of the last two centuries for fuller and more perfect manifestation.[11]

Now let us see what is the ground for such self-adulation. In an article in one of these recent journals, *The Osteopathic World,* we find the following plan of treatment of ovarian cysts. The writer says:[12] "I can not take time to enumerate all of the lesions, bony, muscular, ligamentous, etc., you ought to expect. For bony lesions you must look all along down both sides of the spine from the tenth dorsal vertebra to the end of the coccyx. The innominate bones have revealed some lesion in every case of abnormal cyst I have treated. Difficult to discover, but almost sure to exist, the lesion must be found and corrected." He goes on to say: "I give close attention to sacral nerves, especially where they emerge from foramina as well as to the glutei muscles. Fine results may be expected from carefully stretching the sphincter ani." He says: "After treating the tissues in close relation to the tumor, I spend one or two minutes vibrating the tumor itself. A few seconds may be given to inhibiting the inferior hypogastric plexus, occasionally doing the same to solar, hepatic, splenic and other plexuses."

10. Newton: Amer. Med., Oct. 17, 1903.
11. Littlejohn: The Osteopathic World, November, 1903.
12. Riches: The Osteopathic World, November, 1903.

"Bearing down pains may be relieved by a light inhibition on both sides of the clitoris." Indeed! "The aorta and iliac vessels may be gently lifted and manipulated. The spine itself should be stretched, and vertebræ too close should be spread. The muscles of the thigh may be stretched and rotated on femur adduction, and abduction being given as the limb is extended. In some cases we shall fail unless some work is done at perineum and labia." Disgusting! He further says, complacently: "We are in the infancy of our possibilities, scarcely beyond the period of swaddling clothes. What shall be the measure of our ability when we get our growth?"

A recent article in a journal of osteopathy says that the time will soon come when a patient will go to a hospital and apply for a fever, because fevers are curative, and fevers are Nature's way of getting rid of a disease. These quacks refer to some displaced bone, generally a cervical vertebra, all the disturbances that can occur to the human body. And they treat, successfully they claim, by various pommelings and massage, catarrh, chronic diarrhea, goiter, gallstones, St. Vitus dance, fits, asthma, deafness, hay fever, locomotor ataxia, milk leg, eczema, appendicitis, and the first stages of pulmonary tuberculosis.

But I doubt if many of my hearers realize that, in July of 1903, these osteopaths, these men and women that actually dare to publish such indecent articles as I have just read, advertising such sorts of massage as part of their daily practices, had their seventh annual convention at Cleveland, which lasted four days. The topic of one of their principal symposiums was on "Frequency of Treatment," and the discussion of this topic lasted a whole evening with five regularly appointed discussers. After the above quotation from the treatment of ovarian cysts, this subject might be a very pertinent question.

The so-called Still College of Osteopathy is now located at Des Moines, Iowa, and their advertisements stated, in November, that 375 students were in attendance at the last term, and that the faculty comprised 17 professors, each a specialist in his or her department. They claim that they have dissections, that their "*x*-ray laboratory is notable," and "clinic facilities unsurpassed." They say that their laboratories attract rare cases for diagnosis from all over the state of Iowa; and they also emphasize in large type on the back of their journal that there is a "pure moral atmosphere" at their college. I should judge that the assertion would be needed after the quotation I have just read to you.

We now come to the most wonderful epidemic of psychologic disease of this age. This very popular fad, or species of mild insanity, or, technically, autohypnotism, or induced hypnotism through constant readings of meaningless literature, has so many advocates and followers in this country that it really has become a condition for serious thought and deserves the careful attention and combined opposition of all those who are interested in the public welfare. Eddyism counts among its adherents people from all classes and from all degrees of education. In the first place, there is a large class of people who do not believe in Eddyism, but who think that it does no harm, not realizing that the disease, once ingrafted, deteriorates the mental capacity of the individual and negatively allows disease to progress in the individual, or contagion to be started in a community. Few who adopt Eddyism and read and talk the mixture of simple, well-known truths and the irresponsible, heterogeneous, intangible and absurd teachings, or read the hodge podge of words ending in nothing, but sooner or later become mentally warped, and, instead of believing and getting benefit out of simple hope and mental stimulation, think that nothing that occurs to the physical well-being, especially if the disturbance is in some one else, is aught but a mistake of mortal mind, and finally they deny the existence of every-day facts and are hopelessly insane. Neurotic individuals, always having some trouble somewhere, are undoubtedly made better if the disease goes no further. Cases of incurable disease will grasp at this straw of hope, and may get some comfort, but incidentally sometimes suffer frightfully by their refusal of scientific aid.

Another class of Eddyites are those who are weak mentally. A writer in the *New York Sun*, May 30, 1903, says that in his limited range of acquaintance among the Eddyites he has seen seven cases of incurable insanity, and thinks that it will not be long before Eddyism will be figured as an etiologic factor in the insane found in asylums.

In most large cities of this country there are churches, richly endowed, devoted to this pseudo-religious sect, and each member becomes a menace to the mental development of the impressionable people with whom he comes in contact, and every Eddyite becomes a source of danger to the community lest he cause disease, curable in its incipiency, to be neglected, or allows some contagion to spread from his ignorance and denial of such a possibility as contagion. In their last conclave in Boston, in June, 1903, eighteen thousand communicants of this pseudo-church met and gave homage to Mother Eddy. A large deputation of these eighteen thousand went to Concord, N. H., and, as they could not see Mrs. Eddy, kissed the stone steps that lead to her house.

Last year, while the American Medical Association was meeting in New Orleans and promoting scientific discussions and measures to prevent and stay disease, it was announced in the papers that Mrs. Eddy had contributed one hundred thousand dollars to construct an Eddyite church in Concord for the dissemination of the belief that "there is no disease, and that there can be no such thing as disease;" this race denying everything, and she even finds it necessary in her book, "Science and Health, with Key to the Scripture," on page 274 of the 1896 edition, to state that "until it is learned that generation rests on no sexual basis, let marriage continue."[13]

This disease has outstretched our own country and gone to Europe, and in Germany we find, only last year, that Eddyism was the sensation of the hour, and that the Emperor deemed it necessary to take energetic measures against its spread. Mrs. Eddy's book sold in Germany for 20 marks, or $5, a copy.

Dercum says that "Eddyism is more than a passing fad; it is a great and actual danger. The denial of all disease, the neglect of all medical treatment, the defiance of all sanitary regulations, make the so-called Christian Scientist dangerous not only to himself and his family, but to his neighbors."[14]

Child aptly says: "How we, an organized medical profession, and a civilized people, can and do permit Christian Scientists to treat disease and surgical conditions, in spite of common and frequent deaths due to their ignorance and neglect, is beyond comprehension."[15]

Gould, in *American Medicine*, says the result of a series of factors developed the disease of Eddyism, which is a conglomeration of "superstition, irreligion, worldly

13. Philadelphia Med. Jour., May 16, 1903.
14. Dercum: Cohen's System of Physiologic Therapeutics, vol. viii.
15. Child: THE JOURNAL A. M. A., Aug. 1, 1903.

cunning, scientific ignorance, historic indifference and mystical moonshine, the like of which will never again exist. It is a unique product in the world's history, and students of sociology and morbid psychology should gather every possible data."[16]

Now, who is this Mrs. Eddy? She is Mrs. Mary Moss Baker Glover Patterson Eddy. Mrs. Eddy has had three husbands, and the last one, she says, "died of arsenical poisoning mentally administered." She began her school of teaching, in 1867, with one student, and in 1881 obtained a charter from Massachusetts for her metaphysical college, which was located in Boston. At this institution the student must pay $300 for twelve half days of instruction, and the whole course lasted but three weeks. They then received a diploma. In 1889 the new diploma laws of Massachusetts closed this institution, at which time Mrs. Eddy declared that three hundred students were clamoring for admission. If this were true, they would have paid $90,000 for twelve half days of instruction, probably the highest tuition fees ever required for instruction on any subject. She acknowledges this tuition fee was large, but says she "was led to name this amount by a strange providence."[17]

The main source of her wealth is doubtless the sale of her book, without which no person can become an Eddyite, and one of the last editions, if not the last, was numbered 220, and each book brings $2. If each edition was a thousand copies, the income from her book would be nearly $500,000. Each believer is also supposed to buy one or two of her souvenir spoons, and must pay a per capita tax to the mother church at Boston.

One of the sacrilegious hymns sung by these people is, "Jesus Loves You; So Does Mother." These healers, she says, should prepare themselves by no other books than the Bible and her book, "Science and Health."

Her whole teaching is to claim that there is no such thing as disease; there is no such thing as pain; everything is a mistake of mortal mind. Their enormous literature comprises simply the throwing together of words without any meaning, of which here is one small sample which emanates from Mother Eddy herself. She says: "God Spirit being All nothing is matter," and then she tells you to read this backward:

> Unity is non-ethical. It simply is. God is! Energy is! Power is! Light is! Life is! Thought is! Love is! Attraction is! Electricity is! Man is! Existence is the beginning of our search for happiness. Existence is non-ethical. It is a mistake to call God good.
>
> I see that my strength is God, and therefore I know no weakness or tired feeling. I am eternal energy. My peace is God, and therefore I am eternal harmony. All presence is God, and there is no presence of sin. All existence is God, and there is no existence of evil. I affirm the allness of truth. I am the truth, for there is not anything for me but truth to be. I am the whole truth as it is undivisible unto parts. I see that I am truth and all goodness there is. I can not be sick, for my life is the almighty.

The first break in this insane assertion that there is no such thing as disease came a year and a half ago, when Mrs. Eddy's dictum went forth that Eddyite healers should not treat contagious diseases. This means that these poor, ignorant ilk, troubled with a form of insanity, without any medical instruction whatsoever, are to decide at the patient's bedside, whether he has or has not a contagious disease. And yet we are three years into the twentieth century!

I leave it to this Section to have the honor of inaugurating a systematic warfare against this blight on our fair country's escutcheon, and I will close this already long address by a little poem whose authorship I do not know:

CHRISTIAN SCIENCE.

"Oh, God is so good,
If we sit down and brood,
On the goodness and 'Allness' within and without us,
We need have no fear.
Our crackers and beer,
Will flow from the 'Allness' and goodness about us.

"Of course there's no evil,
God's not so uncivil
To make us imperfect and send us to thunder.
'There's nothing but love'—
In the heavens above,
The pockets of men and the hearts that beat under.

" 'There can be no trouble'—
The body's a bubble—
It's all a 'mistaken belief' and a dreaming.
God made us to fool us,
Till some one should school us,
To see what see to be only a seeming.

" 'We're nothing but spirit'—
We really don't hear it—
Or see it, or taste it, or smell it, or feel it.
'There is no sensation'
Except the temptation
To think what we think, when we think we can't hear it.

" 'Tis quite a mistaken
Idea we've taken,
That there's but one method of race propagation.
A child now to bother
About who's his father
Shows stubborn contempt for the new revelation.

" 'There's nothing but mind'—
Though created so blind
We're all of us nursing some little 'delusion',
But friends by the score
(For a dollar or more)
Will kindly remove the distressing 'illusion'.

"With the best of intention
The Lord failed to mention—
While healing the halt, and the deaf and the blind—
The trick of his healing
Was simply revealing
A 'mortal deception' of 'immortal mind'.

"And that these signs and wonders
Arose from the blunders
The Father had made in creating mankind.
And, until he was ready
To send Mrs. Eddy,
The world must remain to his purposes blind."

16. Amer. Med., Sept. 19, 1903.
17. William A. Purrington: Christian Science: An Exposition.

Floating Hospitals for Pulmonary Diseases.—Recent news from Vienna states that the Austrian-Hungarian Floating Sanitarium Company, of London and Vienna, is meeting with considerable financial encouragement owing to the prominence of its chief director, Dr. Semon, physician to King Edward. The company intends to build big hospital steamers to travel about the Austrian, Italian and French coasts—anywhere where it is warm and sunny. The accommodations will be principally reserved for people with lung trouble, and elaborate plans for their relief and cure are being worked out by eminent physicians here and in England. The company expects to start with a capital of $5,000,000. It has procured favorable opinions from many medical authorities. M. Murai is the chief promoter.—*American Medicine.*

Original Articles.

MULTIPLE FRACTURE OF THE LOWER JAW COMPLICATED BY DOUBLE FRACTURE OF THE UPPER JAW.*

THOMAS L. GILMER, M.D., D.D.S.
CHICAGO.

The following case, with treatment, is considered of sufficient interest to present for your consideration:

From St. Luke's Hospital record of May, 1902, is taken the following:

"*Patient.*—G. C. was brought to accident ward about 1 a. m., May 12, 1902, in police ambulance, presenting the following lesions:

"1. Fracture of lower jaw multiple: (*a*) just to left of symphysis between two left incisors, compound in mouth; (*b*) on right side between bicuspid and first molar; (*c*) at angle of jaw right side, simple; whole lower jaw was flattened anteroposteriorly and dropped somewhat toward sternum.

"2. Fracture of upper jaw: (*a*) palate and alveolar processes broken from attachments and freely movable; (*b*) both alveolar processes broken loose from palate; (*c*) hard palate seemed fractured—anteroposteriorly throughout nearly the whole length—near the middle line. (Later examination did not positively confirm this.)

"3. Loss of teeth. Upper jaw: (*a*) four incisors; (*b*) both canines. Lower jaw: (*a*) left central incisor.

"4. Anterior portion of upper alveolar process detached from bone above and space so formed communicated freely with right nostril and probably with right antrum of Highmore.

"5. Extensive laceration of lower lip.

"6. Incised wound of chin.

"7. Hemorrhage from right ear not manifested until 12 hours after accident.

"8. Hemorrhage into soft parts about both eyes and into conjunctivæ.

"9. Hemorrhage subcutaneous about both ears.

"*Cause of Injury and Emergency Treatment.*—Fall from second-story window on a stone pavement. History of intoxication obtained from roommate and confirmed by breath. Was in a heavy stupor, not unconscious, rather restless, and was continually spitting blood. Lower lip and wound of chin sutured with silkworm gut, about three sutures in each, in accident ward. Hemorrhage from nose and mouth was free and showed no tendency to stop. Both nostrils packed with iodoform gauze about 3 a. m. Hemorrhage only partly checked and about 5 a. m. space leading up to nose, above the fractured alveolar process, was tightly packed with iodoform gauze. Hemorrhage then ceased after sufficient loss of blood to be appreciated constitutionally. Patient became more wideawake toward morning and has remained conscious and rational. Was seen by Dr. Gilmer about 2 p. m., who wired, provisionally, the two teeth at sides of fracture near symphysis. Wet cold compresses were applied over face, and mouth and nose were thoroughly irrigated t. i. d. with saturated boric solution ʒii, oil cassia gtt. i. Ear cleaned, filled with boric powder and drained.

"Rectal temperature, 100.4; pulse, 86; respiration, 20."

Examination.—After a careful examination of the patient I found that the nature of the fracture and injuries of the jaws were more extensive than history of the internes indicated. I found the man in a semicomatose condition, blood oozing from the right ear and also a conjunctival ecchymosis. His condition was so serious that I concluded absolute quiet more important for a few days than the setting of the bones of the jaws and face; indeed, I was quite positive that he could not recover. All of the injured parts were maintained in as nearly an aseptic condition as possible, the bowels kept open and he was kept quiet. On the fifth day he had improved to such an extent that I felt it was safe to proceed with the treatment of the fractures.

A corrected diagnosis showed that there were five fractures of the lower jaw. On the left side, one at the angle, another on the line of the first bicuspid. On the right side there was a break at the neck of the condyle, one at the angle and one at the cuspid tooth. The upper jaw was broken in half, through the median line, and the two halves were broken from their attachment above. All of the incisors and both cuspids on the upper jaw were knocked out and lost; the other teeth on this jaw were in place. On the lower jaw, strangely, only one

Figure 1.

tooth, an incisor, was missing. Those on a line with the fracture in the body of the bone were loosened.

Treatment.—In such a case no one method of treatment is applicable, therefore I decided on a combination of wiring and splinting, hoping by this means to at least partially restore the contour of the face and get a reasonably good occlusion of the teeth. Looking to this end, assisted by Dr. Arthur D. Black, an impression was made of the upper jaw and teeth in very soft modeling composition, the two lateral halves of the jaw having been temporarily restored to their normal position. On a cast from this impression a modified Kingsley splint was formed of vulcanite, square brass tubes being vulcanized in the splint on each side to receive the side arms. On the lower part of this splint wire staples were secured to receive the wires which were to be attached to the lower teeth (Fig. 1).

Figure 2.

Holes were now drilled through the bone on either side of the anterior fracture on the lower jaw and the fragments caused by this break securely wired to each other by heavy silver wire. This gave stability to a considerable portion of the body of the bone. German silver wires were now placed around the necks of the firmly set teeth on the lower jaw and secured by twisting. The splint was adjusted to the upper teeth and the two halves of the upper jaw were drawn forward and pressed upward in their normal relation with the bones above it and secured in place by laces extending from the side arms, to which they were attached to eyelets in a skull cap (Fig. 2). The wires on the lower teeth were now secured to

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. E. A. Bogue, Alice M. Steeves and M. L. Rhein.

the staples on the lower part of the splint, the lower jaw being drawn forward by this attachment to its normal position and the teeth held in apposition with the splint, the lower surface of which was shaped to correspond with what I believe to represent the normal occlusion.

Results.—The result was far more satisfactory than could reasonably have been anticipated and is fairly well shown in Fig. 3, made from a photograph taken immediately after the removal of the appliances. The occlusion of the teeth was so nearly correct that a trifle grinding made it approximately perfect. To prevent the laces slipping on the metal arms extending out from the mouth, pieces of adhesive plaster were attached to them. Through these holes were punched to receive the laces (Fig. 2).

The progress of the case was uneventful, the temperature never rising above 100.6. Primary union was secured in each fracture and the patient was discharged one month and three days after the application of the splint and the wiring of the bone and teeth.

DISCUSSION.

DR. G. V. I. BROWN, Milwaukee—I suppose it is only those who have been through the trials of excessive fractures and who are familiar with the conditions under which such cases come to the stomatologist and oral surgeon for treatment who can appreciate the very great difficulties that Dr. Gilmer has so successfully overcome in this case. Any one of the five fractures that was reported in this one jaw would have been sufficient difficulty in itself, but to take a multiple fracture

Figure 3.

with surrounding tissue having its integrity almost entirely destroyed by the traumatism makes the appearance of the patient as shown in the final result something almost beyond expectation. Commonly, the teaching with regard to the treatment of fractures is that it is necessary to apply the splint almost immediately. I note that Dr. Gilmer found it necessary to allow several days to elapse, and I think that that is the part of wisdom. Not only was it so in this case, but I believe it to be true in many other fractures of less degree. I have found it extremely useful to construct a temporary splint of modeling compound. I always carry this modeling compound in my surgical bag, and for use in an emergency it is extremely valuable. It can be softened in hot water and placed before there has been opportunity for swelling, soreness or other complication to arise. When these conditions have subsided and the patient is in condition to control with comparative comfort, a better splint can be constructed, but even without the construction of another splint, modeling compound can be made to serve the purpose.

Calcined Magnesia to Aid in Incineration of Organic Matters.—Geneuil states in the *Bulletin of the Société de Pharmacie de Bordeaux*, that the incineration of organic matters mixed with mineral substances proceeds slowly and nearly always incompletely, while if some calcined magnesia be added, combustion proceeds regularly and all the organic matters will be found to be completely destroyed.

DENTAL EDUCATION.

DISCUSSION ON THE PAPERS OF DRS. EAMES, BALDWIN, CHITTENDEN AND MARSHALL IN THE SECTION ON STOMATOLOGY AT THE ATLANTIC CITY SESSION.

(*Concluded from* THE JOURNAL, *June 18, 1904, page 1619.*)

DR. N. S. HOFF, Ann Arbor, Mich.—I do not believe it will do any good at this time to discuss the possibility of the probability of a four years' course of instruction in our dental schools, because the Faculties Association will do what it pleases, and, naturally, to this we shall have to submit. The matter of arranging the course of study in our own school has been my work for several years. Our institution is not very unlike that of Harvard. We have a medical faculty with high ideals, and our work in the line of scientific medical branches is done in the medical school, and our students are compelled to do that work on the same basis as the medical students. I can readily appreciate the situation in which Harvard finds itself. Our school was early forced to go into the four years' course, not because we wanted to get ahead of anybody else, but because our medical school had taken such advanced ground on the scientific subjects that we were compelled to have our students instructed in those departments by a proper amount of time. What shall be the position of our school in view of the position of the Faculties Association, I am not prepared to say, but I do not see how it will be possible for us to do our work short of a four-year basis; and I think that if things go on as they have in the medical department we shall be driven to a five years' course. My impression is that by our plan of working we are not developing our course symmetrically. The scheme that I have been turning over in my mind is that in the first year our students should take up the technic work and as fast as possible they should be advanced through the practical courses, at the same time carrying sufficient of the scientific branches to keep up the mental discipline which they have already acquired by their high-school training. We admit students from high schools, but they are all examined, and we know what their teaching has been. We require two years of Latin, if the student has had only one language. We prefer that he has one modern language, preferably German. The majority of our students from the high school come at the age of nineteen, which it seems to me is not an excessively mature age for a man to take up technical training. I believe such men will develop their technical training more rapidly if taken up at that age than if it is delayed until later in the course; and, if we can advance them more rapidly at that period, why not do it, and at the same time, allow them to carry, not full work in the scientific departments, but only sufficient amount to keep them in mental drill; for instance, the study of chemistry and anatomy may be properly carried along because they do not need to see the relations of chemistry at the beginning. They will be able to complete the subject of chemistry later on in the course. I was talking with the deans of two medical colleges in the West in which they have dental departments, and who complained of the difficulty in getting dental work done. They asked me how we did at Ann Arbor. I said: "We don't do it; it is a physical impossibility to get a medical man who has never had any dental training to interest a dental practitioner in the subject from a theoretical standpoint. He must know something practical about it that will call the student's attention to the work. I have found this true in therapeutics; the students could answer me according to the text-books, but they had no idea of the relations to practical work. I do not know how they will make that application of their work, unless we first teach them to be practical dentists. Then when they come to these physiologic principles they will see the relation to their own work. I remember that it took me a long while to apply my 100 per cent. chemistry in my examination record to my dental chemistry. I think the profession recognizes the fact that if there is a standard it must not be dogmatic, for there are different classes, and I do not think it is necessary for the schools in Class A to take into consideration the schools in Class B. The standard is sentimental, and

it is the greatest power for the uplift of our profession. It is this unwritten standard, or whatever it may be called, that I am looking for. I think it will be thoroughly discouraging, if the course of study is put back to three years, or if a lower standard is made by the Association of Faculties. It will take years for us to get back to where we now are. I do not believe the subject has ever been studied from a proper standpoint. I have given you the standpoint from my own view.

DR. ALICE M. STEEVES, Boston—My idea is that the dental student does not work from the idea of benefiting the entire body; he does not see the relationship very often. I think we should impress on him that he is working for the benefit of the whole and not for one individual.

DR. BOGUE, New York City—The chairman and Dr. Hoff have assisted in crystallizing my incoherent views. My boy, who had promised me he would study dentistry, felt that he wanted to study medicine. I said to him, "I claim the fulfillment of that promise. When you have done that, all you can earn you may devote to the study of medicine." He worked so hard that after graduation in dentistry he had already passed his first year in medicine. He afterward graduated in medicine, and in that obtained what I had been desiring for years: that he should know when he began the study of medicine what he wanted to get out of that study. He could not do that until he had graduated as a dentist. He received his operative practice at the University of Pennsylvania, where individual ability I found could be recognized, and got this practice at an earlier age than he could have gotten it at either of the other schools. It has been demonstrated to us how the musician beginning at an early age becomes technically so perfect that his fingers accomplish the thought of his mind almost automatically. Let that musician begin later on in life and it can never be done. From that standpoint I draw a parallel with the dentist's work, and I believe that unless a dentist begins his technical work comparatively early in life he will never succeed in his profession. Now, what is his profession, gentlemen? Suppose this room full of practitioners were called in an hour from now to attend a case of broken lower jaw, how many of us are perfectly qualified to take that case in hand? How many of us would treat a case of cleft palate? I am sure I would not dare undertake Brown's operation. Right there is another cause that should call this body into relationship with the great medical body. I allude to these things, because it seems to me they have a bearing on the curriculum yet to be decided on. There are things in dental education which have been left behind which we should have with us, and one is private tutelage before the student ever undertakes to enter college. I have spent some time in the class rooms in Harvard, and in those of other colleges, and have noted the difference in what I have seen of the students. I do not say that the classes graduated at Harvard would be any better able to do the work that a dental surgeon ought to feel himself called on to do than those from other schools; but I do know all too sadly that the dental graduate as a whole is not the man he ought to be. He is not sufficiently qualified by any manner of means to take charge of the oral cavity and to keep it in health.

DR. M. L. RHEIN, New York City—These papers and this discussion and all the literature of our profession on this subject are most conclusive evidence of the correct assumption of our chairman in his paper on the crying need of symmetry in general education. My own impression in this matter is that the cause of the trouble is not in the professional education. The source is much deeper. It is in the primary methods, or pretences at methods of education to which the world has been accustomed; the education of youth from childhood up is in a very great progress of evolution at the present time, and has been progressing materially. It is impossible for us to arrive at any of the ideals that Professor Truman or Professor Hoff would like to see at the present time, and the main trouble is at the primary education. I differ entirely with the theory of Dr. Hoff and which Dr. Bogue advanced, of taking up the general medical education later. That will not cure the trouble. The trouble can be reached if the education of youth is properly conducted. The greatest progress in this direction is the induction of manual training in the primary education. Manual training brought to its proper level is the true solution of this problem. If a child in its primary education has received the proper manual training so that he becomes deft enough with his fingers as a child to do a piece of wood-carving or the work of the other departments, it will be as impossible for him to lose this deftness as it will be impossible for him to lose his skill on the ice, so easily acquired in childhood and so difficult in later life. Another thought which is uppermost in my mind in this direction is that it is impossible to make dentists. We can aid in the education of different classes of dentists, from very good ones, to certain inferior ones; and yet, out of certain material, we must recognize that it is impossible to produce any sort of dentists. The fact that so much of that material is brought into the profession with the degree of D.D.S. attached to the name is not to the credit of the institution that such men should have passed three years there when it is self-evident that they are unfit to ever become successful practitioners. In view of this fact, last year, I was led to say that I was strongly in favor of getting rid of all the poor colleges at any cost, that I thought the ultimate interest of the profession would be enhanced if any means were used to annihilate what is known as the commercial institute in dentistry. It is in these institutions that such material is allowed to go through. I have no doubt that some of it gets through the better grade of institution, but in no such proportion. I have stood aghast at the position Harvard has taken in this matter. It is to me one of the most inconceivable things for an institution of that character to do. I sympathize with everything that Dr. Briggs has stated to us as being the position of Harvard, but it is no excuse for Harvard's action. I agree with Dr. Briggs that it may be a matter of discussion whether it is better to advance the preliminary education, or whether it is better to advance the course, but that discussion should have been entered into long before the actual meeting. There were two years of the discussion before the meeting of the Association of Faculties, when Harvard had an opportunity to consider that subject in a way that she failed to do, or to lead any one to suppose that she would take the position that would be utilized by the commercial institutions for the degradation of dentistry. No one fails to realize that Harvard is not allied with them, but they take advantage of the position which Harvard has taken. As an earnest advocate for the highest advancement of dental education, I do not believe that it would suffer one iota, if at the meeting at Washington a large number of the colleges would secede from the four years' course. I believe it would result in the annihilation of the commercial colleges, because the examining boards are in favor of the four years' course. Another point of interest was that referred to by Dr. Hoff, the difficulty in securing instruction to the dental student from the medical men. That is another point where education requires an awful lot of remedying in the future; that is, the lack of proper education, not only of the medical teacher, but of the medical student, because the medical student must ultimately become the teacher. If he knows nothing about the mouth he is not qualified to teach the groundwork of medical practice to future dentists or stomatologists.

Another point, and one which has been eloquently dilated on by Dr. Marshall: We know that we are not willing to take a position lower in the scale of the medical men, and yet we are placed in that position, because we have failed to keep up to the trend of evolution in medical education. Is there any reason why our education should be inferior to that of the medical institution? None in the least. Dr. Briggs is right there. That is where Harvard is right, and we are wrong. It is not only necessary for us to stand for a four years' course, but we must not present them with a calling that places dental practitioners on an inferior basis than the medical men, if we would attract to our specialty the best of the youth of this country. We do that the moment we lower the standard of our entrance examinations in our institutions. I would like to emphasize this on the departments of the universities who are interested

in the real uplift of the educational standard. It matters little how many students they may lose in a matter of this kind. It matters much whether they elevate the character of the material that is attracted to us. One of the curses of the general education to-day is that in the lower branches the teaching is uniform. The minds of the children are trained alike, and yet they are all totally different.

It is impossible to satisfy the desire of our friend Dr. Bogue in telling how we shall make the model dental education. I have simply tried to bring up a few of the defects; but, I want to say that if the manual dexterity is acquired in childhood, the basic principles which should precede specialization can not fail to be properly acquired. I want to introduce a resolution as part of the discussion of this subject, as follows:

Resolved, The Section on Stomatology of the American Medical Association in session at Atlantic City, sends its greetings to the National Association of Dental Faculties. We congratulate the association on the completion of the first year of the advanced four years' course. We sincerely trust that having the honor and standing of the profession in your hands, no action will be taken that will tend to lower the advanced stand that has been taken.

I would like to have this Section send to them this expression and our hope that they will not falter in the position taken.

On motion the resolution was adopted.

DR. WILLIAM LEDERER, New York City—Dr. Rhein said correctly: "Dentists are born." To my mind dentistry is both a science and an art. The man who is a scientist alone or the one who is a craftsman and an artist alone is not a dentist. Whether a course in a school is three or four years, that will not make him a better or a worse man. To have ideal conditions and to further dental education two factors are necessary; just as two factors are necessary to produce a work of art: the artist and the material which he turns into a work of art. If the most ideal conditions prevail in the institutions and the material which is entered is not capable of properly imbibing the teachings, the result will not be good dentists. Theory can be taught, but mechanical ability can not be taught, and, therefore, I should think the essential training would be a combination of the practice and the teaching. It is stated that there is only one school in this country whose degree enables a man to practice in Germany, and that is Ann Arbor. I am sure we have other schools in this country which turn ont as able men as Ann Arbor. How they place the standard I do not know. Ann Arbor is a state institution. If some movement were started to create state institutions which can not be commercial, perhaps that would solve the problem, and we would have proper material and proper artists to do a work of art.

DR. EDWARD C. KIRK—I agree with Dr. Rhein that the great defect in the mind, in the career, in the qualification of the dental student for acquiring his education is the fault of his training in the kindergarten. I do not believe it is because the method is uniform, but because the method is faulty. You can not make a mind elective that has not the power of election. That is what parents are for. Education is to be of use. We study arithmetic, and we go on farther with the relations of numbers until we get into higher mathematics. Only those whose calling demands the use of mathematics employ them. There is another use of mathematics—the mental discipline. That is to get into the mind of that human being an appreciation of the fact that two and two make four—not three and seven-eighths or four and a quarter. It is to develop a respect for precision as an element of character. The great fault in the dental student is that he is not precise and does not reason logically and accurately. I had a talk with my colleague, Dr. Truman, on the bad use of English and the misspelling of these men. I kept in my examination markings a list of terms misspelled by American-born and educated students of our high schools. Dr. Truman tells me that it is a psychic state developed by the examination stress. He is very tender-hearted with his delinquents. I believe the training of the dentist should be begun in the kindergarten. There is room for us to suggest improvement in the methods of preliminary education. I agree also with Dr. Rhein that it is unsafe in the making of a dentist to postpone his manual training, and such manual training should be specific; it must be related to his calling as a dentist. I do not agree that a man should take a medical training as preparatory to dental education. I am of the opinion that we must superadd whatever he needs in the medical training. I also believe it is a mistake for a student to have his preparatory training in a dental office. Such training should be post-graduate. Under the present arrangement of the college curriculum we have the methods for training, which is a better plan than the old apprenticeship system. I think that any one who has looked at this thing conscientiously and who knows anything about the subject will agree that it is impossible to produce a dentist worthy of the name in less than four years under present conditions. I believe the whole reason why there is a desire on the part of the faculties (I except Harvard; I understand her position, and it has nothing to do with my remark; she has adopted a different plan of arriving at the same end) to revert to the three years course is purely a commercial one. I know that there would have been no opposition to the four years' course had there not been a drop in the Freshmen classes of from 50 to 75 per cent. in many instances. That recalls to my mind one point referred to by the essayist that as a purely commercial proposition it pays to maintain the highest possible standard. There are enough decent, honest people in the world to back up such an effort, and on the principle that honesty is the best policy, even in the absence of any other moral consideration, it would pay. The main reason is, of course, that the four years' course makes better dentists.

DR. GEORGE V. I. BROWN—I believe I am the real culprit. Mine happened to be the resolution passed in our Faculty Association for the four years' course. I believed in it very thoroughly then, and I believe in it even more now. I believe Harvard's going out last year was a mistake, and I hope that before very long the association and Harvard will meet on common ground. The criticism of the kindergarten system refers to matters which we can not change. We have to deal with students who have been educated under a system, good or bad, that has been in existence, and it is well for us to help in rearranging the future. I believe we must and will have a four years' course. No matter whether one man who is more highly educated than another can learn more in six months or a year than the other, we must base our standard on the average. There is no question that the more a man trains his fingers in dental work the better, and no one will question that he can do more of that in four years than three. I believe that if we are doing our duty we will have a personal interest in the men under our care, and I believe we can do more to uplift them ethically in four years than in three. I have had to face the proposition of trying to make a dental student do in one year the same work that medical men were doing and do 40 hours a week beside, and I found he could not do it. I am hopeful about this Faculty Association meeting. When the final issue has come on any question there have always been enough good men to carry what is right. So far as Harvard's position is concerned, the University of Iowa, Ann Arbor, and I daresay Pennsylvania, will have more than a full year more of instruction than they, but we are willing to suffer that disadvantage—if it is a disadvantage—for the sake of training much better men.

DR. EUGENE S. TALBOT, Chicago—I am glad that Harvard has taken the position she has. I am in favor of the four years' course and I am sure that there is a great deal of good going to come out of this peculiar condition in which the profession stands. It is only by this friction that we arrive at results. I am going to discuss this subject on a little different plan from what most have spoken. They have been talking along the mechanics of dentistry. The question comes up at the present time, is there not another side than the mechanics of dentistry? There was not when the first dental school was established. But, it seems to me we know a little more along the line of stomatology than we knew sixty-four years ago, and the question arises, are the dental colleges keeping pace with our present knowledge? We have been talking of the practice of dentistry as it is to-day. What will become of the practice of dentistry sixty-four years from now, if it progresses as it

nas in the last sixty-four years? Are we going to remain as mechanics and manipulators? It seems to me that there are two conditions at the present time that are uppermost in the minds of the dental profession: Decay of teeth and interstitial gingivitis. We have been studying decay of teeth as a local condition, and we have advanced far enough in the last few years to know that disease of the human body has a great deal to do with decay of teeth. We know that it has much to do with the saliva of the mouth, that it produces a change in the saliva. We know that pregnancy has much to do with decay of the teeth, also typhoid fever and pneumonia. Yet at the present time, although we have been teaching sixty-four years we have not gotten down to the first principles of decay of the teeth and interstitial gingivitis. There is not a single dental college teaching the principles of the nervous system. What have we to say in regard to interstitial gingivitis? What do we know about intestinal fermentation, the great cause of gingivitis? I want to say to the teachers here that we have yet to learn the first principles of teaching these diseases and we have got to introduce them in our schools. Until we have educated students we must have educated men in order that we can teach the students the diseases of the human body. We come to the point that some school, and I hope it will be Harvard, will take the lead and will require, first an academic degree; second, two years in pathology in our medical schools, and third, manipulation; and as soon as some university will teach men to become teachers to fill our dental colleges with men who are capable of teaching, we shall have better dental students.

Dr. G. V. I. Brown—I agree with Dr. Talbot that we should have more of the teaching to which he refers. We have men here who have been teaching for years, and Dr. Talbot has said we do not teach about nervous diseases. I should like to know their statements on this question.

Dr. Talbot—There are no chairs on the pathology of the nervous system.

Dr. Kirk—We teach the nervous system, but I understood the secretary to lay down rather dogmatically that the perverted nervous system had as much to do with interstitial gingivitis if not more than any other factor, except the local conditions. I think that is rather a broad statement, and there comes to the mind the proposition of which came first, the egg or the hen. There is such a thing as faulty metabolism, and that probably has something to do with the perverted nervous system. We have not taught that faulty action of the nervous system is the fundamental error, but we teach fundamentally that faulty metabolism is back of the whole disturbance.

Dr. E. C. Briggs, Boston—I do not want you to think that Harvard does not want four years or that she is standing out against it. That never has been the point. I think the time is coming when Harvard will demand four years. The time is coming when she will demand other things. While we felt that we could not take every step at once, we felt that the step which we did take was the next step to take. I can not deny the accusation that Dr. Rhein made that this thing ought to have been threshed out before the motion was carried to make four terms the course. It seemed to me that Dr. Truman's remarks stating that there were some students whom he did not like to see go out as dentists, are an argument for my point. You can not help getting men in who are not fitted, and the men who go out are safer if they have had a good preliminary education.

Dr. A. E. Baldwin, Chicago—The question is not one of degrees; what we want is the education. Dr. Talbot is correct in his statement that we should pay more attention to the definite causes of the conditions and not content ourselves with the manipulative end. We have too many men in the profession whose minds go no farther back than the work and the correction they can give it. I do not think there is a man practicing dentistry to-day or being prepared for practice who is not the better for the broadest kind of an education. In the medical school I saw as much evidence of manipulative skill as in the dental college. At the same time, I do not mean to belittle the manipulative part of the education taught in our dental colleges. We do not occupy a progressive field when we talk about going back to the pupilage system. That can not go farther than the men. If the institutions are what we suppose them to be they are a combination of the teaching of the best men, and to go from them to the office of some fossilized person—of which, perhaps, I would be one—would be very foolish. I have seen men of broad education who were failures in their chosen vocation, but I do not lay it to the broad education. There are some men who have a wonderful lack of education and who are yet wonderful successes. Education is not a method of cramming things in, but it is the drawing out of what is within. We will have some failures even with four, or a ten years' course, but we shall have more intellectual work done.

Dr. M. L. Rhein—I am sure that all the gentlemen who spoke of the manipulative point in educational acquirements had no intention of objecting to the phase presented by Drs. Baldwin and Talbot. We realize that all the scientific attainment possible is valueless without the manipulative ability in our specialty. The two must go hand in hand. The point is that it is impossible to instil that manipulative ability if it is lacking in the personality of the individual, and one of the defects in our institutions is the absence of a method by which applicants may be received for a probationary period, and if it is found at the end of this time that they are out of their sphere, they may be rejected.

Dr. George F. Eames, Boston—Dr. Baldwin has stated that education is a drawing out of what is within. My idea would be to ascertain the bent of a child while in the kindergarten and in his later education, taking a broad view to determine his probable choice of professions. Then when he has arrived at the age when he knows what he wants there will be some data of value. It is not a degree; it is not a number of years, but it is the qualification of the individual to be in our specialty, and an American citizen, and when he has developed equally and symmetrically in all of these lines, he has attained the object, and it is for us to decide the time spent in preliminary education, and how much within the college walls. I believe a man who has it within him to be a success, must escape the bonds and rules of an institution by the time he is twenty-five years of age. We have not a lease on life. If we increase the length of the course, we do not have the life in proportion.

DYSENTERY.

A REPORT OF SEVERAL CASES IN WHICH BACILLUS DYSENTERIÆ (SHIGA) WAS FOUND IN WASHINGTON, D. C.*

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With the idea of obtaining some knowledge, profitable at least to myself, and of passing the summer with some interesting problem, I undertook to find out last summer if the *Bacillus dysenteriæ* (Shiga) is to be found in Washington.[1] At first the plan was to confine the work to infants, but as such cases proved hard to obtain, and as others presented themselves, this report includes not only babies, but also adults with a history of residence in Washington, and others—soldiers lately returned from the Philippines.

MATERIAL.

A few words regarding the material Washington afforded last summer may not be amiss. I was assured by both the medical profession and the laity that dysen-

* Read before the Medical Society of the District of Columbia, May 11, 1904.

1. I wish to express my indebtedness and sincere thanks to the surgeon-general of the U. S. Army for the privilege of working in the laboratory of the Army Medical Museum; to Dr. Simon Flexner, for provision of sera and other requisites which only he had at his command; to the many physicians in Washington and surgeons in the Army who have endeavored to provide me with material, and to Dr. James Carroll, who so courteously saw that all my wants in the laboratory were supplied.

tery would be plentiful; that there were always innumerable cases during July and August, and that the dispensaries were overrun with them. It was said that the hot weather would develop the cases quickly, but the hot weather did not come.

At the Emergency Hospital, from July 15 to October 15, practically nothing was found. In the history records at this clinic are a few cases of diarrhea, but of dysentery not one case is recorded. At the dispensary of the Casualty Hospital the report is similar. The Foundling Asylum did not have one case of dysentery, nor did the U. S. Government Hospital for the Insane, nor Garfield Hospital. Much time was spent in the poor districts hunting up material. Through Neighborhood House, the social settlement in the southwestern part of the city, a few women living in the alleys and by-streets in that district aided in the search; they were to give information of any cases occurring in their neighborhoods. An endeavor was made to keep in touch with two physicians to the poor and with the instructive visiting nurses. It was through one of the latter that the first case was obtained. At the Children's Hospital dispensary there were a few cases, but even here the total number of cases of diarrhea was about 60, as compared with over 90 the preceding summer. So that possible Shiga infections in this clinic were 50 per cent. more numerous in the summer of 1902 than in 1903, when this work was done. The comparative death rate for the district is in accord with the amount of sickness. Deaths during the year 1903 from dysentery, diarrhea and enteritis numbered less than 400. For the three preceding years, each, they numbered over 500, and in one of them about 550. In spite of the efforts made, my record is 20 cases examined, with 6 cases positive for *Bacillus dysenteriæ* (Shiga), showing that for the summer of 1903 dysentery was rare in Washington.

TECHNIC AND CASES.

The technic followed in isolating the Shiga bacillus was that elaborated by Dr. Flexner and his pupils. The transfer of material to bouillon was usually made at the hospital or home of the patient and carried in the tubes to the laboratory for plating. The clinical reports are here necessarily brief.

The cases (20 in number) may be divided into three groups:

Group 1.—Positive, bacteriologically, for *B. dysenteriæ*. (6 cases.)

Group 2.—Negative, bacteriologically, but clinically very suggestive. (6 cases.)

Group 3.—Negative, bacteriologically and clinically. (8 cases.)

Group 1, the positive cases, may be summed up as follows: There were 2 babies and 4 adults (3 of the latter were soldiers), making a total of 6 cases. Three organisms recovered were of the alkaline (Shiga) type, 1 baby and 2 soldiers; 3 were of the acid (Flexner) type, 1 baby, 1 soldier and 1 adult with a history of residence in Washington. All the soldiers (3) were also infected with amebæ; in the 2 cases I observed they were undoubtedly the pathogenic form,[2] *Entamœba hystolytica* (Schaudinn)—usually referred to as *Amœba coli*—and doubtless such in the third (Case 5). The number of bacilli isolated in the different stools varied from 1 to 40.

CASE 1.—Barr baby, six months old. The mother now has and maternal grandfather had arthritis deformans. Father is living and well. No brothers or sisters (one sister dead). No history of tuberculosis in family. Immediate surroundings very good. The baby was breast-fed for one month, followed by condensed milk from the first to the fourth months. Malted milk was then used until the onset of dysenteric symptoms. After that a variety of food was tried, but none agreed with her. The child was sick with loose bowels for one week before seen by me July 27, but blood had been present only twenty-four hours. The movements were not at all fecal in character, but were composed practically of curds, mucus and blood. The temperature at this time varied between 100 and 101 F. Three stools were obtained for examination; one before any rectal irrigation had been given, a second after one irrigation, and a third, the next day, after three irrigations. All were obtained under very satisfactory circumstances, transferred almost immediately to bouillon and plated within two hours. From the first, 80 per cent. of the colonies transferred to glucose agar were of *B. dysenteriæ;* from the second, 50 per cent. were of the Shiga bacillus; and from the third, of 28 colonies transferred, only 2, or about 7 per cent., were of this organism. This well illustrates the rapidity with which the organisms in the lumen of the intestine may disappear under such treatment.

The organism isolated, the acid (Flexner, or "Harris," as it is known from the patient's name) type agglutinated with the "Harris" serum as high as 1 to 1,000 within two hours. The blood agglutination was not tried. One week later (two weeks after beginning of attack) the child was taken to the Children's Hospital. The first attack of vomiting came more than two weeks after the onset of disease. The heart remained strong and the lungs clear up to the end, although the condition of the bowels from soon after the start made it seem improbable that the child could survive. She died Aug. 29, 1903, or about five and one-half weeks after the commencement of the attack.

CASE 2.—Smith, a soldier at Fort Myer. He had become ill with dysentery while in the Philippines, from which place he had recently returned. The stools, of which two were examined, were fluid, brown, fecal in character, with mucus and three or four flecks of blood. In the first of the two stools amebæ were found, doubtless *Entamœba hystolytica*, for they were large (about 30 microns) with corpuscular inclusions. Beside the Shiga bacillus the *B. coli communis* and *Micrococcus aureus* were the only organisms isolated. The bacillus, which is of the alkaline type, agglutinated the "Shiga" serum in as high a dilution as 1 to 5,000 in two hours, and "Harris" serum in 1 to 1,000 in two hours. Such a difference, of course, may be expected. The blood of the patient agglutinated the Shiga (alkaline) bacillus in a dilution of 1 to 500.

CASE 3.—Mrs. N., a patient, with a history of residence in Washington practically all her life. Five years before she had an attack of dysentery, but not again until this present attack. The stools, four or five daily, were brown, fairly fluid, small, containing some flecks of blood. Because of a lack of media at this time, only a few of the Shiga organisms found were transferred to the mannit litmus agar. All that were transferred turned the litmus pink, proving to be the acid type. The patient's serum agglutinated the acid type in a dilution of 1 to 500 in two hours. The organism isolated agglutinated in the presence of the "Harris" serum above 1 to 1,000.

CASE 4.—Gladmon baby 2½ years old. Three days previous to obtaining the material the child was reported by the mother to be passing blood. Evidently she was not very sick, for when seen she was running around in bare feet (the weather was warm) and apparently recovered. The stool was most unfavorable, dark brown, and not even showing mucus. Of the 53 stabs in glucose agar, 5 looked like Shiga, and finally proved to be at least a variety of that organism. In the presence of glucose agar, first made sugar-free, there was no gas formation, but if not first made sugar-free, gas is produced by the third day. This was tested several times, and the other Shiga bacilli in the writer's possession were tested, but did not produce gas under any conditions. This Gladmon bacillus did not produce gas in fermentation tubes in the presence of lactose, saccharose nor glucose, and in other respects is entirely like *B. dysenteriæ*. It is not the same as Hiss' bacillus "Y."

CASE 5.—J., at the General Hospital at Washington Bar-

2. Schaudinn, F.: Arb. a. d. k. Gesndtsamt, Berlin, 1903, xix, pp. 547-576.

racks. This patient had been in the Philippines where the disease was contracted. It was a case of amebic dysentery with liver abscess, which had been operated on at the Presidio some months previously. The stool examined was semi-solid, dark and unfavorable. No blood, no mucus. Of 49 stab cultures made in glucose agar, only 1 proved to be the Shiga bacillus. It was the acid type. The patient's blood agglutinated the Shiga bacillus in a dilution of 1 to 50. The bacillus isolated agglutinated "Harris" serum 1 to 50. Higher dilutions were not attempted. The work on this and the following case was done just as the investigation was coming to a close, and was not carried out as completely as it would have been otherwise. I did not observe the amebæ, but their pathogenic nature can hardly be questioned.

Case 6.—Thompson, a soldier at Fort Myer, recently from the Philippines. Amebæ were demonstrated; they were large, active, and contained red blood corpuscles. The stool was very unfavorable, and by mistake had been placed in the thermostat. It was brown, solid, firm. Beside an alkaline Shiga bacillus, one was obtained which agglutinated with the serum, but was evidently a variety of the colon bacillus. The blood of the patient agglutinated *B. dysenteriæ* in a dilution of 1 to 100.

Group 2.—Negative bacteriologically but clinically very suggestive. (6 cases.) These include four soldiers, one adult living near Washington and one baby. The circumstances regarding two of the cases may be given as illustrations of the difficulty of obtaining the bacillus from this group. Material in one case was sent from Camp Thomas, Georgia. Although packed in a most satisfactory manner, the distance made it practically impossible for the Shiga organism to survive so long in the presence of the colon bacillus.

In the case of the baby there had been given high irrigations of boracic acid and quinin solutions three times a day for a week before material was obtained for investigation for *B. dysenteriæ*. It was not possible to isolate the organism. The blood serum of the soldier cases agglutinated *B. dysenteriæ* in varying dilutions up to 1 to 1,000.

Group 3.—Negative bacteriologically and clinically. These cases were studied more with a view to exclude them from cases of dysentery due to *B. dysenteriæ* (Shiga).

CONCLUSIONS.

1. Washington, D. C., is included in the geographical distribution of *B. dysenteriæ* (Shiga).

2. The Shiga bacillus is found in this city both in adults and children suffering from dysentery.

3. The alkaline (Shiga) and acid (Flexner) types are found here in both adults and in children.

4. An alkaline type found in the Gladmon baby case is a slight variation from the type in that in three days in glucose agar, not first made sugar-free, the bacillus produces a slight amount of gas, whereas no gas was produced with the sugar-free glucose agar. None of the other Shiga bacilli at hand produced gas in this same medium.

5. The three cases of soldiers are all double infections with *Entamœba histolytica* and *Bacillus dysenteriæ*.

An Epidemic of Cancer.—A Norwegian confrère, A. Hvoslef, describes in the *Tidsskrift f. d. Norske Laegeforening*, No. 17, 1903, an epidemic of cancer cases. There were 8 in all in a community of about 900 souls, and all seemed to group themselves about the first case, which was one of cancer of the rectum. In previous years never more than a single case of cancer at a time had been known in this district. Goiter is likewise prevalent there. The subjects were 56 to 80 years old. He gives a map of the water supply with notes on the character of the soil, etc.

PROSTATECTOMY.

REPORT OF 51 CASES OPERATED ON FROM MAY 6, 1901, TO FEBRUARY 26, 1904.

JOHN B. MURPHY, A.M., M.D.

CHICAGO.

(*Concluded from page 1561, June 11.*)

Case 25.—Mr. S. C., aged 57 years. Occupation, weigher. Admitted to Mercy Hospital Jan. 11, 1903.

Present Illness.—Began five years ago with increased frequency of urination. For a few years he was troubled only during the winter months. Since one month ago symptoms have been very much aggravated. During the last week severe pain and straining have given but little rest. He urinates every twenty to twenty-five minutes.

Examination of Patient.—Prostate very much enlarged. Urinalysis: acid, 1013, clear, albumin present, few blood cells and many pus cells in the centrifuged specimen.

Operation.—Jan 12, 1903: Regular technic. Patient discharged from hospital Feb. 16, 1903.

Report March 29, 1904: Wound has remained permanently healed. No pain at any time. Holds urine during day from two to three hours and at night for four or five hours. Has perfect control of the urine. Has not used catheter since operation. Patient says in regard to general health, "Sound as the proverbial dollar—strong as an ox."

Case 26.—Mr. E. O., aged 50 years. Occupation, stock raiser. Admitted to Mercy Hospital Jan. 19, 1903.

Present Illness.—Onset three or four years ago, when patient was troubled with frequent desire to urinate, passage of urine being accompanied by a burning in the urethra. These symptoms have continued to the present time. Three or four times during the last year he has had to be catheterized daily for a week or two.

Examination.—Prostate enlarged to moderate degree. Urinalysis: yellow, turbid, trace of albumin, no sugar, numerous pus cells, no casts.

Operation.—Jan. 21, 1903: Regular technic. Left hospital Feb. 22, 1903, with wound closed and control of urine good.

April 1, 1903: He states that the perineal wound has remained healed and that he has complete control of the urine. He holds urine one and a half to three hours during the day and from three to four hours during the night. Sexual function is abolished.

April 1, 1904: Wound has remained permanently healed. No pain. Holds urine during the day from two to four hours and at night from six to seven hours. Has not used catheter since operation. Sexual function impaired. Patient says he is "an entirely different man than before the operation and as well able to attend to business as twenty years ago."

Case 27.—Mr. F., aged 65 years. Admitted to Mercy Hospital Feb. 13, 1903.

Present Illness.—He has suffered from prostatic hypertrophy for the past four years, the symptoms increasing in severity, and for the last year being very annoying. Examination showed a very much hypertrophied prostate, the left lobe being larger than the right.

Operation.—Feb. 18, 1903: Regular technic. The course following the operation was remarkably smooth, and he was allowed out of bed in ten or twelve days after the operation. March 15 he developed a slight cough, with scattered moist râles over both lungs, and temperature of 101. March 21 he suddenly became paralyzed on the left side. Temperature that night registered 103 F., pulse 110. Patient gradually lapsed into unconsciousness and died March 22.

In this case there seems to have been no connection between the operation and the illness which caused his death. Convalescence after the operation had been perfect, the wound had healed rapidly, the urine was normal and he had had no fever at any time before the onset of the fatal illness. The lesion was undoubtedly cerebral embolism, secondary to an endocarditis, but the cause of the endocarditis is obscure.

Case 28.—Mr. E. F. H., aged 47 years. Occupation, plumber. Married. Admitted to Mercy Hospital Feb. 18, 1903.

Present Illness.—During the past year patient has suffered from irritability of the bladder, being obliged to urinate frequently during the day and from one to three times during the night. The principal symptom from which he suffers, however, is a constant burning sensation at the base of the bladder, aggravated by urination and very frequent seminal emissions. Sexual power has markedly decreased of late.

Examination of Patient.—Prostate slightly enlarged, the left lobe being larger than the right. Examination of urine: acid, 1030, no albumin, no sugar, very few pus cells.

Operation.—March 4, 1903: By my associate, Dr. J. M. Neff. Regular technic. Left hospital April 4, 1903.

Report March 29, 1904: Wound has remained permanently healed. No pain at any time. Urinates four or five times during day and usually does not have to get up during the night. Has perfect control of urine. Has not used catheter since operation. Sexual function impaired. Patient states that he has not enjoyed better health for thirty years.

CASE 29.—Mr. C. L., aged 68 years. Occupation, retired farmer. Admitted to Mercy Hospital April 20, 1903.

Previous History.—Two years ago had a perineal cystotomy performed and about one year ago a suprapubic cystotomy, at which time several soft calculi were removed.

Present Illness.—Onset about ten months ago, shortly after the last operation. Symptoms were intense pain, burning and tenesmus on urination, with increased frequency, of late every half to one hour. Since six months ago he has catheterized himself once or twice a day. Residual urine eight ounces.

Examination.—Prostate enlarged by rectal examination. Urinalysis: quantity in twenty-four hours, 1440 c.c. Sp. gravity 1009; amber, turbid, alkaline, urea .6 per cent.; trace of albumin; no sugar; no casts; no red blood cells; few pus corpuscles.

Report April 1, 1904: Wound has remained permanently healed. Has occasional pains in the bladder. Holds urine during the day about four hours and during the night the same length of time. Has perfect control of urine. Has used catheter four times since operation, but not of late. Sexual function lost. General health good.

CASE 30.—Mr. S. W., aged 75 years. Occupation, farmer. Admitted to Mercy Hospital April 23, 1902.

Present Illness.—Began one and a half years ago with increased frequency of urination, accompanied by great pain and burning. Has used catheter daily for past fifteen months. Urinary examination: quantity in twenty-four hours, 1020 c.c., sp. gravity 1010; acid, amber, cloudy, urea 1.6 per cent., some albumin, no casts, few squamous epithelial cells, numerous pus cells, no red blood corpuscles.

Operation.—April 25, 1903: Regular technic. Two stones were removed from bladder. Patient discharged from hospital June 13.

August 4, 1903: A small urethral fistula is present in the perineum. He has complete control of the urine and retains it about three hours during the day and four hours during the night. Sexual function is same as before operation, but he has not been very active in this respect for a number of years past.

CASE 31.—Mr. J. S., aged 55 years. Occupation, cigar maker. Admitted to Mercy Hospital May 23, 1903.

Present Illness.—Began about eighteen months ago with painful urination. Frequency of urination increased gradually and the pain and burning became more severe. At the present time he is compelled to pass his urine every hour or hour and a half, and the pain attending the act is very severe. Pain is located at the neck of the bladder and in the rectum. Symptoms are aggravated by being on his feet. Quantity of urine passed each time is small. General health fair.

Examination.—Prostate is enlarged and hard. Thompson searcher reveals the presence of a calculus. Examination of urine: urea 2.6 per cent., albumin present, no casts, abundant pus cells.

Operation.—May 25, 1903: Regular technic. One large stone removed. He left the hospital July 5, 1903.

March 29, 1904: Wound has remained permanently healed. No pain at any time. Holds urine during day from three to four hours and at night for five to six hours. Urinary control perfect. Has not used catheter since operation. Sexual function impaired. General health excellent.

CASE 32.—Mr. W. W. McM., aged 65 years. Occupation, farmer. Admitted to Mercy Hospital June 24, 1903.

Present Illness.—Began about four years ago with increased frequency of urination. This persisted and became more severe until about one year ago, when he began to use the catheter. Since then has used catheter every six hours.

Examination.—Prostate enlarged and hard. Urinary analysis: urea, 2 per cent.; a trace of albumin; no casts; pus abundant.

Operation.—June 29, 1903: Regular technic. Patient left hospital July 29 with wound entirely healed.

Report April 5, 1904: Wound has remained permanently healed. Has some bearing down pain in bladder when he urinates. Holds urine during the day from one to two hours and at night from two to three hours. Has perfect control of the urine. For past five weeks patient has used catheter once every evening. This enables him to sleep most of the night. Sexual function impaired. General health fair, but for several months past he has been troubled with pain in the left leg and thigh.

CASE 33.—Mr. X. H., aged 62 years. Occupation, farmer. Admitted to Mercy Hospital July 6, 1903. Family and personal history negative.

Present Illness.—Began about three and one-half years ago with difficult, painful urination. Symptoms continued until he began catheter life three years ago. Has used catheter daily since then.

Examination.—Bladder distended above symphysis. Prostate much enlarged. Urine: alkaline, sp. gr. 1018, turbid, urea 3.2 per cent. Trace of albumin, no sugar, few granular casts and moderate amount of pus.

Operation.—July 8, 1903: Regular technic. Considerable hemorrhage from bladder followed operation until July 17. Calcium chlorid and gelatin solution administered. Patient left hospital Aug. 4, 1904. On this date the urine had all been passed through the urethra for three days and he was able to retain it in the bladder about one hour at a time.

Report March 29, 1904: Wound has remained permanently healed. Has occasional burning pain in the wound, not severe. Holds urine during the day from two and a half to three hours and at night four or five hours. Has perfect control of the urine. Has not used catheter since operation. Sexual function lost. General health excellent.

CASE 34.—Mr. B. B. L., aged 62 years. Occupation, traveling salesman. Admitted to Mercy Hospital July 9, 1903. Family and personal history negative.

Present Illness.—About 9 months ago began to suffer from difficult and painful urination. Could not completely empty bladder, but passed urine every half hour. Also has had pain in right side of pelvis and hip. Since onset has had attacks of chills and fever with increase in severity of the bladder trouble.

Examination.—Patient emaciated, anemic and in extremely poor condition. Bladder distended above symphysis. Prostate moderately enlarged. Urine: acid, 1007, turbid, urea 1.4 per cent., trace of albumin, many pus cells.

Operation.—July 18, 1903: Regular technic. Because of septic condition of bladder tube was allowed to remain until July 27. Patient left hospital Sept. 14, 1903, with wound not quite healed. This patient recently died of some intercurrent disease.

CASE 35.—Mr. C. G. E., aged 63 years. Merchant. Admitted to Mercy Hospital Aug. 29, 1903. Family history negative.

Previous History.—Had an attack of renal colic on right side five years ago.

Present Illness.—Since two years ago has complained of frequent and painful urination. Tenesmus in bladder has been specially severe. Five weeks ago suffered from acute retention of urine, with temperature of 102. Attack lasted two weeks and he was catheterized several times.

Examination.—Prostate very much enlarged. Sound reveals presence of stone in the bladder. Urine: yellow, turbid, 1012, urea 1.7 per cent., trace of albumin, moderate number of pus cells.

Operation.—Sept. 2, 1903: Regular technic. Convalescence normal, except for slight epididymitis, which subsided without suppuration. Patient discharged from hospital September 23. On that date perineal wound had entirely closed and control of the bladder was good.

Feb. 10, 1904: Wound permanently closed. No pain. Holds urine during day from two to three hours and at night from six to seven hours. Has perfect control of urine. Sexual function slightly impaired. General health "better than for ten years."

CASE 36.—Rev. F. A., aged 67 years. Admitted to Mercy Hospital Sept. 3, 1903. Family and previous history negative.

Present Illness.—Three years ago began to suffer from increased frequency of urination. Trouble has increased in severity since then and he now urinates five or six times at night and every two hours during the day. Some pain during urination. Catheterized for the first time yesterday.

Examination.—Prostate considerably enlarged and hard. Stone found in bladder. Urine: dark red, cloudy, acid, urea 1.2 per cent., albumin plus, many red blood cells (result of sounding). Temperature from September 3 to 9, 98.6 to 101.6.

Operation.—Sept. 9, 1903: Regular technic. Convalescence normal. Perineal wound closed October 30 and he left the hospital October 31.

March 29, 1904: Wound has remained permanently healed. Has no pain at any time. Holds urine during day for three hours and at night the same length of time. Has perfect control of urine. Has not used catheter since operation. General health excellent.

CASE 37.—Mr. C. S., aged 64 years. Farmer. Admitted to Mercy Hospital Sept. 11, 1903. Family and previous history negative.

Present Illness.—Began about five years ago with increased frequency of urination. Trouble has grown worse and now he passes urine every two or three hours during the day and four or five times at night. For past six months has had burning pain along urethra and tenesmus.

Examination.—Prostate moderately enlarged. Temperature 100 F. Urine: yellow, turbid, 1031, acid, urea 2.4 per cent., albumin plus, no casts, pus or blood.

Operation.—Sept. 12, 1903: Regular technic. Convalescence normal until October 10, when he developed a pneumonia, which lasted about two weeks. Patient left the hospital October 24. At this time wound was not quite closed, though he passed nearly all of the urine through the anteriar urethra, and control of the bladder was good.

Feb. 10, 1904: Wound has broken open occasionally since he left the hospital, discharging some urine during micturition. Has had only very slight pain at times. Holds urine during day about two hours; when active and on his feet not quite so long. Gets up two or three times at night to urinate. Urinary control is perfect when he is quiet, but there is slight leakage when on his feet for long at a time. General health good, weight normal. Sexual function impaired.

CASE 38.—Mr. A. P. H., aged 54 years. Farmer. Admitted to Mercy Mospital Sept. 9, 1903.

Family and personal history negative.

Present Illness.—Has had symptoms of prostatic hypertrophy for five years. At present urinates every hour during the day and five or six times at night.

Examination.—Moderate enlargement of prostate. Urine: Yellow, turbid, alkaline, 1014, urea 1.3 per cent., no albumin, no casts, pus or blood.

Operation.—Sept. 12, 1903: Regular technic. Convalescence uninterrupted, except for a double epididymitis, which developed October 3. Subsided without suppuration. Patient left hospital October 17, with excellent control of bladder but wound not quite healed. Held urine two hours during the day and about the same length of time at night.

Feb. 10, 1904: Wound permanently closed. No pain. Holds urine during day four hours when quiet, and three hours when on his feet. Holds it at night for five hours. Sexual function impaired. General health excellent. Weight at maximum.

CASE 39.—Mr. M. K., age 63 years. Laborer. Admitted to Cook County Hospital Sept. 17, 1903.

Family and previous history negative.

Present Illness.—Has had symptoms of prostatic hypertrophy for several years past. Of late has been obliged to urinate every hour or two during the day and five or six times at night. Has not used the catheter.

Examination.—Prostate markedly enlarged. Urine: yellow, clear, acid, 1013, no albumin, no pus or blood.

Operation.—Sept. 18, 1903: Perineal prostatectomy performed by Dr. G. E. Goodfellow of San Francisco, assisted by Dr. J. B. Murphy. The prostate was removed piecemeal, with fingers and forceps, through a one-inch median incision. Wound left open without suture.

November 27: A small sinus persists in the perineum and there is some leakage through it when urine is passed. Urinary control is excellent and he is able to hold the urine two to three hours at a time.

We have not been able to trace patient since last report.

CASE 40.—Mr. J. S., aged 78 years. Laborer. Admitted to Cook County Hospital Sept. 17, 1903.

Family and previous history negative.

Present Illness.—For the past two or three years patient has had to evacuate bladder five or six times every night, and has suffered greatly from tenesmus and pain in bladder during micturition. General health very poor.

Examination.—Prostate very much enlarged and firm.

Operation.—Sept. 18, 1903: Regular technic. Uninterrupted convalescence. Patient left hospital October 19 with wound entirely closed. Could retain urine in bladder for two or three hours at a time. Control good except that occasionally there was some leakage between urinations.

We have not been able to trace patient since last report.

CASE 41.—Mr. J. M. H. aged 63 years. Undertaker. Admitted to Mercy Hospital Sept. 18, 1903.

Family History.—Father died of tuberculosis.

Previous History.—Negative.

Present Illness.—Has suffered from symptoms of prostatic hypertrophy for about two years. At present has to urinate seven or eight times during the day, but only once or twice at night. Developed an acute retention of urine five days ago and has used the catheter several times a day since then.

Examination.—Poorly nourished and anemic. Prostate moderately enlarged.

Operation.—Sept. 19, 1903: Regular technic. Tube removed from bladder September 21 and patient sat up in chair for first time September 25. On September 29 examination of the wound showed the presence of some fecal discharge from it. September 30 there was a considerable amount of blood lost from the wound as a result of the sloughing process in the anterior rectal wall. On October 2 patient passed clots of blood with the urine through the urethra, and later in the day had a second rather profuse hemorrhage from the wound. Calcium chlorid gr. 10 and adrenalin chlorid solution mm. 5, given every two hours. Hemorrhage stopped entirely October 7 and the medicine was discontinued. On October 5 he developed a right-sided epididymitis, which subsided without suppuration. Patient left the hospital Nov. 9, 1903 with the perineal wound not entirely healed and a small recto-urethral sinus still present. At the time of his discharge vesical control was good and he was able to retain urine in bladder from one-half to one hour at a time. Most of the urine escaped, during urination, into the rectum and through the perineal wound.

Report April 1, 1904: Wound has remained permanently healed. Has no pain. Holds urine during night from two to four hours, but not quite so long during the day when he is on his feet. Sexual function impaired. Patient states that about half of the urine is passed through the urethra and the balance into rectum, through the small urethra-rectal sinus, which has persisted. Has gained 26 pounds since he left the hospital and general health is good. The urethro-rectal fistula was operated on May 7, 1904, in the following manner: The entire fistulous tract was dissected out and the openings in rectum and urethra closed by inverting the edges of the wounds and approximating them with several layers of interrupted catgut sutures. The perineum was then repaired with

deep buried catgut sutures and the bladder drained through a permanent catheter. Patient left the hospital May 24 with the urethro-rectal fistula entirely closed and nearly all of the urine coming through the anterior urethra. Control of urine was perfect and only a few drops escaped through the perineal wound during micturition.

CASE 42.—Mr. C. L., aged 67 years. Carpenter. Admitted to Mercy Hospital Sept 26, 1903.

Family History.—Mother died of "consumption."

Previous History.—Negative.

Present Illness.—Has suffered from enlarged prostate the past two years. Developed an acute retention of urine eleven days ago, and since then has used the catheter three or four times daily up to four days ago.

Examination.—Prostate slightly enlarged, but very hard and firm. Urinalysis: alkaline, yellow, 1027, urea 2.7 per cent., no albumin, pus or blood.

Operation.—Sept. 30, 1903: Regular technic, except that the operation was done through a single incision to the left of the perineal raphe. Convalescence uninterrupted, except for an epididymitis on the right side, which subsided without suppuration. Patient left the hospital Oct. 25, 1903, with the wound closed and vesical control practically normal. At that time he was able to hold the urine in the bladder from two to three hours.

March 29, 1904: Wound has remained closed since operation. Suffers considerably from pain in bladder and urethra. Holds urine in bladder during the day for from three to four hours and at night for about six hours. Has used the catheter to empty the bladder three or four times a day, since a month after he left the hospital, except for a week or two at a time. The reason for using catheter was beause of pain when bladder became distended. General health not good.

CASE 43.—Mr. C. B., aged 72 years. Farmer. Admitted to Mercy Hospital Oct. 5, 1903.

Family History.—One brother died of pulmonary tuberculosis.

Previous History.—Negative.

Present Illness.—For past seven or eight months has complained of increased frequeney of urination. At present has to pass urine about every half-hour and suffers much from tenesmus in the bladder. Urine often contains blood.

Examination.—Poorly nourished man. Prostate moderately enlarged. Urinalysis: yellow, acid, 1008, urea 2 per cent., albumin plus, much pus and a few red cells. The catheter passed into the bladder immediately after urination drew off 41 ounces of turbid urine. Afternoon temperature on October 6, 102 degrees.

Operation.—Oct. 7, 1903: Single incision to left of raphe used. Temperature reached normal October 15 and convalescence was uninterrupted. Patient left hospital November 16 with excellent control of the urine, but some slight leakage through perineal wound during urination. Was able to retain urine in bladder for two to two and a half hours during day and a longer time at night. Ocasionally there was slight leakage through perineal wound between urinations.

A week after patient went home he developed a severe nephritis and died, evidently, from uremia, five days later.

CASE 44.—Mr. S. C., aged 67 years. Merchant. Admitted to Mercy Hospital Sept. 28, 1903.

Family History.—Negative.

Previous History.—"Inflammation of the bowels," 40 years ago.

Present Illness.—Has had a moderate degree of urinary incontinence for several years. Fourteen months ago began to have severe pain in the bladder, when it was distended and tenesmus occurred when urine was passed. Symptoms have continued until now he urinates every half to three-quarters of an hour and has very little control of the bladder.

Examination.—Prostate moderately and uniformly enlarged. Arteries extremely calcareous. Sound passed into bladder and stone found. Urinalysis: alkaline, 1012, turbid, urea 1.7 per cent., albumin present.

Because of the severe symptoms from which this patient was suffering, the rapidly increasing weakness which was clearly the result of the pain in the bladder and frequent urination, and especially because of the small quantity of urine which was being passed in twenty-four hours, also due to the obstruction in the neck of the bladder and the stone in the bladder cavity, immediate operation was considered positively indicated.

Operation.—Oct. 10, 1903: Perineal prostatectomy through single incision to left of median line. Calculus removed after the lateral and middle lobes. After operation temperature was 98.4 degrees, pulse 68 and respirations 32. That night patient was delirious and constantly tried to get out of bed. Toward morning he became weak and stupid; temperature 100 degrees, pulse 114 and respirations 32. October 11, 9 a. m., pulse could not be felt at the wrist, respirations were short and shallow and he did not respond to the saline enemas which were given. At 5 o'clock in the afternoon patient was in a deep stupor, temperature was 102 degrees and respirations 48. He died at 6:30 p. m. The prostate would not have been removed in this case had it not been for the urgeney of the symptoms produced by the calculus.

CASE 45.—Mr. E. J. H., aged 73 years. Merchant. Admitted to Mercy Hospital Oct. 16, 1903.

Family and Previous History.—Negative.

Present Illness.—Has had symptoms of prostatic enlargement for past three years. For the past nine months he has catheterized himself six or seven times every day. Last March had a peri-urethral abscess which ruptured into the urethra.

Examination.—Prostate enormously enlarged. Urinalysis: acid, specific gravity 1020, cloudy, urea 1.1 per cent., albumin plus, few red cells and many pus cells

Operation.—Oct. 24, 1903: Regular technic through the inverted Y incision. Convalescence uninterrupted, except on November 27, when a small perineal abscess developed in front of the wound. Abscess was incised three days later and a small amount of urine was discharged through the opening for several days. Patient left hospital December 4, with the wound closed and urinary control excellent. Was able to hold urine in bladder for two to four hours.

Feb. 10, 1904: Perineal wound, where abscess was evacuated, reopened and has not yet entirely closed. Slight urinary discharge through the sinus when he urinates. Has very slight, if any, pain.

April 1, 1904: Small sinus remains in perineum, through which some urine and a small amount of pus are discharged during micturition. Has occasional pain in the wound after passing urine. Holds urine during the day from two to three hours and at night about the same length of time. Control of urine good. Has not used catheter since operation. Sexual function lost. General health good. Has gained strength and weight since operation.

CASE 46.—Mr. L. W., aged 62 years. Mechanic. Admitted to Mercy Hospital Nov. 28, 1903.

Family History.—Negative.

Previous History.—"Acute rheumatism" thirty years and specific urethritis eight years ago.

Present Illness.—For past four years has had frequent urination, with straining during the passage of the urine. Has used catheter for past two years, at present every three hours during the day and every hour at night. Just before coming to hospital patient had two severe attacks of tachycardia.

Examination.—Prostate very much enlarged. Urinalysis: alkaline, turbid, 1012, trace of albumin, moderate number of pus cells. On day of admission had severe tachycardia, during which pulse numbered 164 per minute. Attack lasted five hours.

Operation.—Dec. 2, 1903: Regular technic, through inverted Y incision. Convalescence uninterrupted and patient left the hospital Dec. 25, 1903.

Feb. 10, 1904: Small fistula persists in perineum, through which a little urine is discharged during micturition. Retains urine in bladder for two to three hours during the day and at night about one hour. Has not used catheter since operation. General health excellent. A small abscess formed in the perineum after the patient went home. It opened spontaneously

and probably accounts for the small sinus which is now present. Sexual function impaired.

Case 47.—Mr. R. McC., aged 70 years. Farmer. Admitted to Mercy Hospital Dec. 28, 1903.,

Family History.—Negative.

Present Illness.—Has suffered from prostatic hypertrophy for the past ten years. Symptoms have gradually grown worse and now he has to urinate every two to three hours. Has had acute retention on three different occasions. Has used catheter daily for past three years.

Examination.—Prostate is enormously enlarged and situated high up. Urinalysis: acid, yellow, cloudy, 1010, urea .8 of 1 per cent., trace of albumin, a few pus cells.

Operation.—Dec. 30, 1903: Regular technic. Convalescence uneventful and patient left hospital Jan. 21, 1904. On date of discharge nearly all of the urine passed through the wound and he had but little control of bladder. A metal sound could be easily passed through anterior urethra into bladder.

April 1, 1904: Small sinus persists in perineum. Some urine is discharged through sinus when bladder is emptied. Some pain in the region of the wound, due to the irritation of the urine. Can hold urine in bladder when lying down for about two hours, but control is not good when sitting or standing. Has not used catheter since operation. Sexual function impaired, but it has not been active for years. General health good.

Case 48.—Mr. F. M. McK., aged 71 years. Merchant. Admitted to Mercy Hospital Dec. 28, 1903.

Family History.—Negative.

Previous History.—Urethritis at thirty years of age.

Present Illness.—For past twelve years has suffered from increased frequency of urination. Trouble has increased in severity and of late has had to urinate every hour at night and at intervals of one to three hours during the day Catheter has been used at intervals since eight years ago. Six to eight ounces of residual urine is always present.

Examination.—Prostate only moderately enlarged, but very firm. Sound in bladder shows the presence of a stone. Urinalysis: acid, yellow, cloudy, 1010, trace of albumin, few red and white blood cells found.

Operation.—Dec. 30, 1903: Regular technic. After prostate was removed, the internal sphincter was dilated and a large calculus removed from bladder. The pressure of the calculus had produced an extensive ulceration on the base of the bladder and this bled profusely after the stone was extracted. Convalescence uninterrupted.

April 1, 1904: Patient can now retain the urine in the bladder for about three hours during the day and three to four hours at night. There is some leakage through a small sinus in the perineal wound, when he passes the urine at night, but none during the day. The urethral fistula persisted and a small amount of urine was discharged through it during micturition. May 23 it was closed by dissecting out the entire fistulous tract and approximating the edges of the urethral opening with several layers of interrupted catgut sutures. The perineum was then repaired by means of deep absorbable sutures and the bladder drained through a permanent catheter.

Case 49.—Mr. R. G. D., aged 56 years. Carpenter. Admitted to Mercy Hospital Jan. 23, 1904.

Family and Previous History.—Negative.

Present Illness.—Has complained of gradually increasing frequency of urination for the past six years. Has used catheter daily since eight months ago. At present draws the urine every three or four hours during the day.

Examination.—Moderate enlargement of prostate. Urinalysis: acid, yellow, turbid, 1012, urea 1.6 per cent., no albumin, a few pus cells.

Operation.—Jan. 28, 1904: Regular technic. Convalescence uninterrupted except that urine was passed through the perineal wound longer than is usually the case. On March 2 a sound was passed into the bladder through the anterior urethra and this was repeated March 8. After that date most of the urine was passed through the anterior urethra and he was able to retain it in the bladder for one to two hours. Had slight double epididymitis March 14, which subsided without suppuration. Patient left the hospital March 19, at which time he was able to retain the urine for two to three hours at a time. A very small sinus was present in the perineum, but only a few drops of urine escaped from it during urination.

Case 50.—Dr. J. H. W., aged 63 years. Occupation, physician. Admitted to Mercy Hospital Jan. 31, 1904.

Family and Previous History.—Negative.

Present Illness.—Twelve years ago had proctitis, with some bladder irritation. Hemorrhoids developed and were operated on. Has suffered from increased frequency of urination for five years and for past three years has had to pass urine every hour during night. Much pain and tenesmus. Has not used catheter habitually.

Examination.—Emaciated, anemic and slightly cyanotic. Arteries sclerotic. Prostate moderately enlarged. Stone found in bladder. Urinalysis: acid, turbid, urea 1.4 per cent. Albumin plus. Many red blood cells and large numbers of pus cells.

Operation.—Feb. 3, 1904: Regular technic. Lateral and middle lobes and calculus removed. Convalescence uneventful. Patient left hospital February 21, with wound almost entirely closed and all of the urine coming through the anterior urethra. Retained urine in bladder for three hours at a time and voided it voluntarily.

April 6, 1904: Wound has remained permanently healed. Has had complete control of the urine since five weeks after the operation. Holds urine from three to four hours during the day and from seven to eight hours at night. General health excellent. Has gained thirty pounds in weight since the operation.

Case 51.—Mr. S. G., aged 70 years. Admitted to Mercy Hospital Feb 26, 1904.

Family and Previous History.—Negative.

Present Illness.—For the past five months has noticed frequency of urination, which has increased until at the present time he must pass the urine about every half-hour. Since five months ago he has had to be catheterized regularly every day.

Examination.—Prostate moderately enlarged and firm, situated high up. Urinalysis: alkaline, yellow, turbid, 1016, urea 1.7 per cent, albumin present. A few red blood cells and small amount of put present.

Operation.—Feb. 27, 1904: Suprapubic prostatectomy performed, after Freyer's method, described by Mr. Moynihan (in the *Annals of Surgery*, January, 1904). The entire prostate and prostatic urethra were removed and a permanent catheter inserted through the urethra into the bladder. Convalescence uninterrupted. Catheter removed March 7.

At present time (April 2, 1904), there is still a small suprapubic sinus, which discharges some urine when he is on his feet, but hardly any when he is lying down. Holds urine in bladder for about three hours at a time during the day and has to get up only three times during the night to urinate. Control of the bladder is perfect. There is some infiltration in the cellular tissue to the left of the bladder and a slight evening elevation of temperature. His reaction is slow and he is still feeble six weeks after operation.

I desire to thank Dr. James M. Neff for his careful record of the subsequent courses of the cases.

ROENTGEN RAY TREATMENT OF LEUKEMIA.

REPORT OF CASE (MYELOGENOUS TYPE) WITH APPARENT IMPROVEMENT; DEATH; AUTOPSY.

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AND
WILLARD J. STONE, B.Sc., M.D.
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In August, 1903, Senn[1] reported the apparent cure of a case of myelogenous leukemia under the influence of the Röntgen ray. This form of treatment was instituted after failure to better the patient's condition by the drugs usually tried in this disease and when the case ap-

1. N. Senn: N. Y. Medical Record, Aug. 22, 1903.

peared hopeless. The blood findings in Senn's case are not reported as fully as might be desired, but there can be little doubt that the patient's condition was markedly bettered under the influence of the treatment. This was evidenced by the diminution in volume of the spleen, together with a decrease proportionately of myelocytes in the peripheral blood and a return of the polymorphonuclear elements to nearly the normal proportion.

Senn[2] has also reported a case of lymphatic leukemia benefited under *x*-ray treatment. This case, together with an undoubted case of pseudoleukemia, judging from the clinical and blood findings, was reported under the title, "X-Ray Treatment of Pseudoleukemia." The blood findings in one of these two cases undoubtedly make it, however, one of lymphatic leukemia instead of Hodgkin's disease; i. e., 208,000 leucocytes per cubic millimeter, of which 18.75 per cent. were small lymphocytes and 14.25 per cent. large mononuclear lymphocytes.

In a recent letter (March 20) to the writers, Senn states "that the two cases of pseudoleukemia [see review above] are well and that the case of myelosplenic leukemia that made such an excellent recovery has returned with a moderate relapse and is again under *x*-ray treatment."

Herman Grad[3] reports a case of leukemia treated by the *x*-ray. Conclusions as to the type of disease treated by him are difficult, since he merely says "the case was carefully diagnosticated in one of our large hospitals," but fails to give the blood findings. He says "a blood examination revealed the true condition," and then fails to say what it was, whether lymphatic or myelogenous leukemia or Hodgkin's disease (greatly enlarged glands in neck, axillæ and groin associated with a very large spleen). Judging from the indefinite description probably it was lymphatic leukemia. He mentions that after some twenty-five or thirty *x*-ray exposures the percussion area of the spleen became considerably reduced and that a diminution in size of the glandular enlargements was apparent. He does not give the outcome of the case.

E. J. Brown[4] reports a case of myelogenous leukemia symptomatically cured by the *x*-ray. The blood examination on beginning treatment showed reds, 2,600,000; whites, 800,000 (polymorphonuclears 40 per cent., myelocytes 40 per cent., eosinophiles 8 per cent.); hemoglobin, 65. The spleen extended from the seventh rib in midaxillary line to two fingers' breadth below the navel in the left mammary line; to the right it extended one finger's breadth beyond the median line. Treatment consisted in the use of arsenic and iron internally and *x*-ray applications to the splenic region twice weekly. After two months the leucocytes numbered 58,000. The *x*-ray applications were from this time on given daily to the splenic region, the ends of the long bones and over the sternum; the iron and arsenic discontinued. Two months later the leucocytes numbered 129,000 (polymorphonuclears 60 per cent., myelocytes 25 per cent., eosinophiles 5 per cent.) The blood formula showed a constantly decreasing number of leucocytes one month later, the myelocytes also relatively decreasing with reduction in size of the spleen (leucocytes, 44,360; polymorphonuclears, 74 per cent.; myelocytes, 20 per cent.). Two months later the leucocytes numbered 7,894; reds 4,690,000; hemoglobin, 95; the weight of the patient having returned to normal or above, the albumin present in the urine during the period of observation having disappeared and the patient's general condition good.

During the treatment an *x*-ray dermatitis developed once or twice over the splenic region, the outer layers of the skin desquamating, but leaving no bad results. The hair and pigment disappeared also from the parts exposed. The change in the blood formula, reduction in size of the spleen and the desquamative dermatitis were not accompanied by toxemic symptoms, rise of temperature, etc., as was noticed in Senn's case and ascribed by him to the absorption of broken-down cellular constituents of spleen and blood. As George Dock[5] has suggested, it would seem that perhaps the question of an accidental infection should enter into a consideration of the intoxication noted in this case.

The report of Brown's case brings out the important fact that progressive reduction in the number of leucocytes with relative decrease, to absence, of myelocytic elements took place after the iron and arsenic had been discontinued and that this reduction progressed to what may be considered a normal blood formula after seven and one-half months' treatment.

HISTORY OF PRESENT CASE.

L. M., male, aged 44, bricklayer. Came under Dr. Grosh's treatment in June, 1903. Father died at age of 75 after two weeks' illness, exposure to cold. Mother alive, aged 84. Three brothers and two sisters are well. One sister died of typhoid.

Previous History.—Patient was well as a boy; took alcohol in excess and until three years ago, at which time he had typhoid fever; sick in bed three weeks with a long convalescence.

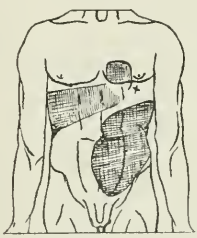

Figure 1.

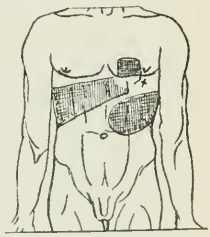

Figure 2.

After this illness drank a large amount of beer for a month, which caused a long siege of diarrhea. Has been "bloated" ever since the diarrhea started. His present illness began in June, 1902, with severe backache, which caused him to stop work; the diarrhea began again, which, it will be noted, has appeared from time to time since the typhoid infection. Ankles never swollen; rheumatism (?); lues negative; never had malaria; appetite has always been good. Complains of shortness of breath for past few days and weakness.

Status Præsens.—Patient 5 feet 11 inches, large frame, musculature wasted (did weigh 180, now 173), panniculus thin, skin sallow. Brown pigmentation over neck, chest and in axillæ. Axillary glands enlarged to size of filbert. No edema of lower extremities. Chest is long, with good angle; supraclavicular and infraclavicular spaces depressed; seventh eighth, ninth and tenth ribs on left side bulging. Expansion fair. Lower boundary left lung not very movable where bulging occurs. Relative dullness over supraclavicular and infraclavicular spaces, right side. Increased pitch over left supraclavicular. Lower lung border sixth rib, nipple line, right side. Bronchial breathing, with fine râles over both apices (bronchitis (?), and roughened vesicular breathing over right middle and lower lobes (behind and in front). Pulse 84; irregular, low tension, small and dicrotic. Temperature 101.

Heart: Apex in fifth intercostal space just internal to nip

2. N. Senn: N. Y. Medical Journal, April 25, 1903.
3. H. Grad: Jour. Adv. Therapeut., Jan., 1904, p. 30.
4. E. J. Brown: THE JOURNAL A. M. A., March 26, 1904.
5. Jour. Amer. Med. Sciences, April, 1904.

ple line, no thrill or precordial bulging. Dullness on the right extends to midsternum. Auscultation reveals an accentuated second pulmonic sound.

Abdomen: Prominent, tense and tympanitic. Liver can be felt below costal border, sharp edge. Spleen enormously enlarged, notched edge, firm consistency; extends from about seventh rib, midaxillary line, to navel on the right and nearly to symphysis pubis. No free fluid detected in abdominal cavity. (See Figure 1.)

Urine: Negative; about 4,500 c.c. in 24 hours.

Blood: Does not flow readily; yellowish-red in color. Hemoglobin (Fleischl-Miescher 45 per cent.). Unstained slide shows great increase of white cells; reds, 2,100,000; whites, 960,000; color index 1.0+. Stained preparation shows many myelocytes, normoblasts and basophiles.

Diagnosis.—Myelogenous leukemia.

Treatment.—Arsenic.

COMMENT.

Urine.—The patient has passed throughout the period of observation from 3,500 to 4,000 c.c. daily. Specific gravity 1,018 to 1,022. No serum-albumin or sugar detected. On standing urine deposits large amount of amorphous urates. In November, 1903 (after five months on arsenic and mercury), at which time the leucocytes numbered 175,000, the uric acid present was 1.10 g. per 1,000 c.c. (figuring on 3,500 c.c. daily gives 3.85 g. uric acid per day), an increase above normal of about 550 per cent. In January nucleo-albumin present in urine; uric acid, 0.94 g. per 1,000 c.c., an increase above normal of about 470 per cent. In February nucleo-albumin present at intervals. Uric acid, 0.80 g. per 1,000 c.c.; increase of 400 per cent. above normal.

This corresponds with the usual observations in leukemia. During the period when arsenic and mercury are used and when the leucocytes are decreasing relatively in numbers increased uric acid elimination occurs. The arsenic, mercury, etc., seem, however, to sooner or later reach the limit of their therapeutic efficacy and the leucocytes again increase, associated with a decrease in the uric acid elimination as noticed above. Fränkel has shown that increased uric acid elimination coincides with the evident resorption of the splenic tumor in leukemia under the influence of the drugs named above, the increase of uric acid being undoubtedly due to the breaking down of the leucocytes under influence of the treatment. This would seem to be a point in favor of the view of Ehrlich, that the spleen plays but a passive part in myelogenous leukemia, i. e., that its enlargement, as well as that of the liver, is merely due to leucocytic infiltration. Numerous examinations for Bence-Jones bodies (albumosuria) were made, with negative results.

Blood.—Table 1 shows the average blood formula for the months June, 1903, to March, 1904, under arsenic, mercury and sodium cacodylate treatment. These differential counts were made uniformly by the eosin-methylene blue (May-Grünwald) combination of Grübler, so that the averages taken during these months may be considered constant, the same stain having been used in all. The highest leucocyte count was 960,000 per cm. in June, the first month under observation, and ranged between that number and 135,000 in December.

The polymorphonuclears of all kinds ranged from 41.2 per cent. in February, 1904, the month before *x*-ray treatment was begun, to 54.6 per cent. in August, 1903. The myelocytes, all kinds, including Cornil-Müller cells, ranged from 27.9 per cent. in July, 1903, to 52 per cent. in February, 1904; an almost exact reversal in the formula, the myelocytic elements increasing as the disease process became more chronic and after the effect of the arsenic treatment had ceased to be of service. It was also noted that as the disease became more advanced the color index more nearly approached 1.0—corresponding to the index of an anemia of the pernicious type. This was considered mere evidence of the coincident effect of the chronic disease process on the red cells and their hemoglobin content, i. e., January and February color index 1.10 and 1.30 respectively. The increase of myelocytic elements seemed to be coincident with a relapse which the patient developed in February (heart insufficiency, dyspnea and weakness), and which reacted well to inf. digitalis and strychnia.

The eosinophiles of all kinds ranged from 8.5 per cent. to 2.5 per cent., the last month before *x*-ray treatment was begun.

Some interesting facts are shown in the table. The large per cent. increase in degenerate forms, which appeared in July, 1903, one month after arsenic medication, 12.7 per cent. These degenerates never reached such a high percentage later in the course. Also, at the time of the relapse in February, the marked increase in myeloid cells, from 4.5 per cent. in September and October to 14.8 per cent.

The iodin reaction was obtained several times. The granules seeming to be confined to the eosinophile myelocytes. An effort was also made to ascertain the nature of the degenerative process present in the forms classed as "degenerate" in the charts. By staining with Sudan

TABLE 1.

BEFORE X-RAY TREATMENT.	Average per cent., June	Average per cent., July	Average per cent., Aug.	Average per cent., Sept.	Average per cent., Oct.	Average per cent., Nov.	Average per cent., Dec.	Average per cent., Jan.	Average per cent., Feb.
Polymorph. neutrophiles	51.7	47.5	49.2	39.0	35.5	47.6	40.0	47.5	37.5
Polymorph. eosinophiles	1.5	1.9	4.0	6.5	4.0	2.8	2.0	2.0	.9
Polymorph. basophiles	1.0	1.5	1.4	5.0	3.5	.9	2.4	1.5	2.8
	54.2	50.9	54.6	50.5	43.0	51.3	44.4	51.0	41.2
Myelocytes neutrophiles	30.2	24.0	35.3	27.5	33.5	31.2	32.4	36.0	35.5
Myelocytes eosinophiles	2.1	2.4	....	2.0	.5	1.4	1.2	.5	1.7
Myeloids (Cornil-Müller)	1.8	1.5	1.4	4.5	4.5	3.7	4.4	1.5	14.8
	34.1	27.9	36.7	34.0	38.5	36.3	38.0	38.0	52.0
Lymphocytes	7.0	3.4	2.6	3.0	5.5	.9	2.0	2.5	1.0
Transitionals	3.3	3.9	1.4	7.0	7.0	3.7	6.8	4.0	2.1
Large mononuclears	.6	.5	1.4	4.0	1.5	1.8	2.8	1.5	2.3
Degenerates	.3	12.7	1.4	1.5	2.0	5.1	3.2	2.0	1.7
Normoblasts	.3	.5	2.0	....	2.5	.4	2.8	1.0	.4
Total eosinophilia	3.6	4.3	4.0	8.5	4.5	4.2	3.2	2.5	2.6
Reds	2,600,000	3,600,000	.....	.....	.....	.....	.....	2,600,000	2,464,000
Whites	940,000	620,000	.....	.....	.....	175,000	135,000	211,000	266,250
Hemoglobin	45 %	64 %	.....	.....	.....	70 %	65 %	60 %	65 %
Color index	.8+	.8+	.....	.....	.....	.....	.....	1.1	1.3

III and controlling with osmic acid, fatty degeneration of the degenerate myelocytes were noted in many instances. This glycogenic (or amyloid) and fatty degeneration will be made the subject of a subsequent report.

History of Case After Treatment with Roentgen Ray.—The treatment was begun February 24 through the kindness of Dr. O. T. Scars, and consisted of applications, a medium hard vacuum tube being used, distance 6 to 8 inches, for five minutes each over sternum, spleen and over the epiphyseal junctions of the long bones every day. The patient was taking internally three times daily during the treatment:

R.	Ac. hydrochlor. dil.	60
	Tr. ferri chlor.	60
	Hydrarg. chlor. corros.	0016
	Ac. arsenosi	0016
	Syr. zingiberis	4
	Glycerini	4

The blood count on the day treatment was begun was 252,000; urine, daily amount about 3,500 c.c. (uric acid 0.78 g. per 1.000 c.c., an increase of 390 per cent). The spleen extended from the seventh intercostal space in the left midaxillary line forward one finger's breadth to right of navel in median line and about one hand's breadth below it and to the left, the dull area extending from the navel leftward to the lumbar dullness behind. The liver extended from the fifth intercostal space, right nipple line (seventh rib in midaxillary line), to about two fingers' breadth below costal border. The spleen and liver were soft to palpation. The heart was slightly enlarged to the right (left parasternal absolute dullness). Apex beat in fifth space slightly to left of and below the nipple. On auscultation a soft, systolic blowing murmur running into and partially replacing the diastolic sound, over apex and transmitted into axilla. This murmur was loud over the base and of the same character; second pulmonic not accentuated. This murmur was considered by us as of hemic plus myocardial origin; the myocardial element arising from the patient's lowered nutrition due to the anemia and the probability of leucocytic myocardial infiltration participated in by the other organs. The lungs gave slightly increased resonance on both sides and on auscultation slightly prolonged interrupted expiration over the right apex. Apex not retracted. The patient had at different times complained of cough, and the temperature had varied between 98.6 and 100 or 101 degrees during the greater part of the period of observation. Numerous examinations of the sputa failed to show tubercle bacilli. Friction râles had from time to time been detected over the splenic and hepatic areas associated with pain in these regions. The friction râles were considered due to perisplenitis and perihepatitis.

TABLE 2.

After X-Ray Treatment.	Average Mar. 10.	Average Mar. 18.	Average Mar. 22.†	Average Mar. 26.	Average April 10.
Polymorph. neutrophiles.	71.5	62.0	79.0	83.0	....
Polymorph. eosinophiles.	*	2.0	.6	1.0	....
Polymorph. basophiles..	3.0	6.0	2.7	1.0	....
	74.5	70.0	82.3	85.0	....
Myelocytes neutrophiles.	21.0	8.7	4.9	2.0	....
Myelocytes eosinophiles.	....	1.3	....	....	....
Myeloids (Cornil-Müller)	....	2.0	.6	....	....
	21.0	12.0	5.5	2.0	....
Lymphocytes	1.0	2.0	....	4.0	....
Transitionals	....	2.6	1.0	4.0	....
Large monouuclears....	1.5	5.3	1.7	1.0	....
Degenerates	....	8.0	5.9	4.0	....
Normoblasts	1.0	....	....	....	....
Total eosinophilia....	*	3.3	.6	....	....
Reds	2,507,000	.....	3,578,780	.....	.....
Whites	52,600	14,918	11,480	11,360	10,600
Hemoglobin	55 %	.....	70 %	.....	.....
Color index	1.1	.....	.9	.....	.....

†X-ray treatments stopped March 20.

*Very few eosinophiles of all kinds noted one in 200 cells.

March 10. Leucocytes 52,600. (See Table 2.)

March 18. Leucocytes 14,918. (See Table 2.)

March 20. Patient has had 20 treatments. A general rash has developed, more marked over chest, abdomen, face and left hand. It resembles an erythema multiformis. Skin over hands and face darker in color, dusky. Spleen somewhat smaller, about on level with navel and reaching to it in median line. *X*-ray treatments stopped.

March 22. Leucocytes 11,480.

March 26. Leucocytes 11,360. Spleen somewhat smaller, on level with navel, but not extending so far to right at costal border. The spleen is harder than before treatments were begun. Patient feels well; appetite better than at any time since the relapse in February. The darkened areas over face, neck, chest and abdomen seem to be darker than before. Few blisters over splenic area size of a quarter, which have ruptured. Skin pink underneath; no destruction of dermis. The epidermis is being shed from left hand. Small blister over right elbow. The urine has decreased to about 2,000 c.c. daily.

April 10. Leucocytes 10,600. Entire chest and abdomen raw. Exfoliation of epidermis only. Spleen somewhat smaller. General condition of patient, fair. (See Fig. 2.)

This report was originally intended to be a preliminary one, i. e., as showing the reduction from 266,250 to 10,600 leucocytes per c.mm., and the decrease from 52.0 per cent. to 2.0 per cent. of myelocytic elements, together with a seemingly apparent improvement in the general condition of the patient under the influence of twenty *x*-ray applications.

During the time the article was in the hands of the editor, the patient rather suddenly, i. e., within a few days, began to fail in strength, and died from general asthenia. The superficial burns on abdomen and elbow caused by the rays were healing nicely. No evidence of an intoxication caused by the rays, such as rise of temperature, sero-albuminuria, etc., had been noted at any time.

The autopsy showed the findings usually present in myelogenous leukemia. The spleen and liver were large, although not so large as during the earlier months of the disease, marked reduction in size having taken place under the influence of the *x*-ray treatments. Both organs cut with resistance, and were in a condition of chronic hyperplasia, the general fibrous tissue hyperplasia being very marked. No leukemic tumors were found in these or in the other organs. The heart and kidneys were enlarged and showed parenchymatous degeneration. Heart valves normal; the mitral orifice was somewhat enlarged (insufficient), due to stretching of the ring probably incident to the moderate hypertrophy and dilatation of the left ventricle. Few adherent strands over right lung apex. Red and fatty marrow of femur hyperplastic throughout; dirty grayish-red in color.

In Brown's case, cited above, treatment was begun early, before the parenchymatous organs were in a condition of chronic hyperplasia, i. e., while they were but passively enlarged from leucocytic infiltration (Pappenheim, Ehrlich). This early treatment probably had much to do with the favorable outcome of the case.

In the later stages of the disease this early passive enlargement has become an active late hypertrophy (true), due to the proliferation of the fibrous tissue elements; in reality a true fibrosis. Such was present in the case under consideration. It would seem, therefore, that the greatest good may be hoped for in those cases where the *x*-ray applications are begun early in the course, before the hyperplasia of the cellular constituents of the bone marrow becomes a chronic process; and in the case of the parenchymatous organs, spleen, liver, before the resulting fibrous tissue proliferation

has progressed so far as to perhaps seriously interfere with the functions of the organs in question.

Since George Dock and others have stated that it is only seldom that a reduction in leucocytes is seen to below 50,000 c.mm. under arsenic and similar medication, it would seem that from the few cases so far reported, if leucocytic reduction is to be considered an evidence of improvement, the Roentgen rays certainly exert a powerful influence in that direction.

This report is submitted because of the scarcity of published cases, in the hope that other workers will soon take up investigations in this field.

ANKYLOSIS OF THE JAWS.*

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NEW YORK.

My present purpose in speaking is to report some causes of the varieties in permanent ankylosis and to show plans of treatment that I have found very successful. I do this in the hope that it will be of service to others. Preparatory to the permanent cases I will refer to cases of temporary ankylosis that I regard as unique and interesting.

Temporary ankylosis, so commonly found, can be so speedily treated successfully that little new remains to be told. Nevertheless these cases sometimes cause much trouble to both patient and practitioner, when they result in serious complications, which may occur if proper treatment is not given in the early stage. See Garretson, Marshall and others for recognized methods.

The principal irritating causes of inflammation which lead to ankylosis of the jaws are exposed tooth pulps, retarded, malposed or impacted third molars, traumatism, cicatrix, tetanus, alveolar abscess, tonsillar, diphtheritic and septic injections.

Permanent ankylosis is the result of osseous formations within the joint, causing partial or complete displacement or arrest of the synovial fluid, a condition, however, that may not occur for months or years of immobility. Fortunately this is rarely met with, except in cases of rheumatoid arthritis, because of the great activity of the lower jaw its joint is usually the last to become affected. Inflammatory conditions arising from any cause should be corrected as early as possible in order to prevent cicatricial formations.

In one case of temporary ankylosis which had lasted for several days I found on examination that it seemed to be caused by an exposed pulp. This case was immediately relieved by extracting from the pulp a drop of blood and applying a dressing of camphophenique.

The cicatricial variety follows suppurations and surgical operations through the face, such as are resorted to for the removal of tumors and necrosis of the jaws. When this condition is found in childhood and continues for a considerable length of time it is generally followed by an arrest in the development of the face and jaws. In illustration of this are the photograph (Fig. 1) and casts of the face and teeth of a boy, aged 16, who, when in his second year, fell from a window, fracturing his femur and also the inferior maxilla at the neck of the left condyloid process. The jaw fracture was not noticed until six months later, when the jaw was found to be ankylosed. The surgeon concluded that the trouble was due to muscular injury at the time of the fall. Thinking that in time the muscles would recover of themselves, he advised no treatment. Three years later another surgeon found the fractured jaw, but did not suggest any plan of relief. Later, indefinite different attempts were made to force the jaws apart, but were unsuccessful.

On examination, I found the ankylosis and the shortening of the jaws were due to the overlapping of the bones, which had become firmly fixed. The median line of the chin was considerably to the left. Several of the deciduous teeth which should have been cast off were present, and the mouth was in a generally disordered condition. I removed these teeth and reduced the inflammatory condition of the gums, and advised an operation for adjusting the ends of the fractured bones. I was told that several surgeons were consulted by the father, who was told that they would discourage surgical interference, consequently the boy was allowed to grow up in this unfortunate condition. My belief at that time was that the bones could be separated by means of a saw, or burr, and readjusted, and the ends of the fracture freshened and held in position until union of the bones was complete. He is now 28 years of age.

Another case of ankylosis, the cause of which is of more than usual interest, is that of a young woman who for several years had been treated for repeated granular growths in the sockets of the lower left molars that had been extracted. On examination it was found that all

Figure 1.

of the jaw, including the ramus back of the first bicuspid, was necrosed. To my amazement I found the third molar was malposed and lying at the neck of the condyloid process directly below the condyle. The treatment consisted of opening the periosteum sufficiently to permit the removal of the tooth and the necrosed bone, and treating the wound until bone was reproduced. The periosteum was retained as an interosseous splint until sufficient new bone had formed to hold the jaw in position.

By this plan there was no shortening of the jaw and no deformity of the face. It is obvious that this operation was done within the mouth. I was unable to ascertain whether ankylosis on this side of the jaw was complete or was of the temporary variety. By the use of the screw-jacks a complete and permanent use of the jaw was re-established.

I saw in consultation another case of permanent ankylosis, resulting from a surgical operation made through the face for the removal of necrosed bone in the lower jaw, that resulted from an abscess on a molar. The cicatrix was several inches in length and about an inch in width. The patient told me he had been under treatment in a hospital for more than a year, much of which time his face was bandaged. I advised resecting

* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. E. A. Bogue, Alice M. Steeves and M. L. Rhein.

of the scars, skin induction and forcible separation of the jaw by means of screw-jacks.

I am now pleased to be able to bring before you here a patient who, at the age of 14, was brought to me in June, 1893. At the age of 6 years the patient had diphtheria with extensive ulcers in the throat, the soreness from which continued for a considerable time after the disease had subsided. During this period pain was caused in opening the mouth, when the child was permitted to take liquid food between the teeth. This method of taking nourishment became a habit. Four years later, owing to toothache, she was taken to a dentist who, finding her jaws were ankylosed, referred her to a surgeon for treatment. Various methods, including the use of the "Grady screw," to pry and keep the jaws apart, were resorted to with slight results. Precaution was not taken, however, to protect the teeth from fracture, and some were broken and abscessed;

Figure 2.

gingivitis also resulted. Efforts to correct the ankylosed condition were finally abandoned and the jaws closed and became rigid. At the time the effort was made to force the teeth apart the patient was encouraged to crowd solid food between the upper and lower teeth and crush it with the tongue against the roof of the mouth. This she was finally able to do with considerable success, but in doing this she had forced the lower teeth back and the upper teeth forward, causing some deformity. Figure 2 shows a cast of a face. Examination showed the patient to be anemic but otherwise in a fairly good state of health.

By forcing a wedge between the teeth I was able to secure one-eighth of an inch space on the left side. The reason for this was that on the left side there was only cicatricial ankylosis, while on the right side it was osseous. The condition of the mouth was deplorable. General gingivitis prevailed, and several of the permanent teeth were loose, while others were abscessed, and many of the deciduous teeth were present, thus retarding the full eruption of the permanent teeth. The crown of the upper right central was lost. By treatment much of the inflammatory condition of the gums was reduced, but not until the jaws were so far separated that the abscessed and the deciduous teeth could be extracted. My first thought was to devise and construct a mechanism that could force the jaws apart by causing an even pressure on the teeth. Figure 3 shows the depressor made of steel spring, which I was able to crowd between the jaws while the wedges were in position, and while the patient was under profound anesthesia. While the head was firmly held by an assistant I was able to put sufficient force to the depressor to gain one-eighth of an inch space. With this space I was able to

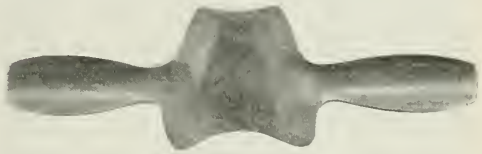

Figure 3.

insert a flexible double screw-jack, represented by Figure 4, that I also devised for this purpose. The surface of the hand depressor and the blades of the screw-jack were serrated, the object of which was to lessen the danger of slipping. If it is necessary to further reduce this danger, soft vulcanite rubber or gutta-percha may be placed on the masticating surface of one or more of the molar teeth on either side of the mouth. The blades of his jack were made of thin spring steel. The object of this was not only to cause even bearing on the teeth, but to prevent undue pressure on the teeth and luxation of the jaws. The screws were purposely made long, so that the patient might tighten or loosen the jack at

Figure 4.

will. By this simple mechanism the patient was enabled to adjust it and make as slight or as much pressure as could be easily tolerated. This patient was able to wear this jack much of the time both day and night. When three-eighths of an inch space had been secured soft wax was flowed over the blades of the screw-jack and the jack was again put in position. By this means I was able to secure an impression of the antagonizing ends of the teeth, by which casts were made and splints of vulcanite were constructed, the approximating surfaces of which were made flat, so that when in place there was an equal bearing at all points. These splints

enabled me to put greater pressure on the screw-jacks as well as eliminating all danger of fracturing the teeth. As the jaws opened, better fitting splints were applied. Chloroform was administered every few weeks and all possible pressure was made to force the jaws apart. Almost from the beginning of the treatment there was an inflammation established in the right joint. While at times this operation was attended by considerable discomfort to the patient, which prolonged the work, it had much to do with the final success, because absorption of the osseous deposit within the joint was established, and by this constant agitation it continued until a fair action in the joint was established.

One of the things which retarded our efforts was the degenerated temporal and masseter muscles because of years of disuse. These muscles required redevelopment from that condition found in a child of six years to that of a young girl of sixteen. Until this was accomplished there was but moderate benefit derived from opening and closing the mouth. In order to develop the strength of the muscles of the face, as well as to elongate them, I devised a set of springs which were securely fastened in grooves cut in the approximating surfaces of the splints on either side of the mouth. (Fig. 5.) At the forward end of the grooves there was an opening made through the splint of sufficient size to accommodate the studs A, which were one-sixteenth of an inch in thickness and one-eighth of an inch in length. The principal object of these studs was to prevent the springs from slipping out of place, and to doubly secure them they were also wired to the lower splint. These

Figure 5.

springs were very stiff, and only with great effort by the patient could be compressed. In order to get the splints into the mouth with the springs in position they were applied while bound tightly together, and when in position these ligatures were cut. At the end of one year's treatment the patient had about one-half the normal opening of the jaw, and for the next year the work of continuing the treatment was intrusted to her, because by personal illness I was absent from practice. On my return I was pleased to find that substantial progress had been made, the space gained was maintained, and that the muscles had materially improved. I took up the work again along the same lines and continued until almost the normal opening of the jaws had been secured, with, however, but little lateral motion, the adhesions which held the left side of the jaw readily giving way to the continued pressure of the jack. In the course of a year the patient's health demanded exclusive attention, and because of tuberculosis further maxillary irritation was at this time discontinued. Within the past six years, however, the patient has seldom found it necessary to make use of the springs; her health also has gradually improved. As you can see, the patient, though not robust, is in fairly good condition.

7 West Fifty-eighth Street.

DISCUSSION.

Dr. G. V. I. Brown, Milwaukee—I think Dr. Curtis is in danger of being misunderstood, since he evidently describes conditions of true and false ankylosis. He speaks of permanent and temporary ankylosis and gives as etiologic factors malimposed third molars, pulpitis and conditions of that character. What Dr. Curtis really means is not ankylosis, but trismus. I think we ought to draw a very distinctive line between a muscular contraction of a temporary nature as described due to more or less direct irritation of the nerve trunks and a condition caused by inflammatory processes or degenerative conditions of the temporomaxillary articulation. So far as operative measures are concerned nothing can be said but the highest praise. These cases are extremely troublesome, and Dr. Curtis' results are a warrant that the proper methods were employed.

Dr. Charles F. Allan, Newburgh, N. Y.—I have never had a case of osseous formation in the jaw and I think they are very, very rare. The coagulation of the secretions as a result of traumatism which causes the ankylosis is sufficient to make a strong bar to the jaws closing as they should. I have never found that any application made to cause absorption was in any way effective. Chloroform and moisture persistently applied by the patient every day would be the only thing to cause return to normal conditions.

A CASE OF TYPHOID FEVER WITH AN UNUSUAL COMPLICATION.*

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Gynecologist to the Atlantic City Hospital; Physician to the Mercer House for Invalid Women.

ATLANTIC CITY, N. J.

Hemorrhage as a complication of typhoid fever presents some interesting phases. The literature on the subject of enteric fever abounds with discussions of hemorrhage from almost every organ in the body, but the uterus seems to have been overlooked. In the literature at my command I have been able to find but very little. By most authorities on the subject no mention whatever is made of uterine hemorrhage as a complication of typhoid fever. Osler, however, does mention "a rare and fatal form of typhoid fever characterized by cutaneous and mucous hemorrhages." Montgomery, in his work on gynecology, draws attention to the fact that "severe uterine hemorrhage may frequently usher in an attack of typhoid fever," and this is not uncommon, especially if it happens to be about the time of the normal menstrual flow. In the case, however, presented here for your consideration, the hemorrhage did not usher in the attack, but occurred in what must have been at least the third week of the trouble. Neither could the normal monthly period have figured in any way in the case, as the menstrual epoch occurred just two weeks previously. The case briefly is as follows:

History.—Miss C., aged 30, of slight build and stature, nervous temperament, sallow complexion, of the brunette type, and not very well nourished, gave a history of being run down and tired out. She said her physician had advised her to come to the seashore for rest. On the way from Philadelphia she was prostrated with an attack of weakness while on the train. She entered the Mercer House for Invalid Women, June 9, complaining of headache and some pain in the stomach. She said she was tired and would rest a day before going down on the Boardwalk.

The history of the case before she left her home is briefly stated by her physician as follows:

"Miss C. called at my office May 21, complaining of headache, muscular pains, weakness and indigestion. I found she had a slight fever and advised her to rest from all work and take liquid food. I also gave her calomel in fractional doses and a pill of acetanilid, salol and quinin. She called again to see me on May 25, still complaining of some headache and discom-

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

fort about the stomach. May 28 she again came to my office, said she felt better, but had some vertical headache and was constipated. She had a temperature of 99.9, pulse 100, and tongue was too red. June 4 she reported herself much better. She was free from fever, but had a feeling of weight in the epigastrium and complained that almost every mouthful swallowed caused her pain. I urged her to refrain from any resumption of her work (music teaching) until she had taken two weeks at Atlantic City, where she expected to go on June 9. I have heard that she did give some lessons in the interval between her last call on me and her departure for Atlantic City. I considered her illness an attack of la grippe with gastric catarrh."

Treatment and Course of Disease.—Miss C. remained in bed the day after entering the Mercer House. The following day she complained of severe pain in the stomach and abdomen. Her temperature was 103, pulse 120, respirations 36. A severe diarrhea had now set in. She was given a capsule containing bismuth, opium, carbolic acid, salol and aromatic powder, which checked the diarrhea somewhat. Liquid diet was ordered. About 8 p. m. her temperature had risen to 105, and the menstrual flow appeared, although she had only had this two weeks previous. In this regard she had always been entirely regular and normal. She was delirious all night. Notwithstanding the presence of the menses a cold sponge was given, bringing the temperature down to 102.3. There was constant nausea and pain in the abdomen, while the stools became of a pea-soup character and were more frequent.

June 13 her temperature ranged between 99 and 102; pulse 84 to 104; respirations 24, and she slept some. There was no movement of the bowels, but the menstrual flow continued more freely than ever, and micturition was difficult. In view of her very weak condition, it was deemed wise to take some steps toward checking the uterine flow, which now assumed the proportions of a hemorrhage. She was therefore given a mixture containing ergot and liq. sedans. An examination was also made for any local pelvic trouble that might be the cause of a metrorrhagia. The sexual organs were found normal. There was no evidence of any miscarriage for her reputation was above reproach. Not even an endometritis was found, and no lesion of any kind could be detected, either in the uterus, tubes, or ovaries. The vagina was now packed with gauze, which was left in twenty-four hours, and this succeeded in checking the hemorrhage.

June 14 the temperature ranged between 101 and 103; pulse varied all the way between 80 and 130 and was very weak; respirations 32. The patient was in a more or less stupid condition, somewhat delirious, but sleeping the greater part of the time. The bowels became loose again and she was troubled with a persistent hiccoughing. There was never much abdominal tenderness on pressure, or tympanitis, but the specimen of blood taken June 13 showed the Widal reaction; and on the 14th typical rose spots were visible, though few in number. For stimulation strychnin and whiskey were being given; and starch water and laudanum enemas for defecation and micturition, which had now become involuntary. Cold sponging was employed constantly to keep the temperature within limits.

June 15 the temperature range was between 101 and 103; pulse 114 to 143, respirations 24 to 42. This rapidity in the respirations rather suggested pneumonia. No pain in the chest was complained of, however, and no evidences of pneumonia could be detected after careful examinations of the lungs. The patient's condition was now critical, dejections involuntary; hiccoughing very troublesome; pulse very weak, and at times imperceptible; and she had become at this time almost deaf. Nausea and vomiting were so great that nothing could be kept on the stomach.

June 16 temperature between 102 and 103; pulse 140 to 164, while the respirations dropped to 18, and later to 14, and were labored. Death intervened at 9:40 a. m.

Autopsy.—At the autopsy, at which I was assisted by Dr. M. F. Ireland, the intestines were found very much distended with flatus. There were a number of Peyer's patches very much inflamed and enlarged; and two such patches were just on the verge of perforation though not quite through. There was no peritonitis either general or localized, the pelvic organs were given especial attention in order to determine if possible any local cause for the uterine hemorrhage. The uterus itself was in good position, perfectly normal, with no tumor growth of any kind, though it was perhaps a little under size. The ovaries and tubes did not show any indications of disease whatsoever; and there was nothing locally to indicate any cause for the severe uterine hemorrhage. The pelvic organs were not removed from the body and further exploration of other organs was not entered into out of respect to the family. Sufficient was found, however, to prove the correctness of the clinical diagnosis of enteric fever.

COMMENTS.

The case was a mild one up to the time she came to Atlantic City, so mild indeed that she did not confine herself to bed, but was up and around, able to visit her physician at his office, and even gave some music lessons, though she must have been affected as far back as May 21. This was one of the cases known to the laity as "walking typhoid," though none the less treacherous on account of its mildness, as was shown by its fatal ending, brought on, it may be, by the exertion incident to making the trip from Philadelphia to Atlantic City.

MESENTERIC EMBOLISM AND THROMBOSIS.

A STUDY OF TWO HUNDRED AND FOURTEEN CASES.

JAMES MARSH JACKSON, M.D.
Out-Patient Physician to the Massachusetts General Hospital.
CHARLES ALLEN PORTER, M.D.
Assistant Surgeon to the Massachusetts General Hospital.
WILLIAM CARTER QUINBY, M.D.
BOSTON.

(Continued from page 1775, June 4, 1904.)

CASE 8.—K. M., widow, age 60, admitted to the medical wards of the Johns Hopkins Hospital Jan. 14, 1898. Complained of pain in the stomach.

Family History.—Unreported.

Past History.—Had malaria many years ago. Rheumatism in right leg and arm two years ago. General health fair. Has done very hard work. Habits excellent. Bowels regular. Subject to slight dyspeptic attacks, with vomiting, off and on for seven years. Frequency of micturition.

Present Illness.—Has not felt well for some months. About four weeks ago shortness of breath, from which she has suffered for years, grew worse, being very extreme on least exertion. Palpitation of heart, with dyspnea. Some swelling of feet. Pain and soreness in upper abdomen. Vomiting immediately after eating. On admission patient seemed in great distress. Slightly cyanotic. Lungs clear. Heart dullness not increased. Systolic murmur at apex. Pulse 92 to the minute, regular; vessel sclerotic. Abdomen full. Liver large and tender.

January 22. Temperature rose during the night from 98.2 to 103.7 degrees and patient became comatose. Pulse 148. Heart's action violent, pulsation over whole precordia. Respiration not increased, but deep and full. Face covered with sweat. Pupils contracted.

January 23. Temperature rose to 108 degrees, pulse 120, otherwise condition remained the same. There were a few râles heard at the base of the lungs. Leucocytosis 12,000. Death at 11:15 p. m.

AUTOPSY, DR. LIVINGOOD, JANUARY 24.

Anatomic Diagnosis.—Arteriosclerosis, small kidneys; chronic diffuse nephritis. Hypertrophy of left ventricle. Thrombosis of coronary arteries of stomach. Hemorrhage into serosa of stomach. Thrombosis (firm, white thrombi) of several branches of superior mesenteric vein. Hemorrhagic infarct in lung. Portal vein normal. No note on condition of mesenteric arteries.

Case 9.—D. B., male, age 52, admitted to the medical wards, service of Dr. Osler, Oct. 13, 1898. Complaint, shortness of breath and swelling of abdomen.

Family History.—Unimportant.

Personal History.—Always healthy. Indefinite history of inflammatory rheumatism ten years ago. Gonorrhea twice. Syphilis. Heavy drinker. Had been to Johns Hopkins Hospital four times since 1896 with roughening of aorta, mitral insufficiency and stenosis, and arteriosclerosis.

Present Illness.—Two weeks before admission return of cardiac weakness. Bowels very constipated. On admission, marked dyspnea and cough. Abdomen very much swollen; small properitoneal hernia; ascites. Marked tenderness in right hypochondrium. Temperature 96.5, pulse 68 to the minute, collapsing. For three or four days previous to October 28 patient complained of pain, usually in right hypochondrium, at times more general. October 28 at 3 a. m., sudden, severe, sharp pain in abdomen. The pain persisted almost continuously from this time on.

October 29. Abdomen somewhat distended and exquisitely tender. Great nervousness and excitability. Temperature 98 degrees, pulse 88, small and weak.

October 30. General condition same. Temperature 100, pulse 112 in morning. Death at 6 p. m.

On October 28 patient had five stools; on October 29, two stools. No blood passed. No mention made of vomiting.

AUTOPSY, OCTOBER 30, 1898, DR. FLEXNER.

Anatomic Diagnosis.—Arteriosclerosis; hypertrophy of the heart. Sclerosis of the aortic valves. Free globular thrombus in the left ventricle. Marantic thrombosis in right auricle. Thrombosis in superior mesenteric artery (or embolus). Hemorrhagic infarction of intestine. Acute peritonitis. Chronic passive congestion. Stomach polyp. Peritoneal cavity contained much bloody fluid.

The infarcted intestine consisted of all the jejunum, ileum, cecum, ascending colon and part of the transverse colon. The intestine was much distended, deep red in color, and covered with fibrinous deposits.

Case 10 (Dr. C. A. Porter).—Miss C. D., 76 years, April 21, 1902. About a week ago she was suddenly seized with severe pain in the epigastrium and back. On April 20 she was again taken with sharp pain, running transversely across the epigastrium. This came on after going upstairs after tea. She vomited at once, and several times later, without much pain. The pain continued for some hours, but she had a normal movement that evening. Dr. Cushman of Dudley Street, Boston, was called and gave morphia gr. ¼, with strychnia. The pain and nausea continued, despite treatment, until morning, though she slept some hours. In the morning she was distinctly worse. The patient was seen by Dr. C. A. Porter at 11 that morning.

Physical Examination.—Face drawn, pulse 105 and weak. Heart was somewhat enlarged. The belly was moderately distended, but not tender. The pain was referred to just above the navel, crosswise over this area of the abdomen. No urine had been passed since the night before. The rectum was collapsed and some dullness was made out in the left flank. Ten ounces of urine was drawn by catheter. This showed albumin and casts (fatty, etc.). She grew worse in general condition and vomited dark material. Laparotomy was done at 5:30 p. m. of the same day by Dr. C. A. Porter. A foul odor was emitted by the intestines. The cecum was dark green in color and surrounded by adherent omentum. All the small intestines were contracted and dusky in color. The veins of the intestines were full but not distended. The arteries did not pulsate. She died on the table.

AUTOPSY. DR. WRIGHT.

Autopsy showed the heart to be normal. The mitral valve was thickened and calcareous. A thrombus 1 cm. long was attached weakly to this curtain. The aortic valves were normal. The superior mesenteric artery for 6 inches below its origin was occluded by a gray-red thrombus mass, with a granular surface, adherent to the arterial walls. The small intestines were dark red, with purple fluid in the intestinal cavity. The walls of a large part of the cecum and of the adjacent ascending colon were green and foul. The appendix was normal. The spleen showed two infarcts, the kidneys a glomerulo-nephritis.

Case 11 (Dr. C. A. Porter).—M. H., woman, 38 years. Jan. 25, 1899.

Past History.—More or less chronic diarrhea for last three or four years. Has had three children, the last five weeks ago. In bed ten days; normal convalescence. Previous pregnancy was in 1897, after which she was in the Massachusetts General Hospital for "milk leg."

Present Illness.—Well till four days ago, when she had some pain in right hypochondrium, not severe, but enough to prevent her working. Pain soon moved to umbilicus, where it remained constant, something like a colic, coming and going. Vomited evening before entrance. Bowels moved every day till day of entrance; nothing peculiar about stools. Pain has gradually increased in severity. Entered hospital about 7 p. m. Had severe pain in abdomen and poor pulse at 8 p. m. Enema brought away a few small fecal masses of normal color and consistency.

Physical Examination.—At 9 p. m. Temperature 98.6, pulse 80, of poor quality; respiration 23. Leucocytosis 50,200. Woman pale, rather poorly nourished. Hollow eyes with dark veins about them. Eye clear, expression rather "pinched," though perfectly bright and intelligent. It was evident that she was laboring under peritoneal shock. She talked freely, though evidently in extremely poor condition. The tongue was moist, the center covered with a superficial, brown "fur." Heart and lungs negative. Respiration thoracic.

Abdomen.—Liver dullness normal above, in right mamillary line; two finger breadths below upper limit of dullness tympany is found. Area of splenic dullness also diminished. Abdomen in general somewhat distended, left side more than right. Both recti rigid, left more than right. Pain most marked directly within umbilical cicatrix. Tenderness greatest over area size of palm of hand, to the left of umbilicus, where the muscles resist the slightest pressure. Dullness in left lower quadrant. No peristalsis heard on auscultation.

Vaginal examination showed a rather large uterus, not tender. Some induration without tenderness in left side of pelvis; no bulging. Rectal examination negative.

Urine.—Red color, acid, albumin ¼ per cent., sugar absent. Sediment contained some pus, considerable normal blood, a few granular casts and squamous epithelium from bladder or vagina.

OPERATION. DR. C. A. PORTER. ETHER.

Incision in left rectus six inches long. About 500 c.c. of slightly red-tinted turbid serum escaped, containing a few flocculi of lymph. Culture from this was sterile. Examination of gall bladder, appendages and appendix was negative. On retracting left rectus outwards, from directly under tender area there emerged a coil of dull, dark, plum-colored intestine. Five coils were glued together by recently exuded lymph. There was no circulation in this bowel; no kink or band. At the lower end there was an abrupt line of demarcation, below which the intestine was of normal consistency. Above the blackened bowel the color faded gradually into what seemed like normal intestine, though the walls of the gut were somewhat thicker and firmer than normal, with here and there engorged vessels. The mesentery was thickened to twice the normal, felt rather firm, with indurated lines running toward the bowels; evidently thrombosed veins, as the arteries could be felt to pulsate. The bowels could not be kept within the cavity, so the ascending colon, which was much distended, was punctured and collapsed, the incision then sutured. This gave more room. There were no signs of injection in the large intestine. The blackened gut was rapidly removed by a wedge-shaped incision in the mesentery, one inch below the abrupt lower line of demarcation, and six inches above the upper, ill-defined border. On dividing the mesentery the arteries spurted freely. In all of the veins, on the other hand, moderately firm, dark thrombi were found. The patient's condition did not allow time for a suture of the resection, so, after toilet of the peritoneum with salt solution, the two ends of the gut were brought out of the abdomen, surrounded by gauze, and the wound rapidly closed. Patient put to

bed in very poor condition. Time of operation, 35 minutes.

January 26. Early in the morning the pulse became poor, 120 to the minute. Temperature 102.5. No nausea or vomiting. No reaction to stimulants, and death followed at 7 p. m.

AUTOPSY. DR. J. H. WRIGHT.

Heart and lungs not saved. The portal vein and practically all its branches are distended, firm to the touch, bluish in color and filled with clotted blood. No extensive dissection of interior of veins was made in order not to destroy the specimen. A part of the portal vein at its entrance into the liver was opened and found to be occluded by a gray, red, firm, fleshy mass, adherent to the intima of the vessel and extending a short distance into one or two of the branches going into the liver. No thrombus in splenic vein. The mesentery of the small intestine shows a defect which has been closed with sutures. Opposite this point a portion of the small intestine is absent. The remaining jejunum for about two feet above resected end is a dark red to blackish color, infiltrated with dark bloody fluid, and its serosa showing fibrinous exudate. The mesentery supplying this is not infiltrated with blood, but fairly normal in appearance. Liver and spleen not remarkable. Kidneys show a pale opaque appearance on section. No atrophy; markings normal. Uterus and appendages not remarkable.

Anatomic Diagnosis.—Resection of intestine; extensive thrombosis of portal vein and its large branches; hemorrhagic infarction of a portion of jejunum; acute degenerative nephritis.

CASE 12 (Dr. C. A. Porter.)—Man, 47 years, electrotyper. Entered Massachusetts General Hospital Jan. 8, 1904. Transferred from Dr. Shattuck's service.

Family History.—Negative.

Past History.—Children's diseases. Chorea 28 years ago.

Present Illness.—Cough, dyspnea and palpitation for four months. Precardial pain, radiating from arms, occasionally for last three months. Attack lasts 15 minutes. Some distress after eating. Pain often comes on after exertion. Some amaurosis at this time. Ever since youth has had occasional trouble with piles, pain and itching, and sometimes palpable masses coming down; considerable pain and tenderness.

Physical Examination.—Well developed and nourished. Lungs, a few moist râles at each base. Breathing rapid and somewhat labored. Lips faintly cyanotic. Patient breathes easiest in upright position. Heart, apex fifth space one-half inch outside nipple line, rhythm regular. Systolic murmur loudest at apex and transmitted outward. Diastolic murmur at base, transmitted downward. Pulse, good volume, fair tension, quick and of Corrigan character. Capillary pulse not observed. Visible pulsation of brachial carotids and femorals. Radial arteries sclerotic. Pistol shot murmur in groins. Abdomen full, soft, tympanitic. External tabs of old hemorrhoids, internal hemorrhoids palpable and visible on straining, purplish and sloughing. No edema.

Urine.—Normal color, turbid, acid, 1,025, trace of albumin, sugar absent. Sediment, some granular and hyaline casts. Few blood corpuscles and cells, with crystals.

OPERATION, JANUARY 8. DR. C. A. PORTER. ETHER.

Under anesthesia, which was given by the drop method, with plenty of air, it was noticed that the patient, who had an aortic and mitral lesion, was somewhat cyanotic in his ears, although his pulse remained good. His hemorrhoids and veins of the lower extremities appeared dark blue. After he was thoroughly under ether, which he took without struggling, the circulation improved. With a ligature 3 piles were tied off, and a good deal of hypertrophied skin removed by a circular incision. An iodoform gauze plug was inserted into the rectum, with a morphia suppository. During the afternoon, after recovery from ether, he complained of some pain in his lower abdomen, distension and increasing dyspnea. His temperature was normal, pulse about 100, rather weak tension, sounds rather indistinct. During the night he had a movement, and after morphia was more comfortable, though the distension steadily increased, with some pain in the lower abdomen, and especially marked tenderness on deep pressure in the left iliac fossa and just to the left of the umbilicus.

Examination January 9 at 9 a. m., showed no edema of the legs, respiration 35 to the minute, slight cyanosis, pulse weak and irregular. Abdomen was markedly distended, tension extreme. Rectal tube brought away some gas, but no fecal matter. He vomited about one pint of brownish material, without fecal odor. At 12 o'clock the abdomen, in spite of turpentine stupes, and washing a quart of brownish, foul-smelling material from the stomach, was still more distended, though the washing of the stomach had given him slight temporary relief. Examination of the dependent portions of the abdomen revealed the presence of some fluid. Tenderness in the left iliac fossa was more marked. The white count was 15,000, the temperature 97.5, heart sounds heard all over abdomen. The urine had not been passed until early morning, and then was about one pint in amount.

In view of the age of the man, with aortic lesions, and arteriosclerosis to some degree, and of the relative suddenness of the onset of this pain, with marked distension and tenderness in the abdomen and the inability, in spite of enemata, to move the bowels, it appeared as if the diagnosis was probably a mesenteric embolism or thrombosis, and though his condition appeared most discouraging, it seemed best to make a small incision under primary ether, and at least open up the intestine, as the increasing distension was undoubtedly causing heart failure, in spite of strychnin and digitalin in repeated doses.

Dr. Musgrave, on examination of the patient before operation, thought that he found evidence of a small embolus at the base of the right lung, but owing to the shallowness of the respiration this could not be absolutely determined.

OPERATION. DR. C. A. PORTER. COCAIN AND ETHER.

On making a rapid median incision below the umbilicus, the intestines throughout were found to be violet in color, with poor circulation. They were distended and obviously paralyzed. On removing some coils it was seen that they were filled with air and fluid, which at once gravitated to the dependent portions, as in an autopsy subject. The abdomen contained about one quart of turbid fluid, with flakes of fibrin here and there on the gut walls. The bowels were opened with a small nick and about three quarts of slightly brownish fluid escaped. This was thin and watery. The patient's pulse suddenly failed and he died on the table, in spite of stimulation, oxygen and artificial respiration. The mesentery was spread out, and on various areas of it and on the intestine were found petechial extravasations of blood varying in size up to one-half inch in diameter. There was no edema of the mesentery. Throughout the distribution of the mesenteric artery it could be felt everywhere as a firm cord, rolling under the finger. A portion of the mesentery, with the vessels, was excised for examination. The veins bled. There was no hemorrhage from the rectum. Examination of excised piece showed all the arterial walls much thickened and one of them occluded. Veins free. Autopsy was refused.

In this case, the operation for hemorrhoids seemed to have no direct connection with the cause of death, because the symptoms set in too soon to have been caused by a propagated thrombus from the rectal vessels. It is possible, however, that the depression during the recovery from ether, the vomiting and postoperative distension, may have been factors in causing thrombosis of the artery, or more probably, that an embolus became detached from an aortic valve.

CASE 13 (Dr. C. B. Porter).—D. M., man, 31 years, fireman, entered Massachusetts General Hospital Dec. 27, 1901.

Family History.—Father died at 55 of cancer of tongue. Habits, tobacco in moderation, no alcohol.

Past History.—Children's diseases. Gonorrhea twice, no chancre. Otherwise well.

Present Illness.—Three weeks ago began to have pain all through abdomen, very severe, lasting four days, at first general, but finally localized in right groin. Vomited often on first day, retaining nothing. Could not urinate for three days, when great relief after passing urine, which was bloody. Has been somewhat bloody ever since. Never any jaundice. Severe chills daily about 6 p. m., followed by sweating.

Physical Examination.—Well developed and nourished.

Lungs negative. Heart slightly enlarged to right. Abdomen full, slightly resistant in right side, with tenderness, not sharply localized. Tympanitic throughout. Liver dullness from fourth rib in nipple line to costal margin, not palpated.

December 27. White count 43,000. No plasmodia. While in ward, chills have continued, without discovery of plasmodia. Has had morphin for pain. Urine has shown a little pus and blood. Rare, brown granular casts at first, later fatty, granular casts, and few fatty, epithelial cells, first, later fatty, granular casts, and few fatty, epithelial cells.

January 5. Whites, 19,000.

OPERATION. DR. C. B. PORTER. GAS AND ETHER.

An incision six inches long was made an inch below the right costal border and parallel to it. The liver was large, tense and injected, with a few adhesions on its upper surface. The surface of the liver under these adhesions seemed slightly softer than the rest and pitted a little on pressure. A trocar inserted at this point did not discover any pus. The gall bladder was normal. The whole liver was palpated as far as the hand could reach. Nothing abnormal found beyond enlargement and congestion. The right kidney was palpated and found normal. A gauze wick covered with rubber dam was placed over the soft areas in the liver above mentioned and the wound closed.

January 6. Temperature this a. m. 98, p. m. 105, and had a chill. Pulse 140 and very weak.

January 7. Another chill, with partial collapse. Is delirious and very restless at times.

January 8. Is weaker and looks more emaciated. Whites 23,000. Lungs negative. No plasmodia.

January 9. Whites 27,000. Bowels move well with enemata. Takes food well. Has a great deal of pain in right side.

January 12. Has been growing steadily weaker since last note, with occasional chill, sweating and collapse. Delirious, Dressing has been changed and wick removed; no discharge. The liver was tapped with a trocar to-day, but no pus found. There is dullness and diminished breathing at base of right lung. Aspiration failed to withdraw any fluid.

January 14. Collapsed this afternoon and died.

AUTOPSY. DR. J. H. WRIGHT.

Gangrenous appendicitis, with abscess formation in the adhesions and gangrene and perforation of the wall of cecum near appendix. Suppurative phlebitis of the ileocolic and superior mesenteric veins, and suppurative thrombophlebitis of the portal vein, with multiple abscessses of the liver. Abscess in right kidney. Laparotomy wound. Localized peritonitis in region of right lobe of the liver. Acute hyperplasia of spleen. Bronchitis. Streptococcus septicemia.

Bacteriologic Report.—January 13. Culture from liver puncture shows numerous colonies of the *Staphylococcus pyogenes aureus.*

Case 14 (Dr. C. B. Porter).—J. D., male, 64, married. Hardware worker. Entered Massachusetts General Hospital, Oct. 30, 1901, 7 p. m.

Present Illness.—Three days before had sudden, severe pain in the belly. It was situated somewhat to the right of the navel. On that day he has been in constant pain about the umbilicus, with increasing distension. No tenderness accompanied the pain, but there has been persistent nausea and vomiting, increasing meteorism, and no motions for two days.

Physical Examination.—Fairly well-developed and nourished. Heart not enlarged. Good impulse, no murmurs. The pulse was 80, of fair compressibility, but irregular. Lungs show nothing abnormal. Temperature 100, respiration 23. The abdomen was distended, especially about the navel, where there was some tenderness. Costal and iliac grooves are not obliterated. Immediately to the left of the navel was a dull area, about the size of a dollar. This area felt like a rigid rectus, although that muscle was soft above and below the mass. The belly was elsewhere tympanitic, except in the flanks, where shifting dullness was observed. Rectal examination showed no ballooning. White count, 24,000. Iodophilia, marked reaction.

OPERATION. DR. C. B. PORTER.

At the laparotomy a large quantity of free, clear fluid escaped. (Culture sterile.) Immediately presenting in the field, as the recti were drawn back, was seen a coil of bowel, which appeared to be doubled into a loop and held there by a second encircling coil. Including the mass was a sheath of adherent, indurated omentum. The loop of obstructed bowel was dark red in color. Here and there were bright, yellowish green mottlings, three-quarters of an inch in diameter, covered with thick fibrin. Over the reddened areas the vessels could be made out as darker streaks, running about the circumference of the gut. The mesentery, immediately attached to this part of the bowel, was of fair color, thickened, but bled scarcely at all when cut, except for slow, dark ooze. The omentum was here hard and very friable, and twice its normal thickness. The entangled coils were separated by blunt dissection, with the greatest care, until the whole six inches of discolored bowel was free. There were no changes evident in the coil that was tied around the loop just described, while at either end of the gangrenous bowel was a sharp line of demarcation. The gangrenous bowel was resected, and an end-to-end anastomosis made. The cut edges of the mesentery were infiltrated, friable, and bled only as a dark ooze. No other obstruction, or discolored bowel was seen, and no fibrin flakes came to light, except those adherent to the dead loop.

The microscopic examination, by Dr. W. F. Whitney, of the bowel removed, "shows mesenteric artery and vein filled with a more or less adherent thrombosis, especially so in the artery, the inner coat of which was proliferated. In places, the thrombosis seems pure red, and in others more or less stratified or mixed. Diagnosis, thrombosis of mesenteric vessels with gangrene of the bowel." The operation appeared at first to relieve the condition, but soon there was a recurrence of all the previous symptoms. The abdomen was tender and distended. Nothing passed the rectum to his death, three days later.

AUTOPSY.

Autopsy showed three feet of small bowel matted together, under an adherent omentum. The bowel affected was proximal to the scar of the resection. It was exactly similar to, though not so far diseased, as the bowel taken out at the operation. There were darkened and light green areas, the latter and fibers attached. There was free fluid, but no flakes. Culture taken of fluid showed a growth of some sort, but the tube was accidentally destroyed before a microscopic examination was made. On separating the omentum from the bowel a rent was made at the joint of the resection at the mesenteric attachment. All about the suture, at this point, the bowel was green and gangrenous, and whether it had yet leaked could not be told from its appearance.

Case 15 (Dr. M. H. Richardson).—B. W., woman, 61 years, entered Massachusetts General Hospital March 25, 1897.

Family History.—Negative.

Past History.—Malaria and typhoid.

Present Illness.—Perfectly well until five weeks ago, when ankles and arms became swollen. This went in a short time, and she began to have pain in abdomen, not localized, and increased on motion. Attacks have increased in frequency until past week, when they have been almost constant. Vomited during attacks of pain. Vomitus greenish until last few days, when it has been dark and very foul. Bowels regular until five weeks ago, since then extreme constipation. Has passed no gas. Pain not related to eating. No blood by mouth or stool. Has been losing weight slowly for some time.

Physical Examination.—Well developed and fairly well nourished. Heart negative. Abdomen much distended and tympanitic. Intestinal coils visible. Nothing could be felt because of the distension. Patient drowsy, lips dry, breath foul and tongue coated. Temperature 100, pulse weak, 110-120.

Clinical Diagnosis.—Carcinoma of descending colon.

OPERATION. DR. M. H. RICHARDSON. ETHER.

March 26. A three-inch incision in median line, at level of umbilicus. Hard mass felt by examining hand, at lower end of descending colon. Wound then closed with silkworm gut sutures. Patient then turned on right side, and incision made

down and forward from costal border to crest of ileum, following outer edge of quadratus lumborum. Descending colon grasped, purse-string suture placed in it, and gut united to skin with sutures. Opening then made in intestines, and a Mixter tube inserted. Rest of wound then closed.

Patient's condition did not warrant doing a resection. The mass was a hard, firm tumor, apparently filling the whole of the lumeu, about the size of a hen's egg. An enlarged mesenteric gland also felt. About sixteen ounces of liquid feces and gas escaped from the tube.

March 27. Very comfortable night. Vomited once, fecal in character. Tube draining freely, and distention gone entirely.

March 28. Comfortable. Taking liquids well. No distention.

March 29. Temperature 100. Condition improving. Some leakage about tube.

March 31. Pulse weak and intermittent. Has failed much during last two days.

April 2. Pulse better, and general condition improved.

April 8. Temperature 101.2. This morning some nausea.

April 11. Condition much better. Sensorium clear.

April 24. As well as usual last night. At 5 a. m. sudden labored breathing. Cold extremities. Imperceptible pulse. In spite of forced stimulation, died in less than an hour.

AUTOPSY. DR. J. H. WRIGHT.

April 24, 1897. Adenocarcinoma, stricture of descending colon, with suppuration of neighboring retroperitoneal tissue. Lumbar colotomy. Laparotomy wound. Arteriosclerosis with thrombi of aorta and superior mesenteric artery, with beginning infarction of small intestine. Anemic and hemorrhagic infarcts of kidneys. Arteriosclerotic atrophy of kidneys. Ovarian cystoma. In abdominal aorta, a mass about the size of the little finger, not adherent, comprised of friable, grayish material, intermixed with black blood clot, in variable proportions. In superior mesenteric artery, at origin, a grayish-red, friable, firm, adherent mass, filling the vessel. The aorta shows rather numerous yellow patches, but no calcareous plates. The thoracic portion shows a gray-red clot adherent to intima, in the neighborhood of a small yellowish patch. The small intestines, for the most part, lie in the pelvic cavity. They are rather dark colored, not black, their serous veins injected. The mucosa and wall veins infiltrated with fluid, mucosa red colored.

CASE 16 (Dr. M. H. Richardson).—J. F., man, 26 years, shoemaker. Recommended to Massachusetts General Hospital March 15, 1901, for appendicitis.

Past History.—Always well and strong, with exception of occasional attacks of pain in lower abdomen, for last three years, which have not been severe enough to keep him in bed, and have been relieved by movement of bowels after taking Epsom salts.

Present Illness.—Began night before last, with a very severe pain in lower abdomen, which traveled from side to side, and was not relieved by movement of bowels. Yesterday morning vomited. The pain continued and was so severe that he was awake all last night. Copious movements of bowels this morning after salts. Pain remains in lower half of abdomen, not localized in any one spot.

Physical Examination.—Large, well-nourished man, 210 pounds. Heart and lungs negative. Abdomen fat, slightly tympanitic, and not very tender in region of pain. Very slight tenderness over appendix. Doubtful mass to be felt in appendix region. Sent to ward. Temperature 100.7, pulse 104, respiration 24, whites 9,800. March 16. Whites 7,600.

OPERATION. DR. M. H. RICHARDSON.

A four-inch incision along outer horder of right rectus. Appendix found slightly enlarged and reddened, bound down by a few adhesions, and twisted upon itself. Base tied off with silk, and appendix cut through with Pacquelin cautery. Mesentery clamped and tied off with silk. Wound closed by fine silk suture of peritoneum and fascial layers. Good condition at end of operation.

March 17. At 8 a. m. began to complain of abdominal pain and distress, and vomited a large amount of normal stomach contents. Pulse and temperature rising. Abdomen distended. Vomiting continued, becoming fecal in character. No result from enema repeated three times in as many hours. Turpentine stupes on abdomen. At 11 a. m. pulse poor, 140. Considerable distension. Temperature rising, and vomits every 15 to 20 minutes.

OPERATION. DR. J. O. MUMFORD.

Wound opened. Distended bowel protruded through it, and small amount of turbid serum evacuated. Bowel shows no sign of peritoneal inflammation, but a coil of small intestine about four to five feet long, near ileocecal valve, has a dark, mottled appearance, and its mesentery shows thrombosis of the vessels leading to it. Peritoneal cavity washed out with salt solution and Mixter tube placed in cecum. Considerable gas escaped through the tube. Patient at this period collapsed. Strych. 1/20 and oxygen. Wound closed with drainage and patient sent to ward. Feces discharged freely through tube, but without relief to general condition. Died 6 p. m. in spite of repeated stimulation. No autopsy permitted.

CASE 17 (Dr. F. B. Harrington).—J. M., man, 42 years. Twelve days ago attack of pain, most marked in epigastrium. Had never had similar attacks. Up and about in a few days. Eight days later had a chill with pain and collapse. Seen on the twelfth day. Temperature 103, pulse 106. Tenderness in right iliac region.

OPERATION.

Abscess about the appendix, which hung over the brim of the pelvis. The appendix was removed; showed perforation. Patient did well for two or three days, then began to vomit and have return of pain. Seen on fourth day after operation. Abdomen distended and painful. Vomiting; bowels had moved. Death on sixth day after operation.

AUTOPSY.

Only a local examination was allowed and this had to be done under very adverse circumstances. About two feet of the beginning of the jejunum was of a blackish brown color, and covered with flakes of fibrin. No general peritonitis. Mesentery of affected gut thickened. Intestinal contents bloody. Both arteries and veins of affected mesentery firmly thrombosed. Cavity of appendix abscess perfectly walled off, and all the intestines in this neighborhood found normal.

CASE 18 (Dr. F. B. Harrington).—H. L., man, 40 years, tailor, entered Massachusetts General Hospital Sept. 20, 1902. Yesterday morning while at work was seized with sudden, violent abdominal pain, which prostrated him completely. Was nauseated and vomited. Doctor prescribed morphia, without much relief to pain, which continued and grew worse during day. Vomiting increased and continued during day. Condition has been growing gradually worse.

Physical Examination.—Well-developed man. Pulseless, sighing respiration, no heart murmurs, lungs full of râles, abdomen distended and painful all over on pressure, no rigidity, extremities cold. No rectal examination made. Whites 21,000.

(To be continued.)

Clinical Report.

LUMBAR ABSCESS;

REPORT OF SIX CASES TREATED BY ASPIRATION AND INJECTION OF IODOFORM-GLYCERIN EMULSION.

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No attempt is made, in this report, to establish the absolute value of aspiration and injection of lumbar abscess with the iodoform and glycerin emulsion. The investigations already made in regard to this method show that it is of great benefit to many patients. Although the cases cited below are too few in number to be of positive value in themselves, yet when added to other reported cases they may be of some confirmatory value. It is with this idea that we present the following cases, occurring in the service of Dr. Dudley P. Allen at Lakeside Hospital.

CASE 1.—A male, aged 25 years, white, single, admitted to the hospital Feb. 7, 1898. Four months previous to the time of entrance the patient noticed a swelling about the size of a walnut in the right inguinal region. The tumor gradually increased in size, but at no time did it cause pain.

Family History.—Father, mother, four brothers and one sister living and well. One sister died of pulmonary tuberculosis at the age of twenty-three (six years ago).

Personal History.—Measles during childhood. For the last three years, particularly in winter time, he has been troubled with a cough. His physician told him that he had pulmonary tuberculosis. In April, 1898, the patient complained of severe pain in the right lumbar region. This lasted about three weeks, during which time he experienced some fulness in the right groin whenever he flexed his right thigh on his abdomen. After this period, however, no symptoms were noticed until the distinct swelling appeared.

Physical Examination.—The tumor is somewhat pyriform in shape, about one-half larger than the ordinary incandescent lamp, and extends from the right external abdominal ring upward, backward and outward, just above Poupart's ligament along the crest of the ilium to the midaxillary line. The tumor is fluctuant. The skin is normal in color and there is no increase in surface temperature. The remainder of the physical examination is negative except for some dulness in the right supraclavicular and infraclavicular spaces.

Treatment.—The patient received no treatment before coming to the hospital. In this, as in the following cases, the operative treatment consisted of a thorough sterilization of the skin over and about the tumor, followed by aspiration of its contents with a trocar. As a rule, about three ounces of an emulsion of iodoform and glycerin, fifteen grains to the ounce, were injected into the abscess cavity. In the majority of cases the operation can be done under local anesthesia. In this case ten aspirations and injections were made. The first two at intervals of a week and the remaining eight at intervals of two weeks. During the periods between the last eight aspirations the patient was permitted to return to his home. At each aspiration, except the last, from six to ten ounces of fluid were withdrawn, the first being of a whitish color, containing a cheesy material, while the remainder were of a dark brown color. At the last aspiration only one ounce of a reddish brown fluid was obtained.

Results.—The bacteriologic findings were negative, all cultures being sterile. The patient has been seen within the last few days and shows no evidence of return of the abscess. It might be interesting to add that in February, 1901, while he was troubled with a severe cough, tubercle bacilli were found in his sputum. At present, October 21, 1903, however, he is gaining in weight, has had no cough for many months, and seems to be in excellent condition.

CASE 2.—This patient, a female, aged 19, white, single, was admitted to the hospital April 15, 1899.

Family History.—Negative.

Personal History.—General health good except for the present trouble. She gives a history of three injuries to her back, but does not remember the time or location of the injuries.

A year previous to admission the patient began to have pain in the lumbar region, especially when arising from a chair or after jarring the body by a misstep. The pain and discomfort gradually increased. In October, 1898, she was advised by her physician to try absolute rest. Accordingly she remained in bed for three months, which resulted in marked improvement. In February, 1899, she noticed a swelling just above Poupart's ligament on the right side. A smaller swelling, together with a general fulness more externally, appeared just to the left of the vertebral column in the lumbar region.

Physical Examination.—This was negative except for the swelling above noted.

Treatment.—April 19, 1899, twenty-five ounces of light green cloudy pus were removed from the left lumbar region, the trocar being inserted near the apex of Petit's triangle. Although only two ounces of the emulsion were injected, the urine, on the next day, gave a strong iodin reaction.

On May 2 the right inguinal tumor was aspirated, and five ounces of greenish pus obtained. The same amount of emulsion was used, but the urine gave no iodin reaction. Ten days later the trocar was inserted in the left inguinal region where a swelling had appeared and four ounces of grayish pus were withdrawn.

One week later this same region was again aspirated and three ounces of grayish pus removed. A month intervened before the next aspiration. During this period the patient was out of doors in a wheel chair every pleasant day.

At the last aspiration, on the left side, about five ounces of greenish pus were evacuated.

Cultures made at the time of each aspiration were sterile.

Results.—Three months after this last aspiration the patient was examined by Dr. Allen and no indication of any reaccumulation could be detected. At the present time her physician says that there has been no reappearance of the abscess and that her general health is excellent.

CASE 3.—Female, aged ten years, white. Admitted to the hospital Feb. 7, 1901.

Family History.—Father died of tuberculosis at the age of 35. Mother died of the same disease at the age of 30.

Personal History.—Patient fell down stairs when one year old. No trouble was apparent until a year later, when the spine showed some kyphosis in the lumbar region. Since this time she has suffered repeated attacks of pain in the back at various times. About a year ago (November, 1899) she began to complain of pain in the left knee. Frequently the pain has been so severe as to cause her to remain in bed while in the intervals between these attacks she could play and walk about as usual. One month ago the pain became especially severe, and since that time it has been almost constant. In addition to this trouble she gives a history of pertussis, measles, scarlet fever, varicella and diphtheria. She has coughed considerably from time to time for the last four years.

Physical Examination.—The heart was found normal. The lungs show a few rales at the right apex, posteriorly, and rales over the larger portion of the left lower lobe. The lumbar vertebræ show a marked kyphosis and the dorsal vertebræ a mild scoliosis. Examination of the extremities negative, except that percussion of the left lower extremity in its axis causes mild pain in the hip.

Treatment.—The first treatment employed was rest in bed and constitutional treatment. Extension was applied for two weeks, giving considerable relief. On April 1, 1901, a swelling was noticed in the left inguinal region. It began to increase in size and became tender. The next day a trocar was inserted 3 centimeters above the left anterior superior spinous process of the ilium and several ounces of thick yellow pus aspirated. The usual amount of emulsion was injected into the cavity. Two weeks later, the abscess having reaccumulated, the same process was employed. For a few days the patient was somewhat depressed, and iodin was demonstrated in the urine.

Results.—Within a week, however, she commenced to improve greatly, and on June 1 she was placed on a Bradford frame. As often as the weather permitted she was taken out of doors. Under this treatment she gained rapidly in weight and strength. There was no evidence of reaccumulation of the abscess when the patient was discharged. At the present time (October, 1903) there is still no indication of return of the abscess. Her general health is good and she is able to attend school regularly.

CASE 4.—Female, aged 39 years, white, single, was admitted to the hospital Jan. 31, 1902.

Family History.—Negative.

Personal History.—She had typhoid fever three years ago, but otherwise her general health had been good until July, 1900, when she began to have "neuralgic" pains in her right hip and thigh. Later the corresponding parts on the other side of the body were affected. From the time of the first attack the pain has been fairly constant, being aggravated after exertion. She experienced difficulty in rising up after stooping down to pick up objects from the floor and often was obliged to assist herself by taking hold of a chair or table.

In December, 1901, she noticed a mass just above the left iliac crest, anteriorly, which has gradually increased in size and has caused her to favor that side in walking. She has never had any symptoms localized in her back at the site of the kyphosis.

Physical Examination.—The heart and lungs are normal. At the second and third lumbar spines there is a kyphosis slight in degree, but distinct. A mass can be made out in the left iliac region extending about half way from the anterior superior spinous process of the ilium toward the median line, downward toward the pubes and upward to a little above the crest of the ilium. It is distinctly fluctuant, and the amount of tissue covering it anteriorly is evidently not great.

Treatment.—Previous to entering the hospital she had received no treatment. After rest in bed for a week, the left iliac region was aspirated in the usual manner, the trocar being inserted just above and to the inner side of the left anterior superior spine of the ilium. Sixteen ounces of greenish pus were drawn off and three ounces of the iodoform emulsion injected. Within a week the abscess cavity began to refill, and February 24 a second aspiration was made at which time the same amount of pus was removed. During the interval between this and the next aspiration the patient was up in a wheel chair almost every day. March 19 it was evident that another aspiration was necessary, for distinct swelling and fluctuation could be made out in the left iliac region. Accordingly, this was done, and again sixteen ounces of greenish pus were evacuated. A week after this aspiration the patient was allowed to return home after being instructed to live out of doors as much as possible. On April 21 she returned to the hospital. The abscess had reappeared and distinct fluctuation was present. The next day the abscess was again aspirated and this time about eight ounces of yellowish pus were obtained.

Bacteriologic Report.—The coverslip and cultures from the pus obtained at the first aspiration were negative. Pus from the second aspiration showed the presence of the *Bacillus proteus vulgaris*. Cultures from the third and fourth aspirations were sterile. No tubercular bacilli could be detected.

Results.—The patient was allowed to go home after the fourth aspiration with instructions to report from time to time. She was seen by Dr. Allen June 27, 1902. Her general health was very much improved and she felt much stronger, although she had not gained much in weight. A little thickening was made out in the iliac fossa, but no fluctuation could be perceived. The patient was again examined in December, 1902. There was no evidence of return of the abscess. Her general health was excellent. At the present time (October, 1903) there is no return of the abscess.

CASE 5.—Female, aged 7 years, was admitted to the hospital Jan. 2, 1903.

Family History.—Father, mother, two sisters and three brothers are living and in good health. Her grandmother and uncle died of pulmonary tuberculosis.

Personal History.—The patient's general health has been fairly good. About two years ago her parents noticed a bulging of the spine. Until six months ago the patient complained of no pain, but at that time she commenced to limp and suffer pain in the left knee. The kyphosis has been gradually increasing to the present time.

Physical Examination.—There is a marked kyphosis with a slight right scoliosis beginning at the eleventh dorsal vertebra and extending to the fourth lumbar. There is no tenderness on pressure. Some resistance can be made out in the left iliac fossa. The remainder of the physical examination is normal.

Treatment.—Three days after admission to the hospital a plaster jacket was applied, and three days later the patient was allowed to go home.

June 18, 1903, the patient returned to the hospital with a large fluctuating mass on the upper and outer side of the left thigh. This mass has been gradually increasing in size for the past few weeks. It was unattended with pain or redness. The day after admission, under ether anesthesia, the abscess was evacuated and 325 c.c. of thick dirty yellow pus removed. The usual amount of iodoform emulsion was injected. The next day iodin was found in the urine. June 29, the abscess having reappeared, it was again aspirated, and this time 300 c.c. of pus were removed. A third aspiration was done on July 7, at which time about 300 c.c. of yellowish fluid were obtained. July 24 a fourth aspiration was made and eight ounces of brownish fluid were withdrawn. This time four ounces of the emulsion were injected. Two days after the aspiration there was the only marked rise of temperature during the course of the aspirations. On this day the temperature was 102 F.

Bacteriologic Report.—Cultures taken at the time of each aspiration were sterile.

Results.—July 29 the thigh appeared practically normal, so the patient was sent home with instructions to her physician to send her back to the hospital if the abscess reappeared. Up to the present time (October, 1903) there has been no return of the abscess, and the patient is in excellent health.

CASE 6.—A female, aged 33, white, married, was admitted to the hospital Aug. 6, 1903.

Family History.—One sister died of tuberculosis.

Personal History.—Patient had diphtheria two years ago. She has always been of a nervous disposition. Five years ago she had an attack of pain in the lumbar region. At that time she thought the trouble must be rheumatism. These attacks of pain continued to come on at varying intervals. Between the attacks she was fairly well, although she had some difficulty in arising from a reclining position or on attempting to pick up any object from the floor. At night this pain was so severe that she would cry out. About ten months ago a swelling appeared in the right inguinal region.

Physical Examination.—In the region of the lumbar vertebræ there is a well-marked scoliosis to the left and a well-defined kyphosis in the same region. In the right groin there is a swelling about three centimeters in diameter, fluctuant and becoming smaller when the patient reclines. The remainder of the physical examination is negative.

Treatment.—Aug. 8, 1903, under local anesthesia, an aspirating needle was inserted into the tumor mass and 300 c.c. of greenish yellow pus removed. Two ounces of the iodoform emulsion were injected. The day after the operation the urine gave a reaction for iodin. A second aspiration was made August 13 and eight ounces of yellowish serous fluid withdrawn. One week later very little swelling could be detected and by August 30 the mass had entirely disappeared. On August 31 the iodin reaction disappeared from the urine. The patient was sent home on a cot with instructions to remain in bed several weeks.

Bacteriologic Examination.—The pus contained many leucocytes, but both cultures were sterile.

Results.—At present the physician who is attending the patient reports that he has detected no return of the abscess.

SUMMARY.

1. Four cases gave a family history of tuberculosis.
2. Five cases occurred in females whose ages ranged from 7 to 39 years and one case in a male 25 years old.
3. Two patients gave a history of injury to the back.
4. In three cases two aspirations were made, in one case three, in another four, and in another ten.
5. The urine from four cases out of the six gave a reaction for iodin the next day after the aspiration. This reaction persisted only for two or three days, except in one case in which it persisted for two weeks.
6. Slight mental depression was noticed in two cases.
7. As a general rule, there was an elevation of temperature from two to four degrees following each aspiration.
8. The cultures were sterile in every case except one, in which the *Bacillus proteus vulgaris* was obtained.
9. In all the six cases there has been no indication of return of the abscess after a period of five years in one case, three years in another and two years in a third, while in the remaining three one year or less has elapsed since the last aspiration. There was a marked improvement in the general health of every patient.

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THE SIGNIFICANCE OF PATHOLOGIC PROCESSES IN EVOLUTION.

Pathology, that is, the study of disease in the broadest sense, has received only limited attention from the point of view of general biology. Problems connected with the evolution of disease, with the significance of pathologic processes in evolution, and others of like nature, seem to occupy but little of the interest of either biologists or pathologists. We have human pathology, veterinary and animal pathology, vegetable pathology, each with its various subdivisions, and each cultivated with great assiduity on account of its practical and economic importance, but general comparative pathology, somewhat after the order of general comparative anatomy, as yet has barely shown signs of development. Perhaps the most important contribution from the little cultivated field is Metchnikoff's well-known comparative study of inflammation, in which he traces some of the principal phenomena of the inflammatory process up through the ascending stages of the animal kingdom. This work has contributed greatly to a broader understanding of the nature and significance of inflammation.

At first glance one might be tempted to assign to pathologic processes only a negative significance in evolution, to regard them merely as an expression of inferiority and weakness, and as part, at least, of the means by which inexorable nature carries out the verdict of extermination. If so regarded, their value in evolution would be wholly negative, as they could cause no new and better qualities in the descendency. It has been suggested that it is on account of this negative valuation of pathologic processes in biology that pathology has been permitted to remain more or less isolated in the group of biologic sciences.

It is, however, only superficial consideration that will thus interpret the significance of pathologic processes. Closer examination will show that in many cases these assume a significance of an entirely different and positive nature in evolution. There are numerous simple as well as complex processes which, when set in motion by abnormal conditions, appear to be of direct advantage under the circumstances. Here may be mentioned regeneration, hypertrophy, the interesting adaptations in bones and vessels to new and strange conditions, certain phases of thrombosis, even atrophy which has been described as the faculty of an organ to adapt itself to conditions of diminished nutrition, thus circumventing necrosis, and this faculty certainly becomes one of great advantage when the period of diminished food supply is temporary. No one can fail to see much that is useful and advantageous in the complex reactions to injurious agents observed in inflammations; and in the case of immunity, natural and acquired, our astonishment and wonder know no bounds, so marvelous are the precision and the scope of the protective reactions, concerning which so much has been brought to our knowledge during the last few years, and which lend themselves especially well to comprehensive comparative studies. Indeed, the amount of useful material already at hand for comparative study is quite considerable. In the case of most degenerations and of tumors, it is more difficult, if not altogether impossible, to recognize either direct or indirect advantages. Certainly no one has yet been able to see malignant tumors in a favorable light.

In practically all these favorable instances the pathologic reactions have physiologic prototypes. Regeneration and growth are taking place constantly in health. Phagocytosis, on which so much stress is laid, is merely exaggeration of normal nutritive processes in certain cells. At present the production of antitoxins and other antibodies is best explained as the result of special adaptations of normal mechanisms whereby nutrition is carried on. A noticeable difference between the physiologic and the pathologic manifestations of these functions is seen in their imperfections and inadequacies under many of the abnormal conditions. Regeneration may be incomplete, resulting in the formation of scar tissue, which often has decided disadvantages. Inflammations frequently establish conditions that in themselves are fraught with dangers. The reactions that result in the manifestations of immunity are often unable to neutralize quickly enough the toxins and to destroy promptly enough the invading organisms. Hence, as has been emphasized, there is abundant scope for intervention by the physician armed with all the various appliances of his art, some of the most directly useful of which are products of experimentally produced pathologic reactions. But after all, those individuals must enjoy the best chances for survival and reproduction whose organisms suffer least harm, because best able to adapt themselves, and protect the life and function of their cells under diseased conditions. Just as there are variations in the limits of purely physiologic regulatory mechanisms, so also there are individual differences of degree in the power of the adaptive and protective reactions that establish themselves in disease and permit the continuance of life. In progressive evolution, it naturally must be in the descendants of individuals with the most perfect adaptive and protective powers that an ascending completeness and perfection of such powers will be found. Viewed in this light, many pathologic processes assume a significance of positive character in biologic evolution, a point of view that

would tend to increase the interest in pathology among biologists, and thus further its development along broader lines.

THE TREATMENT OF HEMOPTYSIS.

While the presence of blood in the sputum is often due to disease of the lungs, it is by no means always so, and the recognition of the source of the bleeding is naturally of pre-eminent importance, not alone on account of its prognostic significance, but also from its bearing on the treatment to be employed. Occasionally the blood comes from soft and spongy gums resulting from various causes; at other times it is from the nares or the pharynx. Violent paroxysmal cough may cause laceration of tissue, with the escape of small amounts of blood. The sputum is mixed with blood, further, in cases of pneumonia and of hyperemia of the lungs from any other cause, inflammatory or hypostatic, as well as in the presence of pulmonary infarction and of diseases of the blood itself.

Blood from the lungs will appear in generous amount when pulmonary vessels of considerable size are opened by rupture or destructive processes; for example, as a result of aneurism, syphilis, actinomycosis, parasitic diseases, bronchiectasis, gangrene, abscess, tuberculosis.

Hemoptysis due to pulmonary tuberculosis may occur early in the course of the disease, even before other suggestive symptoms have been noted. It is then probably a result of hyperemia, the blood escaping from the vessels by diapedesis. The bleeding that occurs at a somewhat later period, when distinctive symptoms and physical signs are present, is probably due to ulceration of the bronchial mucous membrane. At a still later period, when excavation of the lung has taken place, the blood is derived from rupture of a pulmonary aneurism or erosion of the coats of an artery. Finally, hemoptysis may occur at any stage of the disease in plethoric subjects.

In a brief communication dealing with this subject, Dr. J. Penn Milton,[1] on the basis of personal experience at a well-known sanatorium, and from observations made elsewhere as well, ventures certain recommendations that are slightly at variance with current practice. When hemoptysis occurs early, as a result of hyperemia, he suggests carefully graduated, gentle exercise, such as slow walking, short of fatigue and dyspnea, under shelter, unless fever be present or the hemorrhage has been copious, or the patient be agitated. He believes that as a result of the exercise the blood-vessels, cutaneous and otherwise, in all parts of the body, but more especially in the limbs, become dilated, and thus a certain quantity of blood is withdrawn from the lungs. When the counterindicating conditions named are present, the patient should be put at rest in a sheltered situation out of doors, or in a bedroom, if necessary, and 1/4 grain of morphin may be placed under the tongue. Beyond a saline purge, hemostatics are not necessary.

When the bleeding is due to tuberculous ulceration of the bronchial mucous membrane, the treatment should be directed to raising the lowered vitality and to improving the general nutrition. Exercise short of fatigue may be permitted or not, in accordance with the body-temperature.

When hemoptysis results from rupture of a pulmonary aneurism or erosion of the coats of an artery, the frequency of the heart-beat should be lessened, and the lungs be placed at rest, by seclusion and recumbency in bed, a hot water bottle being applied to the feet. Morphin may be administered in doses of from grain 1/4 to grain 1/3 by the mouth or under the skin. The blood-pressure should be lowered by saline purgation. The diet should at first be light and unstimulating, consisting of raw egg, milk, raw beef sandwiches, etc. A full and nourishing diet should be gradually resumed as early as possible. If the bronchial tubes are obstructed by blood-clots, and cyanosis and dyspnea are present, the morphin should be withheld and expulsion be permitted to take place. The patient must remain in bed until the sputum has been free from blood for at least a week.

The hemoptysis occurring in plethoric subjects at any stage of the disease should be treated by lowering the blood-pressure by saline purgation, by a full amount of exercise—unless some counterindication be present—and by modification of the diet, which should include vegetables, especially green vegetables, and a minimum amount of meat, with abstinence from alcohol. The bleeding, when its occurrence can be anticipated, may be prevented by the administration of 30 grains of sodium salicylate in conjunction with an aperient.

It is appropriately pointed out that the treatment outlined is not to be pursued indiscriminately, but it must be applied intelligently in accordance with the conditions present in the individual case. Reference is made also to the fact that exposure to the wind may act as an exciting cause of hemoptysis in tuberculous patients, who should, therefore, be protected from this hurtful influence.

1. British Medical Journal, March 19, 1904, p. 652.

HOME TREATMENT FOR TUBERCULOSIS.

The last issue of *L'Assistance Familiale*[1] is devoted to a study of "Home Treatment for Tuberculosis," by Dr. G. E. Papillon, Paris. Dr. Papillon points out that the early period of the present general warfare against tuberculosis was characterized by an exaggerated idea of the danger of contagion which led physicians to advocate the entire segregation of tuberculous patients, almost as if they were leprous. The impracticability, as well as the cruelty, of this policy is now generally recognized, although its error was probably more quickly perceived in France than elsewhere on the continent. It may be remarked in passing that this fear of contagion has now percolated to the popular mind, whence it must be laboriously dislodged by the medical profession as a part of the anti-tuberculosis campaign.

1. L'Assistance Familiale, No. 7, 1904, p. 73.

Dr. Papillon endeavors to explain why the sanatorium treatment of tuberculosis has never attained the proportions in France that it has in Germany, nor been regarded with the same enthusiasm. He claims that the chief elements of weakness in the sanatorium plan are, 1, the comparatively limited numbers who can be received in such institutions; 2, the necessity for returning the recovered or improved patient to his unimproved home surroundings, and, 3, the patient's own strong objection to leaving his home for the sanatorium before his disease has incapacitated him for work.

As to the first point, it must be noted that in Germany, which is better supplied with sanatoria than any other country, the total number which could be cared for in such institutions during the year 1902-1903 was only 17,283, while the deaths alone from this disease are estimated as 100,000 yearly. As to the second point, Dr. Papillon says, using the German sanatoria as his text: "Those who are discharged improved or apparently cured must return to the surroundings in which they contracted the disease, often to deprivations, insufficient food, abuse of alcoholic drinks, and thus they are liable to fall an easy prey to a fresh infection. This is, in fact, shown by the official statistics of the sanatoria maintained by the Workingmen's Insurance Societies of Germany. Of the men treated in 1897 in these sanatoria only 27 per cent. were still able to work in 1899."

Perhaps the last objection, namely, the unwillingness of the patient himself, is, in practice, the most difficult to meet. In Germany, thanks to the insurance system, the patient has little choice and must go to the sanatorium if sent; but in France and elsewhere there is no such control. Dr. Papillon states that the experiment made by the city of Paris at the Sanatorium of Angicourt shows that the respectable workingman in France will not voluntarily resort to the sanatorium, and that the population of this institution is composed chiefly of homeless alcoholics.

In consequence of this apparent failure of the sanatorium plan of treatment in France, Dr. Papillon advocates the founding of special dispensaries for home treatment of tuberculosis, and regards as the proper subjects of such treatment all cases of "non-contaminating," e. g., closed tuberculosis, while the "contaminating," open cases, should be considered as pre-eminently the proper subjects for isolation in sanatoria, for there only can they be prevented from spreading contagion. According to Dr. Papillon, dispensaries for the treatment of tuberculosis should perform two distinct functions—first, the usual therapeutic treatment; second, popular education in hygiene, by means of house-to-house visitation and personal instruction of patients and their families, a disinfection station for clothing, linen, sputum cups, etc., and a diet kitchen from which may be dispensed the food needed by the very indigent. A few such dispensaries are already in successful operation in France.

The pessimistic attitude of Dr. Papillon toward sanatorium treatment for tuberculosis is, perhaps, somewhat dependent on the French prejudice against all things German. It would seem hardly fair to make a sweeping condemnation of any system on the failure of a single experiment. In our own country there is no difficulty in finding worthy inmates for any properly-conducted tuberculosis sanatorium for early cases; indeed, such applicants are only too numerous. Nevertheless, Dr. Papillon's emphasis of the importance of home treatment will meet with assent from American readers, and his suggestions as to the mode of carrying it out are in line with the experiments already inaugurated in some of our larger cities by the various associations for the prevention of tuberculosis. Sanatorium treatment of this disease is, of course, the ideal treatment, and no effort should be spared to increase the number of sanatoria in this country, as yet so inadequately supplied; but no matter how great our success in this direction, there will always remain a large number of tuberculous patients who can not avail themselves of this treatment and must be cared for at home, as well as the discharged patients, who must be kept from a recurrence of the disease.

To devise a plan of home treatment at once practical and scientific is a task attended with enormous difficulties, but which must be undertaken if we are ever to make a successful war on tuberculosis.

BOTULISMUS AND THE SO-CALLED MEAT POISONINGS.

More or less severe forms of disease may arise from the consumption of unhealthy meat and meat-products. Outbreaks of this kind would appear rare with us because of the dearth of corresponding observations in periodical literature. Whether instances escape observation because of erroneous diagnosis need not be discussed now. In Europe, especially perhaps in Germany, a number of observations and discoveries have been made that furnish the basis of the present knowledge of these conditions. So-called meat-poisoning and botulismus (sausage-poisoning) are different and distinct forms of disease. In meat-poisoning the meat concerned is derived from diseased cattle suffering from septic and enteric processes, the exact etiology of which merit further study, but in which paratyphoid bacilli play an important part. In the case of cows it may concern puerperal affections, and in calves umbilical infection. The flesh is harmful immediately after slaughtering, and Fischer (Kiel) has pointed out that symptoms may follow the use of well-cooked meat. There are indications that the pathogenic properties may increase with preservation. The possibility that meat of this kind may even infect other originally healthy meat with which it comes in contact has been suggested. Meat-poisoning may occur in three forms, namely, (1) the gastroenteric, the most frequent, and characterized by fever, vomiting, diarrhea, with more or less headache and backache, and weakness, the attack lasting from two or three days to weeks; (2) the choleraic, which develops within short intervals after the fatal meal; vomiting, rice-water discharges, cramps

in the legs, subnormal temperature, produce a picture not unlike cholera; (3) the typhoid-like form, with symptoms like those of typhoid fever, including an incubation of several days (four to nine). During the last few months attention has been directed in these columns to the relation between meat-poisoning and paratyphoid bacilli; it has been thought that all these forms may be expressions of the same intoxication and infection, depending largely on the quantity of finished poison and living bacilli taken in with the meat. In other words, certain forms of meat-poisoning correspond clinically and etiologically to paratyphoid fever; other more acute forms are produced by the taking in of larger quantities of toxic products in meat of animals infected with paratyphoid bacilli. In view of the similarity between meat-poisoning and other gastroenteric disturbances, may it not be that the etiologic rôle of diseased meat often escapes attention? Is it not also likely that certain circumscribed outbreaks of typhoid-like nature, following picnics, weddings and other festivities, may have been the result of meat-poisoning. There is sometimes sharp differences of opinion as to the nature of such outbreaks, and in the future the possibility of meat-poisoning must be considered.

Botulismus, or sausage-poisoning, is not dependent exclusively on the use of sausages. A large variety of meats may be the cause of the symptom-complex in question. In these cases, however, it concerns meat from healthy animals. The toxicogenic qualities develop after a certain time, presumably as the indirect result of imperfect preparation and preservation. We deal now with a pure poisoning, due to introduction of the toxin produced by bacillus botulismus, an anaërobic saprophyte, described by van Ermengen, and generally accepted as the essential cause of botulismus. The symptoms develop within twelve to thirty hours; transitory vomiting and diarrhea are followed by paralysis of the recti muscles of the eyeballs, of the pharyngeal and laryngeal muscles, and of other bulbar nerves, death resulting in 15 to 45 per cent. from cardiorespiratory disturbances. The poison of botulismus is destroyed by boiling; hence careful sterilization of all conserved meats must be effected and maintained.

HARVARD OARSMEN HEALTHY.

The dangers of physical exercise have been strongly insisted on of late, and yet it appears that these may possibly be more serious in the occasional strain of the non-athletes than to those who take an active part in athletic contests. Dr. Meylan, director of the Columbia University Gymnasium, gives the after-history of Harvard oarsmen, and finds that more than 97 per cent. were in good health, more than 37 per cent. have not consulted a physician for over ten years, and more than 50 per cent. have not been sick in bed for a week since they left college. Only one described his health as poor. He thinks that college athletes do not die young of heart disease or consumption. The hard training and college rowing do not do any permanent damage.

CALIFORNIA PRACTICE LAW VALID.

Our profession in California is to be congratulated on the recent decision of the Supreme Court maintaining the validity of the medical practice act. A few physicians, and the great raff of irregulars with whom they are temporarily in alliance, will have to accept the situation as best they can. It is not probable that there was much chance for any change in this decision, but while the litigation lasted it cast a sort of cloud over the validity of every act of the medical board, which is now done away with. The law is actually strengthened by the proceedings, and the result is in every way satisfactory.

DIRTY MONEY.

Certain dangers of dirty money are being agitated by the public press, and it is reported that an official in an eastern coal company has recently been a victim of anthrax derived from this cause. Considering the change which money undergoes from hand to hand, and the condition in which it is often found while still in circulation, we have plenty of suggestions as regards infection. The fact that the dangers are not realized by actual disease more frequently is perhaps an argument against the validity or ubiquity of the pathogenic bacteria. It is probable that with the frequent handling of money disease may be communicated, but practical experience does not seem to bear out the theoretic estimate of the dangers involved. Nevertheless, a law which would cause banks and others to disinfect bills, and the government to withdraw them from circulation after their reception, as is the case with the Bank of England notes, might be an excellent prophylactic of some occasional contagions.

POISONING BY PICROTOXIN.

Cocculus indicus and its active principle picrotoxin are but little used in medicine, and their physiologic and toxicologic effects have not been fully elaborated. They are bitter and somewhat nauseous, and are said to increase the secretion of the gastrointestinal mucous membrane and to promote the peristaltic activity of the bowel. In physiologic doses they cause slowing of the action of the heart and increase in arterial tension, and they stimulate respiratory activity. When given in larger doses, drowsiness, stupor and muscular trembling result, or perhaps a heavy stupid intoxication, with vertigo, incoördination and impaired sensibility, followed by headache, depression, dyspnea and nausea. Tonic and clonic convulsions have been observed in animals treated experimentally. Picrotoxin has been employed in the treatment of night-sweats, chorea, epilepsy and paralysis agitans, and in the form of a local application in the treatment of various parasitic diseases of the skin. It is known that *Cocculus indicus* is added to beer to give it a bitter taste, and evidence has recently been brought forward showing that it or picrotoxin has been used as a poison for criminal purposes, in some instances with fatal results. Thus Hubert C. Carel[1] reports from the laboratory of medical chemistry of the University

1. St. Paul Medical Journal, June, 1904, p. 421.

of Minnesota three cases in which picrotoxin was isolated from the human body, and he expresses the belief that considerable amounts of this substance are bought by saloon-keepers in parts of Minnesota to be used for knock-out purposes and subsequent robbery. He refers also to three cases occurring, respectively, in an attorney, a physician and a business man, in which a so-called extract of hazelnuts was added to liquor served at a bar, in order to impart a fine flavor, with the development of symptoms of cocculus-poisoning. Whether such practices are common in other parts of the country or not is a matter worthy of inquiry. In any event, it would seem to be incumbent on the analytical chemist to look for picrotoxin in the tissues in any case of death from poisoning in which other causes are not demonstrable, and especially in obscure or suspicious cases in which, from want of other evidence, death is attributed to alcoholism.

Medical News.

CALIFORNIA.

Personal.—Dr. S. B. Lyon, Los Angeles, who underwent operation at Mercy Hospital, Chicago, June 17, is making a satisfactory recovery.——Dr. Charles F. Gladding, West Berkeley, has been appointed resident physician at the state penitentiary, Folsom.

Lindley Made Dean.—Dr. Walter Lindley, editor of the *Southern California Practitioner*, has recently been elected dean of the Medical College of the University of Southern California, which is now entering its twentieth session. Dr. Lindley was one of the organizers of the school and is professor of gynecology.

Southern California College.—The graduating exercises of the College of Medicine of the University of Southern California were held at Los Angeles June 14. A class of 24 was graduated.——The cornerstone of the new clinical laboratory was laid with formal ceremonies June 16. The building is to cost about $20,000.

ILLINOIS.

Cornerstone Laid.—The cornerstone of the new Evangelical Lutheran Hospital, Granite City, was laid, June 5, with impressive ceremonies. The building will cost about $50,000.

Must Not Spit in Moline.—Moline has adopted an anti spitting ordinance, with penalties varying from one to five dollars for its violation. Signs are to be posted to warn strangers, the careless and the unwary against inadvertently spitting on sidewalks.

Personal.—Dr. William H. C. Smith, superintendent of "Beverly Farm Home and School," Godfrey, has been appointed by the governor a delegate to the National Conference of Charities and Corrections.——Dr. Joseph L. Wilcox has been elected city physician of Springfield, and Dr. Thomas W. Priest, Buffalo Hart, re-elected physician of Sangamon County.

Chicago.

Northwestern's Commencement.—On June 15 a class of 134 received degrees from Northwestern University Medical Department. Of these four received the degree of M.D. *magna cum laude*, and five the degree of M.D. *cum laude*.

To Europe for the Summer.—Dr. and Mrs. Frederick C. Hotz sailed for Europe June 20.——Dr. and Mrs. John Leeming will sail from Montreal July 14. ——Mr. W. C. Fuchs of the Chicago Roentgen X-Ray Laboratory sailed for Europe, June 28, and the laboratory will be closed until his return, September 1.

Personal.—Dr. Sarah Hackett Stevenson, who has been seriously ill for a long time, is reported to be improving, and will return to Chicago in a short time.——Dr. N. Senn sails on his trip round the world westward, July 7, on the *Sierra* from San Francisco.——Dr. Eliza R. Morse, who was struck by a cable car last month and suffered a fracture of both wrists, is making satisfactory progress toward recovery.

MARYLAND.

Personal.—Dr. William F. Forien Hampdon was struck on the hand by a falling lamp in a car, and several bones were broken.——Dr. Elijah Williams, Armiger, ex-Senator of Anne Arundel County, is seriously ill at the University Hospital, Baltimore.

Baltimore.

New Laboratory in Use.—The new laboratory building at the University of Maryland has been completed and is now occupied.

Smallpox and Deaths.—In the week ended June 18 one case of smallpox was reported, and in that ended June 25 two cases were discovered. The death rate for the latter period was unusually low, 14.32 per 1,000 per annum.

Orders Against Toy Pistols.—The Baltimore Police Board has issued most stringent orders against the use of the toy pistol and other similar devices that have hitherto been the cause of so many deaths from tetanus at this season of the year.

College Faculty Election.—At the annual meeting of the faculty of Maryland Medical College, Baltimore, June 3, Dr. William S. Smith was elected president, Dr. Alexander D. McConachie, vice-president, and Dr. J. B. Schwatka, dean. Dr. Charles E. Simon was elected professor of clinical diagnosis.

Recent Baltimore Epigrams.—The following epigrams are attracting attention in commencement circles: By Dr. William Osler, "Success consists in getting what you want and being satisfied with it;" by Prof. Basil L. Gildersleeve, "The secret of a happy life is to do what you most wish to do and be paid for doing it."

Courses on Psychology.—Prof. J. Mark Baldwin has announced the following courses on psychology at Johns Hopkins University: Professor Stratton will give the experimental course, Mrs. Fabian Franklin will lecture on visual sensation, and Dr. C. B. Farrar will take up physiological psychology, the structure and functions of the cerebral cortex.

Personal.—Dr. Henry M. Thomas has sailed for Europe.——Dr. J. Harvey Hill is at Mt. Mansfield, Vt.——Dr. William S. Baer sailed for Bremen, June 22.——Drs. Lillian Welsh and Mary Sherwood have gone abroad.——Dr. G. Lane Taneyhill, Jr., sailed for Europe, June 21.——Dr. William Osler leaves July 16 to attend the British Medical Association meeting, July 26-29.

Comparative May Morbidity.—In May, 1904, as compared with May, 1903, the cases of smallpox reported in Baltimore increased from 13 to 20; scarlet fever from 139 to 192; typhoid fever from 27 to 32; measles from 44 to 108, and whooping cough from 3 to 10. Diphtheria decreased from 106 to 64 cases; mumps, from 40 to 37; varicella from 20 to 19, and tuberculosis from 53 to 42.

Inquests Must Be Held.—The state's attorney has called the attention of the coroners to the provision of the city charter requiring the holding of inquests in every case of death except when plainly accidental or from natural causes. This applies particularly to suicides, in which heretofore there has been no investigation by jury where the coroner could be certain of self-inflicted death, without suspicion of foul play.

Johns Hopkins Commencement.—The twenty-eighth annual commencement of Johns Hopkins University was held June 14. There were forty-five graduates in medicine, three being women. Diplomas were presented by Dr. W. H. Howell, dean of the medical faculty, who spoke forcibly of the importance of the work of the physician to the human race. The doctorate address was made by Dr. John Huston Finney, president of the College of the City of New York, on "Democracy and Education." The following appointments were made in the medical faculty: Dr. Percy M. Dawson, associate professor of physiology; Dr. Joseph Erlanger, associate professor of physiology; Dr. Warren H. Lewis, associate professor of anatomy; Dr. Hugh H. Young, associate professor of genito-urinary surgery; Dr. Thomas R. Brown, Rufus I. Cole and Louis P. Hamburger, associates in medicine; Dr. Arthur S. Lowenhart, associate in physiologic chemistry and pharmacology; Dr. Thomas McCrae, associate in clinical therapeutics; Dr. Charles H. Bunting, instructor in pathology; Dr. Henry W. Kennard, assistant in orthopedic surgery; Ernest G. Martin, Ph.D., instructor in physiology; Dr. Augustus G. Pohlman, instructor in anatomy; Dr. J. Morris Slemons, instructor in obstetrics, and Dr. George L. Streeter, instructor in anatomy.

Re Baltimore University.—As a result of the recent action of the Association of American Medical Colleges in suspending the Baltimore University, the State Board of Medical Examiners declined to examine Dr. Charles T. Schwatka, a graduate of that school, on the ground that the law under which it works allows the admission to examination only of graduates of schools which give courses "as defined by the American Association of Medical Colleges." The school in question was under suspension pending trial of alleged violations of the requirements of the association during 1903 and 1904. The board took the ground that, if guilty, the school was not giving a course as defined by the association. Dr. Schwatka applied for a writ of mandamus to compel the board to permit him to take the examination for license to practice. A full discussion of the merits of the case was held, and, in view of the fact that Dr. Schwatka was graduated several weeks prior to the date of the suspension of the school, and that he had no notice, Judge Stockbridge directed the president of the board to grant the examination within a reasonable time under threat of a mandatory order. This was accordingly done. The effect will be that other graduates under similar conditions will also be given a special examination by the board.

MASSACHUSETTS.

Automobile Accident.—Dr. Franklin S. Newell, Boston, was severely injured in an automobile accident recently. Dr. Richard F. O'Neill, who was with him, escaped with slight injuries.

Boston's mortality for the week ended June 25 was at the rate of 15.04 per 1,000 per annum, as compared with 11.58 for the previous week. The latter was almost the low record for the city.

Bunker Hill Day Casualties.—As a result of the careless handling of toy pistols, fire crackers and other explosives considered essential to the patriotic celebration of Bunker Hill day, more than 300 individuals sought treatment at the hospitals of Boston.

Graduating Exercises.—The College of Physicians and Surgeons, Boston, graduated a class of 27, June 15. The dean, Dr. Charles H. Cobb, presented the class, Dr. Charles R. Whitcombe extended greetings, and Major Azel Ames, U. S. V., made an address on "The To-morrow of Medicine."

MICHIGAN.

Personal.—Dr. Ovidus A. Griffin, Ann Arbor, sailed for Europe, June 15.——Dr. Archie W. Herrick has been appointed health officer of Bay City, *vice* Dr. Charles M. Swantek, resigned.——Dr. John O. Groos, Escanaba, has been elected physician of Delta County.——Dr. R. Campbell McGregor, Saginaw, has sailed for Europe.

Comparative Morbidity.—For May, compared with the preceding month, measles, diphtheria and puerperal fever were more prevalent, and influenza, cholera infantum and meningitis were less prevalent. For May, compared with the average for May in the last ten years, measles, typhoid fever and smallpox were more than usually prevalent, and bronchitis, erysipelas, remittent fever, dysentery, cholera morbus, whooping cough, cholera infantum and meningitis were less than usually prevalent.

Persistant Vitality of Diphtheria Germs.—A health officer in Mecosta County reports to the secretary of the Michigan State Board of Health that twenty years ago Mrs. T. lost a daughter from diphtheria, and that some of the girl's clothing was put away in a chest and nailed up. The chest was not disturbed until this spring, when the mother, 75 years of age, opened it and looked over the clothing, soon after which she was taken ill with diphtheria, and died June 17. The health officer believes she contracted the disease from the clothing infected twenty years ago.

May Mortality of Michigan.—The total number of deaths registered in Michigan for May was 2,937, corresponding to a death rate of 13.9 per 1,000. There were 275 fewer deaths than for the preceding month. Important causes of death were as follows: Tuberculosis, 238; typhoid fever, 60; diphtheria, 42; scarlet fever, 20; measles, 46; whooping cough, 10; pneumonia, 271; cancer, 114; accidents and violence, 186. Typhoid fever diminished in prevalence, while considerable increase may be noted in deaths from measles. There were three deaths from smallpox during the month.

The Most Dangerous Communicable Diseases.—Meningitis was reported present May, 1904, at 6 places, whooping cough at 20 places, diphtheria at 65 places, typhoid fever at 79 places, scarlet fever at 111 places, pneumonia at 117 places, measles at 178 places; smallpox at 179 places; and consumption at 272 places. Meningitis was reported present at 3 places less; whooping cough at the same number of places; diphtheria at 4 places more; typhoid fever at 3 places more; scarlet fever at 17 places less; pneumonia at 2 places more; measles at 7 places more; smallpox at 28 places more; and consumption at 12 places more, when compared with the preceding month.

MISSOURI.

Heyburn Bill Endorsed.—The Buchanan County Medical Society has passed resolutions endorsing and urging the passage of the Heyburn Pure Food bill.

Physician Assaulted and Robbed.—Dr. William F. Mitchell, Lancaster, while in St. Louis attending the meeting of a medical association, was sand-bagged and his watch and money were taken. After a few days in the City Hospital he was taken to his home.

The State Association.—The State Medical Association of Missouri met in St. Louis, May 17, 18 and 19, and elected the following officers: President, Dr. Jabez N. Jackson, Kansas City; vice-presidents, Drs. S. M. Brown, Monroe City, Henry W. Latham, Latham, Thompson E. Potter, St. Joseph, W. S. Thompson, Armstrong, and John C. Rogers, Kansas City; secretary, Dr. Clarence H. Nicholson, St. Louis, assistant secretary, Dr. Edward J. Goodwin, St. Louis; treasurer, Dr. J. Franklin Welch, Salisbury; judicial council, Dr. Frank J. Lutz, St. Louis, president, and Dr. Walter B. Dorsett, St. Louis, secretary; publication committee, Drs. Clarence H. Nicholson, St. Louis, Woodson Moss, Columbia, M. P. Overholser, Harrisonville, B. Sloan, St. Joseph, and L. A. Todd, Kansas City; delegate to the American Medical Association, Dr. Jabez N. Jackson, Kansas City; Walter B. Dorsett, St. Louis and Alonzo R. Kieffer, St. Louis; alternates, Drs. Thomas Chowning, Hannibal, C. Lester Hall, Kansas City, and M. P. Overholser, Harrisonville.

St. Louis.

Emergency Hospital Near Exposition.—The cottage in Forest Park, located just east of the World's Fair grounds, will be remodeled and utilized as an emergency hospital during the World's Fair season.

Death of Dr. Chaddock.—Dr. Charles Gilbert Chaddock notifies us of an error in the death notices of April 16, whereby his name appears in place of that of his father, Dr. Gilbert Chaddock, who died in Berkeley, Cal., April 1.

Commencements.—Diplomas were given to a class of 28 at the thirty-third annual commencement exercises of the Kansas City Medical College, April 13.——On April 27 the commencement exercises of Barnes Medical College were held. Dr. Charles H. Powell delivered the doctorate address.——The medical department of St. Louis University graduated a class of 93, April 30. Dr. Young H. Bond, dean of the school, presided.——On May 19 a class of 63 received diplomas from Chancellor W. S. Chaplin at the commencement exercises of the medical department of St. Louis University.

NEW YORK.

Off for Europe.—Dr. and Mrs. William B. Ewers, Rochester, sailed on the Minneapolis for London, June 18.——Dr. and Mrs. C. W. Krispell, Kingston, sailed June 20 on the Rotterdam for Boulogne.

Guarding New York's Water Supply.—At last the authorities seem to have recognized the dangers of contamination to the city water supply from the workingmen encamped in the Croton valley. Commissioner Oakley has appointed several additional inspectors to safeguard this region.

New Branch of Carnegie Institute.—A branch of the Carnegie Institute at Washington has been opened at Cold Spring Harbor, Long Island. It was erected at a cost of $50,000. Dr. Charles B. Davenport, who has had charge of the biologic laboratory of the Brooklyn Institute, will be in charge. The object of the new institute is to provide facilities for the study of the various branches of evolution.

The State Hospital for Consumptives.—The hospital at Raybrook, Essex County, will be ready to receive 80 patients by July 1. Preference will be given to indigent persons in the first stage of the disease. The state has expended $215,000 for the construction of the hospital and has appropriated $55,000 for the maintenance and accessories. An appropriation of $5,000 has been secured for the establishment of a camp for out-door treatment.

Civil Service Commission and Dr. Spratling.—The Municipal Civil Service Commission has refused to issue a certificate putting the name of Dr. William P. Spratling, the new superintendent of Bellevue, on the city pay-rolls. Dr. Spratling was transferred from the Craig Colony for Epileptics, a state institution, and the commissioners find that they have no authority to sanction the transfer of an official from a state to a city institution. This difficulty may be overcome if Dr. Spratling takes a municipal civil service examination.

Buffalo.

Would Check Sale of Toy Pistols.—The Buffalo Academy of Medicine is making a determined effort to check the sale of toy pistols for the Fourth of July. Last year two boys lost their eyesight as a result of this abuse.

New Hospital.—Mercy Hospital, which will be conducted by Sisters of Charity, is soon to be opened in South Buffalo. A society called the Mercy Hospital Aid Society has been formed to provide for financial needs of the institution.

Personal.—Dr. Charles Haase of Buffalo has been appointed junior physician at the Manhattan State Hospital. Central Islip.——Dr. Frederick A. Hayes, Buffalo, was attacked by three men in his office, June 3, who assaulted and attempted to rob him.

New York City.

Elective Fifth-Year Course.—A plan has been presented and approved by the faculty of the University and Bellevue Hospital Medical College providing for an elective fifth-year course for students.

Personal.—Dr. DeWitt C. Romaine sailed on the Hellig Olav for Copenhagen, June 23.——Dr. William C. Gorgas and a staff of sanitarians have sailed on the Allianca for Panama, June 21.——Dr. Patrick H. Fitzhugh has returned from Europe.——Dr. and Mrs. Francis P. Kinnicutt sailed for Antwerp on the Zeeland, June 17.——Dr. Allen McLane Hamilton sailed on the Kaiser Wilhelm II, June 14.

Contagious Diseases.—For the week ended June 18, 1904, the following cases and deaths were reported to the Sanitary Bureau: 652 cases of measles, with 15 deaths; 375 cases of diphtheria, with 50 deaths; 362 cases of tuberculosis, with 156 deaths; 190 cases of scarlet fever, with 16 deaths; 63 cases of varicella; 32 cases of typhoid fever, with 7 deaths, and 53 deaths from cerebrospinal meningitis.

New Medical School.—Fordham College will branch out as a university in September. A medical school will then be opened. Among the members of the faculty selected are: Drs. George M. Edebohls, John Aspell, James N. Butler and Thomas J. Dunn. Dr. James J. Walsh will be dean of the institution, which will be affiliated in a clinical way with the new hospital which is to be erected on the grounds purchased from the college.

No Preserved Meat in New York.—The efforts of the Food and Dairy Commissioner of Pennsylvania to obtain pure food have led the officers of the board of health of this city to state that since the rigid measures of inspection have been in force, western packing houses have ceased to try to ship preserved meat into the city. Every train that comes into the city is inspected, and there are inspectors at all the slaughter-houses in the city. Condemned meat becomes garbage and is removed by the street cleaning department, so that there is no possibility of its being shipped elsewhere.

Pure Milk Supply.—One outcome of the efforts of the physicians of this city to obtain pure milk for infants and invalids is the Walker-Gordon Guaranteed Milk. There is an agreement between the Walker-Gordon Company and a commission of physicians, who serve without compensation, to receive reports from a chemist, a veterinarian, a bacteriologist and a physician, concerning the production and transportation of all milk sold under this name. The reports of the commission are to be submitted to the profession at large. The farms consist of 298 acres in a farming district having a small population and no village or manufacturing establishment near. The elevation and conformation are such as to secure good air and drainage. The water supply is from a well forty feet deep, carefully protected from contamination or surface drainage. The buildings are one-story high, without loft or cellar, and thoroughly hygienic in every respect. The food and manure are conveyed to and from the stalls by overhead trolleys. The cows are known as "grade" cows, representing mixtures of several breeds. No cows are purchased until they have undergone the tuberculin test, and then they are kept in a quarantine barn and the milk is not used until the veterinarian is satisfied that the cows should join the herd. The attendant of the cows in quarantine never goes near the regular herd. The milking cows are examined every two weeks, and once a year the tuberculin test is applied to every cow; oftener, if there is any suspicion. The cows are thoroughly groomed twice a day. The employes are selected with reference to health as well as to fitness for their special work. They undergo a physical examination twice a month. The milkers are required to clean their hands thoroughly and to wear sterilized white overall suits. After the cows have been cleaned, they are compelled to remain standing until they have been milked. The milkers' hands must be carefully washed after milking every second cow. To avoid dust, no feeding is allowed before or during milking. Only sterilized cans and pails are used. Within ten minutes from the time the milk is drawn from the cow, it is strained through sterilized gauze and cotton into a porcelain receiving and mixing tank; then it flows over a cooler, which reduces the temperature to 45 F., into a porcelain tank, from which the bottles are filled. The bottles are closed with freshly-sterilized pulp and foil caps, and in four hours are received in the city. Dr. L. Emmett Holt is chairman of the commission, and John H. Huddleston secretary.

OHIO.

Personal.—Dr. Henry R. Mallory has been reappointed a member of the Hamilton Board of Health.——Dr. and Mrs. Alonzo H. Tidball, Garrettsville celebrated their golden wedding anniversary, May 17.

Miami College Commencement.—The forty-fourth annual commencement exercises of Miami Medical College, Cincinnati, were held June 1. Dr. John C. Oliver delivered the doctorate address, and diplomas were conferred on 27 graduates by Hon. Jacob Shroder, president of the board of trustees.

Those about to marry in Ohio must now, by reason of a law passed by the last legislature, answer the following questions, only on satisfactory answers to which will licenses be granted:

Is either party a habitual drunkard?
Is either an epileptic?
Is either insane?
Is either under the influence of an intoxicating liquor or drug?

PENNSYLVANIA.

Philadelphia.

Reception to Dr. Musser.—A reception was given to Dr. John H. Musser, president of the American Medical Association, by the Medical Club of Philadelphia, June 15. Nearly 300 guests were present. Dr. Edward E. Montgomery, president of the club, presided.

Warning to Undertakers.—Fearing that crimes may be concealed or clews which might lead to their discovery be destroyed, the coroner has issued a circular letter to undertakers throughout the city forbidding the embalming of bodies on which a postmortem is likely to be held without first obtaining permission from his office.

Fourth of July Dealers Arrested.—Two dealers who illegally sold toy pistols to minors were promptly convicted and fined. This, the court says, is a warning for all dealers who violate the law on this subject. The law regulating the sale of these agents has been published in the lay press and will be enforced. Cases of tetanus are already reported from the use of the toy pistol.

Health Report.—There has been a progressive decrease in all forms of contagious disease, except diphtheria, an increase of 9 cases of which is reported. The cases of typhoid fever decreased 6, as compared with the previous week. There were 191 cases of contagious disease reported. The general death rate is much lower, the total for the week, 388, is smaller than for any similar period in many months. Last week there were 426 deaths, and in the corresponding period of last year, 420.

Personal.—Dr. Willis H. Manges has been appointed chief of the *x*-ray department at Jefferson Medical College Hospital.——Dr. Louis McKinnie, Colorado Springs, Colo., has been elected chief resident physician to the same institution.——Dr. James P. Hutchinson has been elected to the position on the surgical staff of Pennsylvania Hospital made vacant by the death of Dr. W. Barton Hopkins, and Dr. Frederick Sharpless has been elected to the resident staff.——The following have been appointed resident physicians at Samaritan Hospital: Drs. B. F. Devitt, R. W. Barber, Harry A. Duncan and J. M. Reed.——James W. Irwin sailed for Europe, June 18.——Dr. Jesse W. Hirst sails from San Francisco early in August

for Seoul, Korea, as a medical missionary of the Presbyterian Board of Foreign Missions.

University Commencement.—The one hundred and forty-eighth annual commencement of the University of Pennsylvania was held June 15. A class of 96 was graduated in the department of medicine. The honorary degree of LL.D. was conferred on Sir Frederick Treves, on Dr. Horatio C. Wood of the University of Pennsylvania, and on Dr. Henry P. Bowditch, professor of physiology in Harvard Medical School. The degree of Sc.D. was conferred on Professor Russell H. Chittenden, director of the Sheffield Scientific School at Yale, and on Dr. George Dock, professor of theory and practice of medicine in the University of Michigan.——At the annual meeting of the Medical Alumni Association Dr. Samuel S. Stryker, of the class of 1866, was elected president.——The classes of 1869 and 1889 held their annual reunions June 13. Dr. Richard G. Stretch presided at the meeting of the class of 1869, and Dr. William Campbell Posey the class of 1889. Out of a membership of 126 at graduation, 14 were present at the meeting of the class of 1869, and 48 of 120 of the class graduated in 1889.

THE STATUE OF BENJAMIN RUSH.

(Reproduction of a photograph of the statue as it stands on the grounds of the U. S. Naval Museum, Washington, D. C. For account of the unveiling, etc., see THE JOURNAL, June 18, page 1663.)

FOREIGN.

Return of Koch from Africa.—Robert Koch has resumed his work at the Berlin Institute for Infectious Diseases in the best of health, after an absence of nearly a year and a half. He was summoned to South Africa by the English government to work out means of prevention and cure for "coast fever," a new cattle disease of that region. He has not only accomplished this task, but has discovered also an efficient means of rendering horses immune to an endemic disease, known as the *Pferdesterbe*, "horse death."

The Empress Frederick House for Post-Graduate Instruction.—Work has already been begun on this building at Berlin. It is intended to be the central headquarters for the extensive

system of free post-graduate instruction which has been established throughout Germany in the last two or three years. There will be a permanent exposition of everything connected with medical technical instruction, including instruments, medical books, periodicals, and teaching appliances of all kinds. The collections on given subjects are to be loaned throughout the country, traveling from one post-graduate course center to another in turn.

Pilgrimage of Roman Catholic Physicians to Rome.—April 5 a party of 200 Roman Catholic physicians from all parts of France started from Lille in a special train for Rome. Others joined them on the way from Germany, Holland, Spain, Belgium and Italy, forming a total of 300 physicians who attended in a body the festivities at St. Peter's in honor of the thirteenth centennial of the originator of the Gregorian chant. It had been intended to exhibit at the evening scientific sessions a number of the persons claimed to have been miraculously cured at Lourdes, but it was decided to have merely a report read by Dr. Boissarie.

GENERAL.

American Proctologic Society.—In the list of officers of this society, THE JOURNAL, June 18, page 1631, the name of Dr. Lewis H. Adler, Jr., Philadelphia, was given incorrectly.

Panama Physicians.—It is announced that 50,000 men will work on the Isthmus of Panama, and 300 physicians, most of them young men fresh from hospital life, will be employed.

Journal Changes.—The Arkansas Medical Society has commenced the publication of a monthly under the title of the *Monthly Bulletin of the Arkansas Medical Society*. The initial number consists of but eight pages and cover, but it is full of good things. The title, however, is a rather awkward one.——The *Bulletin of the Kentucky State Medical Society* has changed its name and hereafter will be known as the *Kentucky Medical Journal*.——The *Sanitarian* has been merged into the *Popular Science Monthly*.

Serum Inspection Report.—As provided in an Act of Congress approved June 1, 1902, to regulate the sale of viruses, serums, toxins and analogous products in the District of Columbia, to regulate interstate traffic therein, and for other purposes, regulations were prepared under the direction of the Secretary of the Treasury, and became effective Aug. 21, 1903. Since that time inspections have been made, as provided by Section 3 of the Act, of the manufacturing concerns whose products were on sale throughout the United States. The inspections, as required by the regulations formulated under this law, were made by officers of the Public Health and Marine-Hospital Service, and the products as purchased in the open market were examined in the Hygienic Laboratory of the service. The following establishments have been inspected and licensed:

FIRM.	PRODUCTS.
Parke, Davis & Co., Detroit	Vaccine virus, serums and toxins.
H. K. Mulford Co., Philadelphia	Vaccine virus, serums and toxins.
Dr. H. M. Alexander & Co., Marietta, Pa.	Vaccine virus and diphtheria antitoxin.
Pennsylvania Vaccine Co., Conewago, Pa.	Vaccine virus.
Fluid Vaccine Co., Milwaukee	Vaccine virus.
Pocono Laboratories, Swiftwater, Pa.	Vaccine virus.
National Vaccine Establishment, Washington, D. C.	Vaccine virus.
Frederick Stearns & Co., Detroit	Diphtheria antitoxin and antistreptococcus serum.
Frederick Stearns & Co., Detroit	Vaccine virus.
Pasteur Institute, Paris, France	Viruses (other than vaccinia), serums, toxins, and analogous products.
Chemische Fabik auf Actien (vorm E. Scherlog), Berlin, Germany	Diphtheria antitoxin and antistreptococcus serum.
National Vaccine and Antitoxin Establishment, Washington, D. C.	Diphtheria antitoxin.

The examinations failed to reveal any contaminating organism or foreign toxin in the diphtheria antitoxins and disclosed a marked improvement in the quality of vaccine virus sold in open market, some samples being entirely free from pathogenic or pyogenic organisms, and all samples showing progressive improvement.

Examination for Army Medical Service.——The examination of applicants for commission in the Medical Corps of the Army has been materially modified. Immediate appointment of applicants after successful physical and professional examination will be discontinued; after July 1, 1904, applicants will be subjected to a preliminary examination and a final or qualifying examination with a course of instruction at the Army Medical School in Washington intervening. The preliminary examination will consist of a rigid inquiry into the physical qualifications of applicants and written examination in the following subjects: Mathematics (arithmetic, algebra and plain geometry), geography, history (especially of the United States), Latin grammar and reading of easy Latin prose, English grammar, orthography, composition, anatomy, physiology, chemistry and physics, materia medica and therapeutics, normal histology. The subjects in general education are essential and can not be waived. The preliminary examination will be conducted concurrently throughout the United States by boards of medical officers at convenient points; the questions submitted to all applicants will be identical, thus assuring a thoroughly competitive feature, and all papers will be criticised and graded by an army medical board in Washington. Applicants who attain a general average of 80 per cent. and upward in this examination will be employed as contract surgeons and ordered to the Army Medical School for instruction as candidates for admission to the Medical Corps of the Army; if, however, a greater number of applicants attain the required average than can be accommodated at the school the requisite number will be selected according to relative standing in the examination. The course of instruction at the Army Medical School will consist of lectures and practical work in subjects peculiarly appropriate to the duties which a medical officer is called on to perform. While at this school the students will be held under military discipline, and character, habits and general deportment closely observed. The final or qualifying examination at the close of the school term will comprise the subjects taught in the school, together with the following professional subjects not included in the preliminary examination: Surgery, practice of medicine, diseases of women and children, obstetrics, hygiene, bacteriology and pathology; general aptitude will be marked from observation during the school term. A general average of 80 per cent. in this examination will be required for appointment, and candidates attaining the highest percentages will be selected for commission to the extent of the existing vacancies in the medical department. Candidates who attain the requisite general average who fail to receive commissions will be given certificates of graduation at the school, and will be preferred for appointment as medical officers of volunteers or for employment as contract surgeons; they will also be given opportunity to take the qualifying examination with the next succeeding class. It is thought that, for the present at least, the number successfully passing the preliminary examination will be greater than can be accommodated at the Army Medical School, and that the number qualifying for appointment will exceed the number of vacancies. If, however, the class of candidates qualifying should be larger than reasonably thought, the young physicans who fail to receive commissions will not have wasted their time, as the course of instruction at the school, while in a large measure specialized to Army needs, is such as will better fit them for other professional pursuits, and furthermore they will have received a fair compensation while under instruction. Admission to the preliminary examination can be had only on invitation from the Surgeon General of the Army, issued after formal application to the Secretary of War for permission to appear for examination. No applicant whose age exceeds thirty years will be permitted to take the examination, and the authorities at the War Department desire it distinctly understood that this limit of age will be rigidly adhered to. Hospital training and practical experience are essential requisites, and an applicant will be expected to present evidence of one year's hospital experience or its equivalent (two years) in practice. The first preliminary examination will be held about August 1; those desiring to enter should at once communicate with the Surgeon General of the Army, Washington, D. C., who will be pleased to furnish all possible information.

Correspondence.

So-Called Synthetics and Ethical Nostrums.

PHILADELPHIA, June 25, 1904.

To the Editor:—The printing of another installment of false statements by Dr. Wm. J. Robinson, is the reason of this reply.

In the first place, I never asked the question: "If thermol is nothing but impure acet-phenetidin, how did he (meaning me) obtain a patent on it?" My former letter in the issue of April 30 will expose this misstatement. The government has

allowed me three different patents on the chemical combination of acetic and salicylic acids with phenetidin; as well as patents on twenty odd other definite chemical compounds, and in not one of them is there mention of a trade name—a custom followed by foreigners.

This subject of infringement is quite musty and absurd. The owners of the phenacetin patent undertook to prove it in 1901, and dropped it. Thermol is a chemical combination of acetic and salicylic acids with phenetidin.

As to impurity, the subject on which he is unable to specify, my former letter showed that by washing thermol thoroughly in a solution of muriatic acid—which instantly combines with free phenetidin and makes the same very soluble in water—that then all the poisonous and heart depressing qualities are washed away.

On the subject of iodomuth, the critic first stated that: "According to analysis, it is merely bismuth gallate, with a small quantity of free gallic acid; no iodin could be traced in the examined specimen." He now hedges and states: "If the iodin is so firmly bound to the molecule that it can not be demonstrated by any ordinary chemical reagents." Having had rope enough he now exposes "the black flag in business." Iodomuth contains no free iodin in an irritating form. It does contain sufficient iodin to be a practical useful chemical. All iodin bearing products do not depend for their activity on the fact of the iodin being *in statu nascendi*. Why could not the critic detect the presence of iodin in iodomuth? Is it because his knowledge is so deficient? or, is he carrying "the black flag in business." Prof. C. P. Grayson, of the University of Pennsylvania, when he referred to iodomuth in his treatise on "Diseases of the Nose, Throat and Ear"; the renowned von Ruck, who has reported the saving of lives by its use, and many other physicians, who are not chemists and make no pretense to be, have common sense enough to detect the physiologic action of iodin, and to readily prove its presence in a visible manner by the mere dissolving of iodomuth in nitric acid solution, and at once obtaining the blue iodin reaction with a solution of starch. There is not a specimen of iodomuth to be found in the country that will not give the iodin reaction when so tested.

"*Falsus in uno, falsus in omnibus*" was the reason put forth by the critic for slurring iodomuth before investigating it. After such a virulent false statement, which his ignorance of chemistry can not excuse, can any reliance be placed on his statement about ur-a-sol, or acetyl-methylene-di-salicylic acid? Under the heading of thermol he states that the melting point is quite a physical test. The difference in the melting point between ur-a-sol and the plain methylene-di-salicylic acid is about 200 F., or the difference between the freezing and the boiling points of water. With such a remarkable deficiency of observation, is it any wonder that the critic could not detect the presence of an acetyl group? I could tell him some more, but this is not a chemical journal.

My previous answer shows that I shirked no issue in regard to ur-a-sol. I asked what impurity it contained This the critic can not answer. I cited an authority of character, who had demonstrated the presence of an acetyl group. I also referred to the inability of the critic to produce "methylene salicylic acid."

The critic's rank egotistical statement "My analyses are so perfect, my statements are so incontrovertible," is so ridiculous that he exposes his purpose—"the black flag in business."

When you come to a knowledge of the reason for these attacks you will understand why the critic so signally failed to keep truth by his side. His betrayal of the courtesy of the American Medical Association will reap its own reward. "You can not fool all the people all the time." Nor can the certain foreign chemical houses with offices in New York City stop me from making thermol, iodomuth, ur-a-sol, or guaialin nor any of the other organic chemicals which I have created.

S. LEWIS SUMMERS,
General Manager of the Organic Chemical Manufacturing Company and President of the Liberty Chemical Company.

[This correspondence must now stop.—ED.]

Sanatoria for Consumptives.

OTTAWA, ILL., June 20, 1904.

To the Editor:—It is apprehended that the greatest obstacle we will encounter in securing an appropriation for state sanatoria will be the difficulty in convincing the public in general, and legislators in particular, that tuberculosis can be cured in this climate. The belief that certain attributes of the atmosphere, such as rarity, dryness, equable temperature, etc., etc., are necessary, has become so firmly established that it need not be surprising if we find it difficult to convert the skeptical to a contrary belief.

In anticipation of this obstacle, it is the opinion of those who have given the subject most attention that an object lesson, which shall demonstrate the improvement or cure of a few cases in this climate, will have greater weight than an argument based on what has been done for a multitude of cases in other states. With this end in view, I have been induced to start a tent colony at Ottawa.

The site selected is ideal in every respect for the open-air and dietetic treatment of tuberculosis. It is on a high bluff overlooking the City of Ottawa, the Illinois and Fox River valleys, in the midst of some of the most beautiful scenery of this justly-famous region. The water supply is excellent and drainage perfect; it is easily accessible by trolley cars; the camp will be lighted by electricity and connected by telephone; milk will be supplied from the dairy, one-quarter mile distant; there is an abundant supply of fresh eggs, fruits and vegetables in the immediate vicinity—in fact, everything is present to make tent life not only comfortable, but even luxurious. The tents will be large and of the best material, thus insuring protection from the elements. Trained nurses and other help will be provided.

It is not intended to demonstrate how cheaply patients can be maintained, but how comfortably and well; therefore, those of the better class need have no hesitancy about making application for admission. In fact, this is the class whom we are seeking to secure.

The expense to patients will be the actual cost of maintenance, no charge being made for medical services. The service will be equal to that of a first-class hospital. It is estimated that it will cost $10 per week to maintain patients according to the standard which has been established. The cost of equipment is included in this estimate. Those familiar with hospital management will appreciate the reasonableness of the above estimate, particularly in view of the fact that these patients must be provided with the most nutritious and highest-priced food in much larger quantities than is required for the normal person. I have been much embarrassed by the report that has been published stating that the cost will be about $18 per month. For obvious reasons this is impossible. The statement did not originate with me.

In order to make the demonstration most effective in influencing the next legislature, it is desirable to commence immediately. Those interested in this work will confer a great favor by assisting me in securing a few patients at once. The success of the experiment will be fully reported from time to time through the usual channels. Physicians, the friends of patients and others interested will be welcomed as visitors to the camp.

Inasmuch as my motives are not selfish, I ask the moral support of the profession in making this enterprise a success.

J. W. PETTIT,
Chairman Committee on Tuberculosis, Illinois State Medical Society.

Removal of the Normal Appendix When Exposed.

NEW YORK CITY, June 14, 1904.

To the Editor:—In the discussion at the Atlantic City session on the removal of normal appendices in the course of other work, I opposed the idea on three points: Removal of the appendix delays the other operation, adds a little to the danger, and, if the idea is taught by competent men, it will be carried out by those who will manage to get a death rate out of it. Immediately after the meeting I joined a group of physicians

who expressed surprise at my stand, and who said that they were under the impression that I favored the removal of normal appendices anyway, as a prophylactic measure to be applied generally. As with other surgeons, a good many stories about me and my work "go the rounds," and many of them have a basis of fact. I would not correct any that are amusing, or simply injurious to me personally, but when a cause is at stake, and when one may be quoted as authority, it is best perhaps to say that I have never, in speaking or writing, advocated the removal of the normal appendix. "Leave the appendix alone until it is infected, and then lose no time in having it inspected" is the couplet that expresses my views. If we are to get the lowest possible death rate in any sort of surgical work, we must let the patient off with the least attack of surgery that is possible, under the guidance of a good sense of proportion.

It is the little things in surgery that make the differences in statistics, precisely as in a commercial house, and the one who eliminates the greatest number of trifling elements of loss is the one who is likely to be most successful. Beside the reasons given above against the removal of a normal appendix, from another standpoint the idea is impracticable, because there are few mothers who would take a fine, healthy boy away from his toys and carry him to the surgeon with instructions to "please cut my darling a little," and older people who go about on their own responsibility seeking to have the appendix removed are for the most part those who need attention for a psychosis. We all see a case of this sort now and then, but I doubt if there is in New York a single surgeon of responsible position who could be persuaded to operate for the purpose of removing a healthy appendix. Perhaps the thought that I advocate it has been reached by a sort of *reductio ad absurdum* from the proposition to have appendicitis work done through short incisions. My contention is simply this: We are to make as long an incision as is really necessary, a foot long if one needs it, but one should do the most difficult work with very little surgery if one has trained himself to do that. A formula that is going the rounds and that has been ascribed to me, "An inch and a half, a week and a half, an instrument and a half, and a dollar and a half," has been made up by others as a bit of fun, based on my use of the first two parts some time ago, and even the second part was added by one of my house surgeons at the hospital. Yours truly, ROBERT T. MORRIS.

The Prophylaxis of Tetanus.

BRIDGETON, N. J., June 18, 1904.

To the Editor:—An article in THE JOURNAL, June 18, regarding the prophylaxis of tetanus leads me to suggest a method of cleansing all punctured wounds by nails and splinters, as well as those caused by Fourth of July foolish exuberance. For years I have used hydrogen dioxid solutions diluted with sterile water made alkaline by sodium bicarbonate, or have used them alternately. As the tetanus bacillus is anaërobic, theoretically the oxygen given off would be deterent; secondly, I have found that if used freely all foreign matter will be removed, usually without curetting, although this may be done if necessary. Caustics are unnecessary, often harmful. A more sensible packing would be loose gauze, with glycerin to promote exosmosis and drainage. The wound should be cleansed with hydrogen dioxid several times daily.

THOMAS G. DAVIS.

Queries and Minor Notes.

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

MATERNITIES FOR THE UNMARRIED.

————, WIS., June 18, 1904.

To the Editor:—Will you please let me know through THE JOURNAL if there are any respectable places in Chicago, Milwaukee or the twin cities where an unfortunate daughter of respectable parents can be confined and she assured her child will be adopted in the private home of a good family? Addresses and approximate cost would be greatly appreciated. I feel very strongly that it is in every way much better for an unfortunate good girl to be confined secretly in a good place—not a "baby farm" or "angel factory"—than to have her unfortunate condition known among her friends and she and her unfortunate innocent babe forever disgraced. What is the opinion of most physicians who have given this subject serious thought? L. I. C.

ANSWER.—There can be no question that it is in every way much better for an unfortunate good girl to be confined secretly in a good place than to have her unfortunate condition known among her friends." Sufficient suitable provision for this purpose is also necessary to combat the crime of induced abortion. Respectable and competent physicians should provide such places so that unfortunate and helpless girls may not be at the mercy of "baby farms." There is now no difficulty in finding good care for the mother before, during and after confinement. In any large city any good hospital that receives obstetric cases will furnish as good care as can be desired. In Chicago, St. Luke's, Mercy, Wesley, Presbyterian, West Side, German, Passavant and probably other general hospitals have obstetric departments under the charge of competent men. The Chicago Lying-in and Chicago Maternity hospitals also have some arrangements for private as well as for charity cases. The usual rates are $8.00 per week for ward cases and from $15.00 up for private rooms. All physicians engaged in the practice of obstetrics as a specialty, like the teachers of obstetrics in the medical colleges, are in the habit of making arrangements for such cases. No doubt similar facilities can be found in Milwaukee and St. Paul and all other large cities. The chief difficulty is in providing for the baby. It is the established policy of all charitable institutions organized for the purpose of caring for women and children to insist on the recognition by the mother of her duties and responsibilities so far as to agree, if possible, to nurse the child for at least a few months. It is well known that the mortality of illegitimate children is greatly reduced if they are fed breast milk in their first infancy. Hence the Illinois Children's Home and Aid Association, which is the recognized institution in Illinois for this purpose of finding homes for all helpless children, makes this an essential condition for its aid. If the mother has no milk, or if she is sickly, or if there are other convincing reasons why she can not do this much for her child, the society will take charge of it at once. Poor women are cared for, with their babies, in the Foundlings' Home or by the Salvation Army. Those who are able to pay are found homes in respectable private houses, where the charge would be from $6.00 to $10.00 per week. This period of nursing is important for other reasons. It not only secures a strong and healthy baby and allows time to find for it a good home, but it also enables the mother, when under good care, to recuperate from her pregnancy and labor. The normal puerperium, counting till the genital organs regain their normal condition, lasts, as we know, eight to twelve weeks. It is no harm to a girl who has passed through the anxieties of an illegitimate pregnancy to spend a few months in recuperation. For special cases there are in Chicago respectable institutions like St. Vincent's Orphan Asylum or Chicago Maternity Hospital and Training School for Nursery Maids that will take new-born infants to board for $3.00 to $5.00 a week and will seek to get them adopted, and similar arrangemnts can be found in nearly all large cities. In a large city there is also the possibility of finding a home for a healthy baby of good parentage through the medium of the advertising columns of the daily newspapers. With the co-operation of the mother and her parents an experienced obstetrician can manage a case of the kind very satisfactorily and for the best interests of child, mother, family and society.

THE ST. LOUIS FAIR.

SYLVA, N. C., June 20, 1904.

To the Editor:—Will you kindly give information through THE JOURNAL relative to opportunities at the St. Louis World's Fair for medical men to study and observe in matters pertaining to the practice of medicine and surgery? GEO. P. EDWARDS.

ANSWER.—Beside the local hospitals, dispensaries and medical institutions the World's Fair presents a number of exhibits of practical interest to physicians. In the German section of the Educational Building there is a large collection of models in wood and wax of various morbid conditions, of operations and of a normal histologic and anatomic character. There is a large collection of pathologic specimens in alcohol, formalin and Kaiserling, demonstrating the widest range of pathologic conditions. The different varieties of bacteria are shown in cultures. In the same building is shown the pathologic exhibit of St. Louis, comprising a collection of pathologic preparations in Kaiserling anatomic specimens, bacteria in culture—all shown in cases permitting a good view of every feature of the exhibit. In the same section the Illinois University shows a collection of anatomic, of histologic and pathologic specimens. Harvard University, St. Louis University, Washington University, Columbia University, the University of Missouri and Johns Hopkins University show many specimens illustrative of the research and the method of teaching done in these institutions, while many other universities and medical colleges show some important features of their medical instruction. In the electricity building are shown, step by step, many chemico-electric processes.

A BOOK OF PORTRAITS OF PHYSICIANS.

Several of our readers have written us concerning a circular letter that is being sent to those who registered at the Atlantic City session of the American Medical Association. In this the concern asks for portraits, which are to be "beautifully printed on fine coated paper and handsomely bound in cloth at $1, and in leather *de luxe* at $2." The letter states that the work is "to contain life-like portraits of leading members from all sections." One of our correspondents asks us if it is a fact that the leading members of the profession will have their portraits in this book. We imagine that all who subscribe for the book and send their portraits will find that they will be accommodated, but whether those who are cooslidered as the "leaders in the profession" will be among the patrons we do not know. We would suggest that those who send their portraits wait until they see the book before they pay $1 or $2 for it. We also call attention to the printed order blank which is to be signed, ordering the engraving made. No charge for this is named, and there is the possibility of the charge being any amount the company wishes.

WATER STERILIZATION BY COPPER.

NEW BEDFORD, MASS., May 25, 1904.

To the Editor:—Will you kindly inform me what is the process of filtering or sterilizing water by sulphate of copper?

M. E. DE LAVOL, M.D.

ANSWER.—This inquiry apparently relates to a method recently proposed for destroying or preventing the growth of algæ and certain pathogenic bacteria in water supplies. The experimental evidence in favor of the method is contained in Bulletin No. 64, Bureau of Plant Industry, U. S. Department of Agriculture, and is based largely on work by G. T. Moore and K. F. Kellerman. These authors state that copper sulphate in a dilution so great as to be colorless, tasteless and harmless to man is sufficiently toxic to algæ to destroy them or to prevent their appearance. They also assert that at ordinary temperatures one part of copper sulphate to 100,000 parts of water destroys typhoid and cholera germs in from three to four hours. Other details are given in the bulletin cited.

ECZEMA TREATMENT.

DANVILLE, KY., June 13, 1904

To the Editor:—Please state treatment, internal and external, for chronic eczema of scalp; also for psoriasis of scalp.

JOHN D. JACKSON.

ANSWER.—There is no rule that can be applied to the treatment of chronic eczema, either of the scalp or other location. The exciting cause must be considered and eliminated. The only one rule that applies is stimulation in chronic cases, followed by soothing application to the affected parts. This is the only rule that will apply to all cases. This answer also applies to psoriasis.

METHYL BLUE DISTINCT FROM METHYLENE BLUE.

————, IOWA, June 22, 1904.

To the Editor:—What difference, if any, exists between methyl blue and methylene blue?

M. L. N.

ANSWER.—The two are different substances. Methyl blue, or diphenylamin blue, has the formula $NaC_{37}H_{29}N_3S_3O_9$ and is an antiseptic used as a local application in diphtheria. Methylene blue, or methylanilin, has the formula $C_{16}H_{18}N_3SCl$, is a derivative of diphenylamin and is the familiar histologic stain. It is also used as an analgesic in rheumatic and neuralgic pains and as an antiperiodic in malaria.

THIOSINAMIN IN OCCLUSION OF SEMINAL DUCTS

NEW ORLEANS, May 29, 1904.

To the Editor:—**1.** Will you kindly inform me if in the reports submitted regarding thiosinamin any one has used it in occlusion of the seminal ducts resulting from mumps or other cause? 2. What is your opinion of its utility in such cases of long standing?

V.

ANSWER.—1. Thiosinamin has not been used in this class of cases as far as we have been able to find from the literature. 2. We doubt its value.

RUM AND PLANTAINS.

A CORRESPONDENT writes: It is asserted by some that rum (or whisky) and plantains taken into an otherwise empty stomach in sufficient quantities form a poison which is generally fatal. Can you give any information regarding the assertion?

ANSWER.—Since our correspondent says "in sufficient quantities," we agree that a fatal poison may result from the alcoholic extract thus liable to be produced. We have not heard of the occurrence.

ARSENIC ON EPITHELIOMA.

A CORRESPONDENT asks how arsenic acts on epithelioma. In the treatment of epithelioma arsenic has been abandoned. The recognized treatment of the day is either *x*-ray or radical surgical interference.

Miscellany.

WORLD'S FAIR CONGRESS.

The Medical Department of the Congress of Arts and Science at the St. Louis Exposition.

This Congress is primarily a congress of scholars rather than of specialists. It is divided into twenty-four departments, one of the strongest of which is that on "Medicine." Yet, it is not intended to be a distinctly medical assemblage, but a congress of medical scholars. Professor Simon Newcomb, president of the congress, gives us the following outline of the program:

The Department of Medicine will be opened Tuesday, September 20, under the chairmanship of Dr. William Osler, with two general addresses by Dr. W. T. Councilman of Harvard Medical College, and Dr. Frank Billings of Rush Medical College: One on the progress of medicine during the past century, and the other on its fundamental conceptions. The Department of Medicine is divided into twelve sections. On Wednesday morning, September 21, a section on public health will meet under the presidency of Dr. Walter Wyman, surgeon general of the U. S. Marine-Hospital Service. It will be addressed by Prof. W. T. Sedgwick of the Massachusetts Institute of Technology and Dr. Ernst J. Lederle, formerly commissioner of health of New York City. A section of laryngology and otology will meet at the same time: Chairman, Dr. Glasgow, St. Louis; principal speakers, Sir Felix Semon, London, physician extraordinary to the king, and Dr. J. Solis-Cohen, Philadelphia.

In the afternoon a section on preventive medicine will meet, under the chairmanship of Dr. J. M. Mathews, president of the Kentucky Board of Health. It will be addressed by Profs. Ronald Ross of Liverpool, and Celli of Rome.

On the same afternoon, a section on pediatrics will meet under the chairmanship of Dr. Rotch and will be addressed by Escherich of Vienna, Jacobi of New York, and others.

On Thursday morning there will be meetings of sections on pathology and psychiatry. The chairmen of these sections are Drs. Simon Flexner and Edward Cowles. Marchand of Leipsic and Orth of Berlin accepted invitations to address the section on pathology, but it is not certain whether both will be able to attend. Psychiatry will be treated by Ziehen of Berlin and Dana of New York.

In the afternoon a section on neurology will meet under the chairmanship of Prof. L. F. Barker, Chicago, and will be addressed by Kitasato of Tokio and Putnam of Boston.

Other sections will meet on Friday and Saturday as follows:

THERAPEUTICS AND PHARMACOLOGY.

Chairman, Dr. Robert A. Hare, Jefferson Medical College.
Speakers, Sir Lauder Brunton, F.R.S. London, and Prof. Mathias E. O. Leibreich, University of Berlin.

INTERNAL MEDICINE—FRIDAY AFTERNOON.

Chairman, Prof. F. C. Shattuck, Harvard University.
Speakers, Prof. Clifford Allbutt, F.R.S. University of Cambridge, and Prof. William S. Thayer, Johns Hopkins University.

SURGERY—FRIDAY MORNING.

Chairman, Prof. Carl Beck, New York City.
Speaker, Prof. Frederic S. Dennis, Cornell Medical College, New York.

GYNECOLOGY—SATURDAY MORNING.

Chairman, Prof. Howard A. Kelly, Johns Hopkins University
Speakers, Dr. L. Gustave Richelot, member of the Academy of Medicine, Paris, and Prof. J. C. Webster, Chicago.

OPHTHALMOLOGY—SATURDAY AFTERNOON.

Chairman, Dr. G. C. Harlan, Philadelphia.
Speakers, Dr. Edward Jackson, Denver, and Dr. George M. Gould, Philadelphia.

On the general plan of the congress, one of the two principal speakers in each section will treat of the relation of the subject to other departments of knowledge; and the other, of its present problems. Beside the principal speakers, it is expected that each section will receive several brief communications from leading members of the profession in attendance at the meeting.

Successor to Duclaux.—The board of trustees of the Institut Pasteur, Paris, comprises Brouardel, Grancher, Roux, Magnin, Chamberland and Metchnikoff. Roux will undoubtedly be made director with Chamberland and Metchnikoff as vice-directors.

American Medical Association.

Proceedings of the Fifty-fifth Annual Session, held at Atlantic City, N. J., June 7-10, 1904.

OFFICIAL MINUTES* OF THE SECTIONS.

As Rendered by the Respective Secretaries or Stenographers.

Section on Practice of Medicine.

TUESDAY, JUNE 7.

The Chairman, Dr. Alexander Lambert, appointed the following Nominating Committee: Dr. George Dock of Ann Arbor, Mich.; Dr. W. S. Thayer of Baltimore, and Dr. S. J. Meltzer of New York.

Dr. Edward F. Wells of Chicago was elected Delegate.

Chairman's Address, "The Adaptation of Pure Science to Medicine," by Dr. Alexander Lambert, New York.

"Pernicious Anemia, and Its Relation to Gastric Digestion, Based on Twenty-five Cases," by Dr. Charles G. Stockton, Buffalo. Discussed by Drs. Cabot, Einborn, Jones, Osler, Hall, Dock and Stockton.

"Diagnosis and Treatment of Perforation in Typhoid Fever," by Dr. Morris Manges of New York. Discussed by Drs. Osler, Wilson and Manges.

"A Case of Typhoid Fever, with an Unusual Complication," by Dr. William E. Darnall of Atlantic City.

"Mortality and Management of Pneumonia," by Dr. Edward F. Wells of Chicago.

"The Study of a Series of Cases of Pneumonia," by Dr. Joseph Sailer of Philadelphia.

These two papers were discussed by Drs. Jenkins, Rochester, Babcock, Cohen, Wells and Sailer.

"Appendicitis from the Standpoint of a Physician," by Dr. S. G. Bonney, Denver.

"Suicides; Some Instructive Cases," by Dr. John L. Davis, Cincinnati.

WEDNESDAY, JUNE 8.

"Pathology of Arteriosclerosis," by Dr. William Welch.

"Arteriosclerosis from Acute Infectious Diseases," by Dr. W. S. Thayer.

"Arteriosclerosis of Syphilitic Origin," by Dr. C. Travis Brennen.

"Arteriosclerosis of Nephritic Origin," by Dr. George Dock.

"Arteriosclerosis Due to Lead," by Dr. Frank Billings.

"Arteriosclerosis of Alcoholic Origin," by Dr. Richard Cabot.

"Arteriosclerosis and Angina Pectoris," by Dr. William Osler.

"Arteriosclerosis," by Dr. James M. Anders.

"Treatment of Arteriosclerosis," by Drs. Stengel, Shattuck, Kraus, Stockton, Meltzer, Babcock, Weber, Reed, Sewell, McPheeran, Jacobi, Thayer and Cabot.

These eight papers were discussed by Drs. Stengel, Shattuck, Daland and Dr. McDaniel.

"A Study of 186 Cases of Mitral and Tricuspid Stenosis," by Dr. Steele.

"Pleural Effusions in Heart Disease," by Dr. Steele.

"Prolonged Delirium in Pericarditis and Endocarditis," by Dr. Green.

"Limitations of Digitalis in Mitral and Aortic Insufficiency," by Dr. Jones.

"Some Points in the Acoustics of Respirations," by Dr. Charles I. Quimby.

THURSDAY, JUNE 9.

"Etiology of Cholecystitis and Cholelithiasis," by Dr. Walter Bierring.

Dr. Eugene L. Opie being ill, it was moved that his paper, on "Relation of Cholelithiasis to Disease of the Pancreas," be referred to the Executive Committee, with the request that it appear in the proceedings of this Section. Motion carried.

"The Relation of the Gall-Bladder and Bile-Ducts, Etc." by Dr. B. W. Sippy.

"Diagnosis of Cholecystitis and Cholelithiasis," by Dr. Parker Syms.

"Treatment of Cholecystitis and Cholelithiasis," by Dr. L. W. Hotchkiss.

These four papers were discussed by Drs. Anders, Mayo, Thayer, Hemmeter, Billings, Tyson, Allen, Jones, Willson, Syms and Hotchkiss.

"Ergot in General Practice," by Dr. A. T. Livingston. Discussed by Drs. Montgomery, Stranahan, Grad, Walsh, Lambert, Taylor and Livingston.

The report of the Nominating Committee was adopted: Chairman, Dr. Richard Cabot of Boston; Secretary, Dr. J. L. Miller of Chicago.

"Differential Leucocyte Count as an Aid in the Diagnosis of Fevers," by Dr. W. Kraus. Discussed by Drs. Cabot, Willson, Grandy, Robertson and Kraus.

"Pathogenesis of Uremia and Eclampsia," by Dr. R. N. Willson. Discussed by Drs. Tyson and Willson.

"Amebic Dysentery," by Dr. J. F. Tuttle. Discussed by Drs. Turck, Warden, Marvel, Gant, Kraus and Tuttle.

"The Family Physician as a Factor in the Solution of the Tuberculosis Problem," by Dr. S. A. Knopf.

"Has Influenza Been a Causative Factor in the Increase of Appendicitis?" by Dr. Philip Marvel. Discussed by Drs. Rochester, Walsh, Russell, Morris and Marvel.

"Problems for the Tuberculous Convalescent," by Dr. A. Mansfield Holmes, Denver.

Section on Obstetrics and Diseases of Women.

TUESDAY, JUNE 7.

The Section was called to order at 2:15 p. m. by the Chairman, Dr. L. H. Dunning.

Dr. L. S. Stone was called to the chair, and the Chairman delivered his address on "Last Year's Progress in Gynecology; Senile Endometritis."

Dr. John A. Sampson read a paper entitled, "The Invasion of Carcinoma Cervicis Uteri into the Surrounding Tissues."

Dr. Charles P. Noble followed with a paper entitled, "Further Experience in the Use of the Electrothermic Clamps in the Treatment of Cancer of the Uterus."

Dr. Palmer Findley contributed a paper on "Primary Chorio-Epithelioma Malgoum Outside of the Placental Site."

These three papers were discussed by Drs. Wathen, J. G. Clark, G. B. Massey, L. Smith, Lawrence, Humiston, Chandler, Sandberg, Goldspohn, Carstens, Downs, Cary, Thienhaus, Sampson, Noble and Findley.

On motion, the Chairman appointed the following committee to draft resolutions on the death of Dr. J. M. Duff: Drs. J. H. Carstens, C. L. Bonifield and Simpson.

The Chairman appointed the following Nominating Committee: Drs. Newman, Carstens, Dudley, Dorsett and Bacon.

Dr. H. O. Marcy read a paper entitled, "The Technic of Wounds Incident to Laparotomy." Discussed by Drs. Goldspohn, Longyear, Dorsett and Marcy.

Dr. Daniel H. Craig read a paper on "Clinical Experience with the Appendiculo-Ovarian Ligament."

WEDNESDAY, JUNE 8—MORNING.

The Section was called to order at 9:15 a. m. by the Chairman, Dr. Dunning.

The first paper of the morning was read by Dr. George Boyd, entitled, "Diagnosis and Treatment of Pelvic Deformity." Discussed by Drs. Bacon, Wiss, Carey and Boyd.

Dr. C. S. Bacon followed with a paper on "Heart Disease as an Obstetric Complication." Discussed by Drs. Holmes, Hotchkiss, Carey, Grad, Hastings and Bacon.

The Committee on Resolutions on the death of Dr. J. M. Duff reported as follows, and the report was adopted:

WHEREAS, In the order of nature there has been removed from our midst, in the prime of vigorous manhood, our distinguished friend and co-laborer, John Milton Duff,

Resolved, That in the death of Dr. Duff this Section has lost one of its most active and valued members, the profession a constant and hard worker for its elevation and progress.

Resolved, That we tender to his family our profound sympathy.

Resolved, That a copy of these resolutions be sent to his bereaved family, and that they be published in THE JOURNAL.

Dr. Cullen, representing the Reed Memorial Fund, was present and a collection for the fund was taken up.

Dr. H. G. Wetherill read a paper on "The Difficulties and Dangers of Accouchement Forcé: A Simple, Safe and Efficient Method." Discussed by Drs. Carstens, Holmes, Bacon, Hastings, Fry and Wetherill.

Dr. John F. Moran followed with a paper entitled, "Is Cesarean Section a Rational Method of Treatment in Placenta Previa?" Discussed by Drs. Harrison, Dudley, Lawrence, Holmes, Dorsey, Hastings, Fry, Truesdale, Stone and Moran.

WEDNESDAY, JUNE 8—AFTERNOON.

The Section was called to order by the Chairman at 2 p. m.

Dr. B. C. Hirst read a paper entitled, "The Primary, Intermediate and Secondary Repair of the Anterior Wall After Labor."

Dr. J. R. Goffe followed with a paper on "The Etiology and Pathology of Cystocele, with a New Operation for its Relief."

Both papers were discussed by Drs. R. W. Holmes, M. Price, Chandler, Stone, Bovée, Burtenshaw, Hirst and Goffe.

Dr. J. H. Burtenshaw read a paper entitled, "Repair of Pelvic Floor Lacerations."

Dr. F. H. Wiggin contributed a paper on "Treatment of Complete Uterine and Vaginal Prolapse."

These two papers were discussed by Drs. Tucker, Pantzer, Noble, Longyear, Goldspohn, Craig, Harrison, Joseph Price, Goffe and Burtenshaw.

Dr. H. O. Pantzer read a paper on "Multiple Abscesses of the Omentum Following Grave Septic Peritonitis; Report of Two Cases."

THURSDAY, JUNE 9—MORNING.

The Section was called to order at 9:15 a. m. by the Chairman, Dr. Dunning.

The first paper was read by Dr. H. W. Longyear, entitled, "The Surgical Treatment of Bilocular Uterus and Bifid Vagina." Discussed by Drs. Bacon, Dunning, H. T. Johnstone, Carstens, Dorsett and Longyear.

Dr. J. W. Bovée contributed a paper on "A Plea for More Thorough Examination of Doubtful Specimens of Ectopic Pregnancy."

Dr. W. B. Dorsett followed with a paper entitled "Some Cases of Ectopic Gestation, with Atypical Symptoms."

These two papers were discussed by Drs. Carstens, Lawrence, Massey, Goldspohn, Humiston, Stone, Brickner, Dudley, Bacon, Bovée and Dorsett.

Dr. A. Palmer Dudley read a paper on "The Influence of Ovarian Implantation on Menstruation in Women."

Dr. J. W. Cokenower read a paper entitled "A Plea for Conservative Operations on the Ovaries, from a Neurotic Standpoint, with Report of Cases."

These two papers were discussed by Drs. Morris, Goldspohn, Humiston, Bacon, Lawrence, Marcy, Massey, Carstens, Craig, Chandler, Dudley and Cokenower.

THURSDAY, JUNE 9—AFTERNOON.

The Section was called to order at 2:15 p. m.

The Nominating Committee reported as follows: Chairman, Dr. Charles L. Bonifield, Cincinnati; Vice-Chairman, Dr. F. F. Lawrence, Columbus; Secretary, Dr. Walter P. Manton, Detroit; Delegate, Dr. J. Wesley Bovée, Washington; Alternate Delegate, Dr. H. O. Pantzer, Indianapolis. On motion, the report of the committee was adopted.

Dr. T. S. Cullen read a paper on "A Series of Mistaken Diagnoses."

Dr. J. H. Carstens read a paper entitled "Some Further Observations on the Use of the Stem Pessary for Scanty and Painful Menstruation."

Dr. H. A. Kelly contributed a paper on "Injury to the Rectum in the Gynecologic Examination." This paper was discussed by Drs.

*The minutes of the House of Delegates appeared in THE JOURNAL, June 11, pages 1574-1582, and June 18, pages 1634-1647; the minutes of the General Meetings, June 18, pages 1647-1649, and June 25, pages 1674-1687.

Cullen, Lawrence, Shoemaker, Wetherill, Noble, Brickner and Kelly.

Dr. F. A. Higgins followed with a paper on "The Propriety, Indications and Methods for the Termination of Pregnancy." Discussed by Drs. Hall, Bacon, Holmes and Higgins.

Dr. J. C. Applegate read a paper entitled "Adherent Uterus as a Complication of Labor, Citing Two Cases." Discussed by Drs. Craig, Shoemaker, Dunning, Doraet, Fry, Lawrence and Applegate.

Dr. F. F. Lawrence read his paper on "Membranous Endometritis." Discussion by Drs. Dunning, Bonifield, Fisher and Lawrence.

Dr. G. E. Shoemaker contributed his paper entitled "Management of the Acute Infective Stages of Abdominal Inflammation." Discussed by Drs. Fisher, Dorsey, Dunning, Bonifield and Shoemaker.

On motion, a vote of thanks was extended to Dr. Dunning, the retiring Chairman.

The Chairman introduced Dr. Bonifield, the Chairman-elect, who expressed his gratification and thanks for the honor conferred, and then declared the Section adjourned *sine die*.

Section on Surgery and Anatomy.

TUESDAY, JUNE 7.

Chairman's address, by Dr. Charles A. Powers, Denver. Dr. De Forest Willard, Philadelphia, took the chair during the reading of the Chairman's address.

"The Danger of Allowing Warts and Moles to Remain, Lest They Become Malignant; with Twenty-five Illustrative Cases," by Dr. W. W. Keen, Philadelphia. Discussed by Drs. Rodman, Fütterer, Weir, Laplace, Bevan and Keen.

At the suggestion of the Chairman, Professor Hoffa of Berlin was escorted to the platform by Drs. W. K. Townsend, New York, and H. Augustus Wilson, Philadelphia.

"Starvation. Operation for Malignancy in the External Carotid Area; Its Failures and Successes," by Dr. Robert H. M. Dawbarn, New York. Discussed by Drs. Crile, Bristow and Dawbarn.

"What Is the Proper Surgical Treatment of Suspicious Tumors of the Involuting Breast," by Dr. J. Clark Stewart, Minneapolis. Discussed by Drs. Jepson, Wharton, Bloodgood, Gibbons, Morris, Meyer and Stewart.

"The Influence of the Adipose Tissue, with Regard to the Pathology of the Knee Joint," by Prof. Dr. A. Hoffa, Berlin, Germany.

"Surgical Lesions of the Axillary Plexus," by Dr. John A. Wyeth, New York. Discussed by Drs. Murphy, Brickner, Holmes and Sommers.

"The Matas Treatment of Aneurism," by Dr. J. F. Binnie, Kansas City. Discussed by Drs. Matas, Murphy, Pantzer and Binnie.

The Secretary announced the change of meeting place for the Section smoker.

WEDNESDAY, JUNE 8—MORNING.

It was moved that the Executive Committee act as a Nominating Committee. Carried.

"Twine in Lieu of the Elastic Ligature for Performing Gastroenterostomy," by Dr. J. W. Draper Maury, New York City.

"Remarks on the Disadvantages of the Murphy Button," by Dr. Robert F. Weir, New York City.

"Excision of the Ulcer-Bearing Area in Gastric Ulcer," by Dr. William L. Rodman, Philadelphia.

These three papers were discussed by Drs. Ochsner, Mayo, Murphy, Dawbarn, McArthur, Dudley, McRae, Lloyd, Maury, Weir and Rodman.

"Rupture of Mesenteric Glands During Typhoid Fever, Simulating Intestinal Perforation; Report of a Case, with Operation and Recovery," by Dr. Robert G. Le Conte, Philadelphia. Discussed by Drs. Hammond, McArthur, Eisendrath and Thomas.

"Excision of a Part of the Ileum and All of the Cecum and Ascending Colon; Ileum and Transverse Colon United by a New Method," by Dr. J. Shelton Horsley, Richmond. Discussed by Drs. Smith, Ochsner, Connell and Horsley.

WEDNESDAY, JUNE 8—AFTERNOON.

"A Case of Retroperitoneal Fibrolipoma," by Dr. George Ben Johnston, Richmond. Discussed by Drs. Allaben and Johnston.

"The Surgery of the Biliary Tract, Especially the Indications for Operation and the Importance of Drainage," by Dr. Maurice H. Richardson, Boston.

"Gallstones in the Common Duct," by Dr. Archibald MacLaren, St. Paul, Minn.

These two papers were discussed by Drs. Bryant, Thienhaus, Moore, Laplace, Mayo, Bloodgood, Richardson and MacLaren.

"Appendicitis in Children," by Dr. A. J. McCosh, New York City.

"The Diagnosis of Appendicitis. Should the Appendix Be Removed when the Abdomen Is Opened for Other Conditions?" by Dr. Floyd W. McRae, Atlanta, Ga.

"Factors in the Mortality of Appendicitis," by Dr. John B. Deaver, Philadelphia.

These three papers were discussed by Drs. Laplace, Summers, Jr., Hupp, Jacobi, Marcy, Wathen, Ochsner, Murphy, J. Price, Morris, M. Price and Deaver.

THURSDAY, JUNE 9—MORNING.

"The Anatomy of Inguinal Hernia, and Andrews' Operation for Radical Cure," by Dr. D. N. Eisendrath, Chicago.

"Three Years' Experience with the Antoplastic Suture for Hernia," by Dr. L. L. McArthur, Chicago.

These two papers were discussed by Drs. Coley, Andrews, Stokes, Bloodgood, Marcy, Bevan, De Garmo, Walker, Leonard, Holmes, Eisendrath and McArthur.

"Surgery of the Trifacial Nerve and Its Ganglia," by Dr. John B. Murphy, Chicago.

"Intracranial Neurectomy for Trigeminal Neuralgia: Cases and Comments," by Dr. Harry M. Sherman, San Francisco.

"Summary of the Final Results of Four Cases of Division of the Sensory Root for Tic Douloureux," by Dr. Charles H. Frazier, Philadelphia.

These three papers were discussed by Drs. Mills, Spiller, Weir, Shelton, Horsley, Cushing, Murphy, Sherman and Frazier.

"Laminectomy; A Further Contribution," by Dr. John C. Munro, Boston. Discussed by Drs. Lund and Cushing.

"Treatment of Cold Abscesses and Sinuses in Tuberculous Disease of Bone," by Dr. V. P. Gibney, New York.

THURSDAY, JUNE 9—AFTERNOON.

The following officers were elected for the ensuing year: Chairman, Dr. Maurice Richardson, Boston; secretary, Dr. Floyd McRae of Atlanta; delegate, Dr. H. O. Walker, Detroit; alternate, Dr. James B. Bullitt, Louisville.

"Old Unreduced Dislocations," by Dr. De Forest Willard, Philadelphia. Discussed by Drs. Jonas, Thomas, Bevan, Blake, Vaughan, Lord, Powers and Willard.

"Conservative Perineal Prostatectomy; Report of Fifty Cases," by Dr. Hugh H. Young, Baltimore.

"Prostatic Obstruction," by Dr. Parker Syms, New York.

"Prostatectomy in General, Especially by the Perineal Route," by Dr. George Goodfellow, San Francisco.

"Is It Wise to Try to Make Any One Operative Method Apply to All Prostatectomies?" by Dr. Eugene Fuller, New York.

These four papers were discussed by Drs. Horwitz, Dawbarn, Munro, Tinker, Eisendrath, MacLaren, Young, Syms, Goodfellow and Fuller.

Dr. Deaver having declined the chairmanship of the Section, Dr. A. J. McCosh, New York, was elected in his stead.

"Kidney Stone; Diagnosis and Treatment," by Dr. A. D. Bevan, Chicago. Discussed by Drs. Leonard, Bullitt, Blake, Deaver, Young, Winslow, Thomas and Bevan.

FRIDAY, JUNE 10—MORNING.

Dr. Samuel Iglauer, Cincinnati, presented a new etherizing apparatus.

The Chairman introduced Dr. McRae, the new Secretary, who made a few remarks.

Dr. William L. Rodman, Philadelphia, moved that the Executive Committee be empowered to fill any vacancy that might occur in the officers of the Section between now and the meeting next year. Seconded and carried.

"The Treatment of Fractures of the Patella by Lateral Sutures," by Dr. Joseph A. Blake, New York. Discussed by Drs. Gibbons, Vaughan, Thienhaus, Binnie, Eisendrath, Bullitt, Lemon, Powers and Blake.

"Surgical Treatment of Certain Cases of Arthritis Deformans," by Dr. Martin B. Tinker, Ithaca. Discussed by Drs. Vaughan, Sherman and Tinker.

Dr. James R. Bullitt, Louisville, moved that a vote of thanks be extended to the outgoing officers of the Section. Carried, and Drs. Powers and Andrews replied.

"Impacted Fractures of the Neck of the Femur," by Dr. LeMoyne Wills, Los Angeles. Discussed by Drs. Sherman, Thomas, Rodman, Crane, Eisendrath, Bullitt, Fenner and Wills.

"Fat Embolism of Lung Following Fractures, with Report of Two Cases," by Dr. F. Gregory Connell, Leadville, Col. Discussed by Drs. McKenzie, Lemon, Jackson, Summers and Blake.

Section on Hygiene and Sanitary Science.

TUESDAY, JUNE 7.—AFTERNOON.

The Section was called to order by the Chairman, Dr. Gardner T. Swarts, Providence, R. I., who delivered his address.

It was moved by Dr. Lee that that portion of the Chairman's address which referred to the registration of vital statistics be furnished to the Board of Health of Pennsylvania for use in the campaign for effective legislation on the subject in that state. Carried.

"Dairy Hygiene, with Special Reference to Tuberculosis," by Dr. Richard Cole Newton, Montclair, N. J. Discussed by Drs. Bracken, Hare, Hurty, Sternberg, Egbert and Newton.

WEDNESDAY, JUNE 8.

The Section was called to order by the Chairman.

"Report of the Committee on Prophylaxis of Venereal Diseases," by Dr. Ludwig Weiss, New York.

"What Is the Right Attitude of the Medical Profession in Relation to the Social Evil?" by Dr. Howard A. Kelly, Baltimore.

"Syphilis as a Disease of the Innocent," by Dr. L. Duncan Bulkley, New York.

Dr. Henry E. Tuley, Louisville, Ky., read a paper on "Syphilis Affecting Infant Mortality."

"Gonorrhea Affecting the Female Genital Organs," by Dr. Joseph Taber Johnson, Washington, D. C.

"Purulent Conjunctivitis and Blindness," by Dr. Edward Jackson, Denver.

"Sanitary and Moral Prophylaxis of Venereal Diseases," by Dr. Prince Morrow, New York City. (By invitation.)

"Birth Rate and Decrease of Population Affected by Syphilis and Gonorrhea," by Henry D. Holton, Brattleboro, Vt. (A Report from the Conference of State and Provincial Boards of Health of North America.)

"Suggestions Concerning the Administrative Control of Venereal Diseases," by George M. Kober, Washington, D. C.

All these papers were then discussed by Drs. Egbert, Brockman, Brayton, Corwin, Carrier, Robin, Baker, Myers, Yeoman and Work.

Dr. Henry Baker, Michigan, moved that the papers read at the session, together with the discussion, be referred to a committee, with a view to obtaining the consent of the Association to the publication of the same in pamphlet form. Carried.

Dr. Seneca Egbert of Philadelphia moved that the Section endorse the report submitted to the Conference of State and Provincial Boards of Health, and the action taken by them, including the letter for distribution among physicians. Carried.

It was moved and seconded that the Board of Trustees of the American Medical Association be requested to apportion $200 for the work of the Committee on Venereal Diseases. Passed and referred to the Board of Trustees.

Dr. Ludwig Weiss, New York City, presented a resolution to the effect that the Section on Hygiene and Sanitary Science express its sympathy with the work of the Committee on Prophylaxis and Venereal Diseases, and its recommendation to form an American Society for Combating Venereal Diseases. The resolution was adopted.

Dr. L. Duncan Bulkley, New York City, offered a resolution to the effect that, inasmuch as syphilis and gonorrhea have been shown to be the cause of incalculable damage and danger to the health and life of the community, the American Medical Association is earnestly requested to call the attention of the profession to the

matter, and urge that the boards of health throughout the United States give serious attention to the matter, with a view to securing proper protection by legal measures against these diseases.

THURSDAY, JUNE 9—MORNING.

"A Study of the Economic Course of Consumption in Wage-Earners," by Dr. Marshall L. Price, Baltimore.

"The Present Status of the Antituberculosis Work in the United States," by Dr. S. A. Knopf, New York City.

These two papers were discussed by Surgeon-General Sternberg, Drs. Wilbur, Barrier, Browning, Bracken, Young, Hare and Knopf.

Dr. J. J. Kinyoun, Glenolden, Pa, contributed a paper containing the results of his microscopic examination of the furnishings of sleeping cars.

"Prevalence and Prophylaxis of Pneumonia," by Dr. Edward F. Wells, Chicago. Discussed by Drs. Sternberg, Kober, Fulton and Wells.

The following officers were elected for the coming year: Chairman, Dr. John Fulton, Baltimore; secretary, Dr. M. L. Price, Baltimore; delegate, Dr. Henry Mitchell; ex-officio member of Executive Committee, Dr. G. T. Swarts, the other members of the committee being Dr. Arthur R. Reynolds and Dr. H. M. Bracken.

THURSDAY, JUNE 9—AFTERNOON.

"Is Pneumonia Increasing?" by Dr. John S. Fulton, Baltimore. Discussed by Drs. Lee, Wilbur, Hurty, Baker and Fulton.

"What the Census Bureau Is Doing to Improve the Registration of Vital Statistics in the United States," by Dr. Cressy L. Wilbur, Lansing, Mich. Discussed by Drs. Egbert, Browning and Wilbur.

Dr. Wilbur offered a resolution that the Section commend the resolution of the Associated Sanitary Authorities of Pennsylvania which declares the registration of vital statistics for Pennsylvania to be the most pressing object of attainment by the sanitary workers in that state. The resolution was adopted.

"How May Typhoid Fever Be Eliminated?" by Dr. A. Robin, Wilmington, Del.

"Some Typhoid Epidemics Studied by Laboratory Methods," by Dr. William R. Stokes.

Section on Ophthalmology.

TUESDAY, JUNE 7.

The meeting was called to order by the Chairman, Dr. Robert L. Randolph, Baltimore, at 2 p. m.

The Chairman appointed Dr. Casey A. Wood, Chicago, to serve in the place of Dr. Frank Allport, Chicago, as a member of the Nominating Committee, the committee then standing: Dr. John E. Weeks, Dr. J. A. Lippincott and Dr. Casey A. Wood.

The Chairman then delivered his address, the subject being "Thoughts Suggested by a Study of the Eye Injuries of Independence Day."

Dr. Myles Standish, Boston, read a paper on "The Treatment of Purulent Ophthalmia." Discussed by Drs. Wood, Ramsay, Calhoun, Todd, Weeks, Woods, Seabrook, Thompson, Richey, Parke, Black, Stevenson, Connor, Holt and Standish.

"Post-Operative Infection of the Eye," by Dr. J. A. White, Richmood, Va. Discussed by Drs. Risley, Knapp, Arlt, Lippincott, Holt, Holmes, Churchman, Borsch, Butler and White.

The following resolution was offered by Dr. Casey A. Wood, Chicago, and, on motion, was adopted by the Section:

WHEREAS, The employment as beverages of wood, spirit or methyl alcohol, and its various preparations, is known to have been responsible for numerous deaths and many cases of blindness in this country during the past few years; and

WHEREAS, Even the breathing of confined air charged with the fumes of this form of alcohol has been shown to produce blindness, *Resolved*, That the House of Delegates of the American Medical Association, recognizing the dangerous character of wood alcohol and liquors containing it, believes that it should be placed on the list of poisons; it cordially urges the proper federal and state authorities to take the necessary steps to protect life and eysight from its pernicious influence.

"Tumors of the Orbit," by Dr. H. V. Würdemann, Milwaukee. Discussed by Drs. Bull, Ellett, Fox, Klinedinst, McReynolds, Clark and Würdemann.

"A Case of Pulsating Exophthalmos: Successive Ligation of Both Common Carotids: Death." by Dr. Howard F. Hansell, Philadelphia.

"Intermittent Exophthalmos, with the Report of a Case," by William C. Posey, Philadelphia.

These two papers were discussed by Drs. Holmes, Borsch, Seaman, Wilder, Savage, Pyle, Randolph and Posey.

"Diaphoresis and Diaphoretics in Ophthalmic Therapeutics," by Dr. Hiram Woods, Baltimore, and Dr. T. A. Woodruff, Chicago. Discussed by Drs. Marple, Pyle, Timberman, Reber, Connor, Ayres, Holt, Borsch, Buller, Thompson, Woods and Woodruff.

WEDNESDAY, JUNE 8—MORNING.

"Is Bilateral Operation for Cataract Ever Justifiable, and, if Not, How Soon After Operation on the First Eye Is It Safe to Extract the Second Cataract?" by Dr. A. W. Calhoun, Atlanta, Ga. Discussed by Drs. Ray, Thompson, Hansell, Taylor, Callan, Muncaster, Clark, Holt and Calhoun.

"Reclination of the Lens; Under Certain Conditions, a Justifiable Operation," by Dr. F. T. Rogers, Providence, R. I. Discussed by Drs. Fox, Würdemann, Thompson, Parke, Risley and Rogers.

Address, by special invitation, "The Importance of General Therapeutics in the Management of Ocular Affections," by Dr. A. Maitland Ramsay, Glasgow, Scotland.

A rising vote of thanks was tendered Dr. Ramsay by the Section.

On motion of Dr. Bulson a copy of Dr. Ramsay's paper was requested for publication in the transactions of the Section.

"Septic Thrombosis of the Cavernous Sinus, with a Report of Three Cases," by Dr. E. C. Ellett, Memphis, Tenn. Discussed by Drs. Risley, Prefontaine, Miles and Ellett.

Dr. Casey A. Wood was instructed by vote of the Section, on motion of Dr. A. D. Risley, to bring before the House of Delegates the name of Dr. A. Maitland Ramsay as one of the three guests eligible to election as honorary members of the Association.

"The Conservative Treatment of Affections of the Lachrymal Apparatus," by Dr. S. D. Risley, Philadelphia. Discussed by Drs. De Schweinitz, Brode, Connor, Bernstein, Sutphen, Ramsay, Theobald, Holt, Wilder and Risley.

"The Mathematical Point of Reversal in Skiascopy," by Dr. Swan M. Burnett, Washington. Discussed by Drs. Jackson, Stevenson and Burnett.

The Secretary read a communication from Dr. W. W. Keen, chairman of the Reed Memorial Fund Committee, asking that an opportunity be given the Section to contribute. The Chairman appointed Drs. Belt, Washington, and Bulson to act in the matter.

WEDNESDAY, JUNE 8—AFTERNOON.

"Some Injuries of the Eye in Their Medicolegal Aspect," by Dr. John J. Kyle, Indianapolis. Discussed by Drs. Starkey, Thompson, Würdemann, Jackson and John J. Kyle.

"Blindness and Oculomotor Palsies from Injuries Apparently Not Involving the Optic or Oculomotor Nerves," by Dr. Alvin A. Hubbell, Buffalo. Discussed by Drs. Risley, De Schweinitz and Hubbell.

"The Ocular Symptoms of Lesions of the Optic Chiasm," by Dr. G. E. De Schweinitz and Dr. John T. Carpenter, Philadelphia. Discussed by Drs. Wood, Carpenter, Veasey, Borsch, Ashman, Tiffany, Holmes, Weeks and De Schweinitz.

"Contraction of the Visual Field a Symptom of Anesthesia of the Retina," by Dr. L. Webster Fox, Philadelphia. Discussed by Drs. Pyle, Holt, De Schweinitz and Fox.

"Syphilloma of the Ciliary Body," by Dr. Herman Knapp, New York. Discussed by Drs. Burnett, Kipp, Holt, Ledbetter, Randolph and Knapp.

Dr. George E. De Schweinitz, Philadelphia, extended a special invition to the Section to visit the laboratories of the University of Pennsylvania, in Philadelphia.

"Temporal Cleft of the Nerve Head, and the Other Fundus Anomalies Often Present with It," by Dr. Charles H. Beard, Chicago. Discussed by Drs. De Schweinitz, Brown and Beard.

"Obstruction in the Retinal Arteries," by Dr. Allen Greenwood, Boston. Discussed by Drs. Weeks and Greenwood.

"Development of the Faculty of Binocular Vision," by Dr. Edward Jackson, Denver. Discussed by Drs. Reber, Wood and Jackson.

"The Usefulness of the Ophthalmometer," by Dr. F. C. Heath, Indianapolis. Discussed by Drs. Reber, Ray, Clark, Jackson and Heath.

THURSDAY, JUNE 9—MORNING.

Meeting called to order at 9 a. m.

"Some Problems of Presbyopia," by Dr. George M. Gould, Philadelphia. Discussed by Drs. Randolph, Savage, Knapp, Stevenson, Pyle, Valk, Kirkendall, Thompson and Gould.

"Clinical and Histologic Observations on Sympathetic Ophthalmia," by Dr. Clarence A. Veasey, Philadelphia.

"Sympathetic Ophthalmitis," by Dr. Samuel Theobald, Baltimore.

"Operative Procedures on the Exciting Eye and the Sympathetic Eye in Cases of Sympathetic Ophthalmia," by Dr. John E. Weeks, New York.

These four papers were discussed by Drs. Clark, Connor, Williams (Boston), Wilson (Bridgeport), Savage, Jackson, Sutphen, Thompson, Ayers, Randolph, Veasey, Theobald and Weeks.

"Methyl Alcohol Intoxication," by Dr. Frank Buller, Montreal, Canada, by special invitation.

Dr. Casey A. Wood, Chicago, presented a supplemental report on the subject of "Methyl Alcohol Intoxication."

A vote of thanks was given to Drs. Buller and Wood for their presentation of the subject.

"New Views Regarding the Horopter," by Dr. George T. Stevens, New York. Discussed by Drs. Savage and Stevens.

THURSDAY, JUNE 9—AFTERNOON.

Report of the Nominating Committee: Chairman, Dr. C. R. Holmes, Cincinnati; secretary, Dr. Walter L. Pyle, Philadelphia; delegate, Dr. Melville Black, Denver; alternate, Dr. Hiram Woods, Baltimore. These were elected.

"Brief Report of Two Additional Cases of Sympathectomy for Glaucoma," by Dr. W. B. Marple, New York. Discussed by Drs. Wilder, Weeks and Marple.

"The Environment and Visual Requirements of Railway Engineers and Firemen; Personal Observations from an Engine Cab," by Dr. Nelson M. Black, Milwaukee. Discussed by Drs. Williams, Weeks, Claiborne, Lambert, Kirkendall, Würdemann, Todd, Clark, Randolph and Black.

"(a) Some New Types for the Reading Distance. (b) An Improved Form of Apparatus for Testing the Position of the Axes of the Eyes," by Dr. Charles H. Williams, Boston.

"The Association of Optic Neuritis and Facial Paralysis," by Dr. Edward Shumway, Philadelphia. Discussed by Drs. Weeks and Shumway.

"Blastomycosis of the Eyelid," by Dr. William H. Wilder, Chicago. Discussed by Drs. Pusey, Ellett and Wilder.

"The Axis of Astigmatism," by Dr. J. H. Claiborne, New York.

"The Relation of Corneal Curvatures to the Refraction of the Eyes," by Dr. Melville Black, Denver.

These two papers were discussed by Drs. Griffin, Bennett, Harlan, Borsch, Claiborne and Black.

"An Exact and Secure Tucking Operation for Advancing an Ocular Muscle. Illustrated by Demonstration on a Manikin," by Dr. F. C. Todd, Minneapolis. Discussed by Drs. Savage, Reber, Wilkinson, Stevenson, Weeks, Lambert, Fox, Borsch and Todd.

"Subjective Refraction," by Dr. John A. Tenney, Boston. Discussed by Drs. Savage and Black.

"Double Radial Rupture of the Iris, Causing a Complete and Well-Formed Iridectomy," by Dr. S. C. Ayers, Cincinnati. Discussed by Drs. Reber, Borsch, Louchery and Harlan.

Dr. Albert E. Bulson, Jr., Fort Wayne, presented a report from Dr. Frank Allport, Chicago, on what had been done in pursuance of the resolution passed at the New Orleans Session last year as to measures to be taken by boards of health, boards of education and school authorities, and the possibilities of securing legislation looking to the examination of the eyes and ears of school children. The report was adopted.

The Section tendered a vote of thanks to the local committee; to Earl J. Brown, and the Geneva Optical Company for the use of their projecting apparatus, and to W. T. Keener, and to the Chicago Eye, Ear, Nose and Throat College for loan of the Hoy Opaque Projector. The Section also tendered a vote of thanks to the officers for the excellence of their work.

The Secretary announced that the registration of the Section was 75 more than at any previous meeting.

Section on Diseases of Children.

TUESDAY, JUNE 7.

Dr. Charles G. Kerley, New York City, Chairman, said in opening the meeting: It is my privilege and pleasure to welcome you to the Section on Diseases of Children of the American Medical Association. The Secretary and Chairman have endeavored to prepare a program with which you will be pleased, and in order to make the session of interest, we would be much gratified if there would be a prompt and free discussion. We have, if you will notice, men on the program who are eminent in the various lines of work in which they are engaged—men of national and international reputation. I trust that by a prompt discussion, and a prompt and regular attendance, the members of the Section will show their interest and appreciation.

The Chairman then gave his address: "The Demands of the Child by Virtue of Right."

"Erythema Nodosum in Children," by Isaac A. Abt, Chicago. Discussed by David Lieberthal, Chicago.

"Whooping Cough; a Study of Eighteen Cases Treated with the Elastic Abdominal Belt," by Theron W. Kilmer, New York City. Discussed by Charles G. Kerley, New York; Louis Fischer, New York; R. B. Gilbert, Louisville; J. F. Bigony, West Virginia; John L. Morse, Boston; L. C. Alger, Brooklyn N. Y.; F. Bernheim, Butte, Mont., and T. W. Kilmer.

"Some Clinical Observations on Malnutrition and Its Relationship to Infantile Tuberculosis," by Louis Fischer, New York City. Discussed by A. Jacobi, New York; W. B. Ulrich, Chester, Pa.; Charles C. Browning, Highland, Cal.; A. Jacobi, New York; C. F. Wahrer, Ft. Madison, Ia.; Paulus A. Irving, Richmond, Va., and L. Fischer.

WEDNESDAY, JUNE 8—MORNING.

The Section was called to order at 9:30 a. m.

On motion of Henry E. Tuley, Louisville, Ky., a set of by-laws for the Section was adopted.

DR. TULEY: I would suggest that they be printed, so that the new secretary of the Section may mail a copy to each member.

"How to Produce the Best Milk for Artificial Infant Feeding," by Edward F. Brush, Mt. Vernon, N. Y.

"The Initial Contamination of Dairy Milk," by Richard Cole Newton, Montclair, N. J.

These two papers were discussed by J. P. Crozier Griffith, Philadelphia; F. L. Smith, Bridgeport, Conn.; L. C. Ager, Brooklyn, N. Y.; W. B. Ulrich, Chester, Pa.; Thomas S. Southworth, New York; W. D. Schwartz, Portland, Ind.; John L. Morse, Boston; Louis Fischer, New York; S. McC. Hamil, Philadelphia; J. H. Claiborne, New York; R. B. Gilbert, Louisville, Ky.; C. F. Wahrer, Fort Madison, Ia.; Edward F. Brush, Mt. Vernon, N. Y., and R. C. Newton, Montclair, N. J.

"Chronic Constipation in the Infant," by J. Ross Snyder, Birmingham, Ala. Discussed by Thomas S. Southworth, New York; Isaac A. Abt, Chicago, and J. Ross Snyder.

"The Effect on the Nervous System of Children of Uncorrected Refractive Errors and Muscular Imbalance," by J. H. Claiborne, New York City.

"Congenital Occlusion of the Lachrymal Canal, and Acute Contagious Inflammations of the Conjunctiva in Children," by John E. Weeks, New York City.

These two papers were discussed by Arthur G. Bennett, Buffalo, N. Y.; Isaac A. Abt, Chicago; Samuel Walker, Chicago; Herman Jarecky, New York; Charles G. Kerley, New York; —— Ashley, Colorado, and J. H. Claiborne, New York.

The Chairman announced that Dr. William H. Bennett invited the members of the Section to visit the Children's Seaside Sanatorium at any time during the meeting; he also made other announcements.

WEDNESDAY, JUNE 8—AFTERNOON.

"Enuresis," by Maurice Ostheimer and I. Valentine Levi, Philadelphia. Discussed by Edwin E. Graham, Philadelphia; Isaac A. Abt, Chicago, and Dr. Ostheimer.

"The Bacteriology of Summer Diarrhea," by William H. Park, New York City.

"A Summer's Experience with Infantile Dysentery," by J. H. Mason Knox, Jr., Baltimore.

"The Bacillus Dysenteriæ in Relation to the Diarrheal Diseases of Infants; A Clinical Study of 237 Cases," by L. Emmett Holt, New York City.

"Some Findings in Summer Diarrheas of Children," by John C. Cook, Chicago.

"The Management of Summer Diarrhea," by Thomas S. Southworth, New York City.

This symposium was discussed by J. P. Crozier Griffith, Philadelphia; John L. Morse, Boston, Mass.; D. E. English, Mill Burn, N. J.; Theron W. Kilmer, New York; R. B. Gilbert, Louisville, Ky.; Rosa Engelmann, Chicago; William T. Watson, Baltimore; —— Stowell, New York; Park, Knox and Southworth.

"Landry's Paralysis in Children, with Report of a Case," by Henry Enos Tuley, Louisville, Ky. Discussed by C. F. Wahrer, Fort Madison, Ia.

THURSDAY, JUNE 9—MORNING.

The Section was called to order at 9 a. m.

"Hematuria as the Earliest or Only Symptom of Infantile Scurvy," by John Lovett Morse, Boston. Discussed by L. C. Ager, Brooklyn, N. Y.; William L. Stowell, New York; H. M. McClanahan, Omaha, Neb.; J. Ross Snyder, Birmingham, Ala., and Morse.

"Intestinal Obstruction in Children," by John F. Erdman, New York City. Discussed by A. Jacobi, New York; Isaac A. Abt, Chicago; Louis Fischer, New York; S. W. Kelley, Cleveland, O.; Samuel McC. Hamill, Philadelphia; A. Jacobi, New York; John L. Morse, Boston, Mass., and John F. Erdman.

The Chairman announced that, if the proceedings of the Section were to be printed in the form of a book, it would be necessary to have 75 subscriptions at $1 each in advance. The matter of collecting for the books, etc., is in the hands of the officers of the Section.

"Perinephritis in Children," by Wisner R. Townsend, New York City. Discussed by R. B. Gilbert, Louisville, Ky.; A. Jacobi, New York, and W. R. Townsend.

"Diagnosis of Enlarged Bronchial Lymph Nodes in Children," by Albert Friedlander, Cincinnati, O. Discussed by R. B. Gilbert, Louisville, Ky.; G. N. Jack, Buffalo, N. Y.; E. D. Fenner, New Orleans, La.; Theron W. Kilmer, New York; Louis J. Lautenbach, Philadelphia, and A. Friedlander.

"The Importance of an Early Aural Examination in Acute Inflammatory Diseases in Children," by James F. McKernon, New York City. Discussed by Herman Jarecky, New York; Samuel Walker, Chicago; Samuel McC. Hamill, Philadelphia; Theron W. Kilmer, New York; Louis Fischer, New York; S. W. Toms, Nyack, N. Y.; Thomas S. Southworth, New York; F. L. Smith, Bridgeport, Conn.; Charles G. Kerley, New York; J. F. McKernon and Herman Jarecky.

THURSDAY, JUNE 9—AFTERNOON.

The Section was called to order at 2:30 p. m.

The Chairman said: "Before proceeding to the election of officers of the ensuing year, I wish to take this opportunity to thank those who have contributed papers to this section, and also those who have been prompt in their attendance and aided us in the discussion. I also wish to express my thanks to the Secretary, Dr. Wahrer, for his very efficient work. The greater part of the work in connection with our program was done by him, and no section of the American Medical Association has had a more industrious and indefatigable secretary than the Section on Diseases of Children."

The Secretary said: "I wish to thank those with whom I have been in correspondence during the past year for the uniform courtesy extended to me. The correspondence entailed considerable labor, but it has proved one of the most agreeable tasks that I ever undertook since I have been a member of the medical profession. I thank you again for your kindness."

The Nominating Committee's report was adopted as follows: Chairman, John Lovett Morse, Boston; vice-chairman, William E. Darnall, Atlantic City, N. J.; secretary, J. Ross Snyder, Birmingham, Ala.; delegate, W. C. Hollopeter, Philadelphia.

Dr. Morse, the new Chairman, said: "Never having been placed in a situation like this before, I hardly know what to say or do. I can only thank you for the honor you have conferred on me. I shall certainly try to keep up the high standard of work done in this Section during the past few years, and you who have been present at those sessions will appreciate what a task I have before me. It depends on you, as well as on me, to make the next year's session a success."

"Some Physical Signs in Infants and Children Not Sufficiently Emphasized," by Samuel McClintock Hamill and Dr. Theo. Le Boutillier, Philadelphia. Discussed by John L. Morse, Boston, Mass.; L. C. Ager, Brooklyn, N. Y., and R. B. Gilbert, Louisville, Ky.

"The Management of Hernia in Infancy and Childhood, with Results of Operative Treatment," by William B. H. Coley, New York City. Discussed by D. E. English, Mill Burn, N. J.; Arthur L. Fisk, New York City; Rosa Engelmann, Chicago, and William H. Coley.

"Chorea," by W. C. Hollopeter, Philadelphia. Discussed by E. D. Fenner, New Orleans, La.; C. F. Wahrer, Fort Madison, Ia., and W. C. Hollopeter.

"Diseases of Children Occasioned by Affections of the Nose; The Necessity for Recognition and Treatment." Dr. Louis J. Lautenbach, Philadelphia.

"A Study of a Case Conjoining Myxedema and Diabetes Mellitus," by August Adrian Strasser, Arlington, N. J.

Section on Stomatology.

TUESDAY, JUNE 7.

The Section was called to order at 2:45 by the Chairman, Dr. G. V. Eames, Boston.

The report of the Secretary was read.

A symposium on Dental Education was read, consisting of the following papers:

"Phases of Dental Education," by Dr. A. E. Baldwin, Chicago.

"The Evolution of Standards in Dental Education," by Dr. Charles Chittenden, Madison, Wis.

"Dental Education; a Retrogressive and Prospective View," by Dr. John S. Marshall, San Francisco.

Address of the Chairman: "The Value of Symmetry in the Development of Professional Character and Education," by Dr. G. V. Eames, Boston. These four papers were discussed by Drs. Briggs, Williams, Truman, Hoff, Steeves, Bogue, Rhein, Brown, Lederer, Kirk, Talbot, Baldwin and Eames.

The following resolution was offered by Dr. M. L. Rhein of New York and adopted:

Resolved, That the Section on Stomatology of the American Medical Association, in session at Atlantic City, sends its greetings to the National Association of Dental Faculties. We congratulate the Association on the completion of the first year of the advanced four years' course. We sincerely trust that, having the honor and standing of the profession in your hands, no action will be taken that will tend to lower the advanced stand that has been taken.

Drs. Steeves and Bogue were appointed on the Executive Committee, to take the places of Drs. Peck and Andrews.

WEDNESDAY, JUNE 8—MORNING.

The meeting was called to order at 9 a. m.

The first paper read was "Multiple Fracture of the Lower Jaw, Complicated by Simultaneous Fracture of the Upper Jaw," by Dr. Thomas L. Gilmer, Chicago. Discussed by Dr. Brown.

"Ankylosis of the Jaw," by Dr. G. Lenox Curtis, New York. Discussed by Drs. Brown, Briggs and Allan.

"Prophylaxis; Its Various Phases, in Relation to the Conservation of the Teeth," by Dr. Charles F. Allan, Newburgh, N. Y.

"Changes in the Salivary Secretions as Affected by Systemic Disease," by Drs. Heinrich Stern and William Lederer, New York, was read by Dr. Lederer.

These two papers were discussed by Drs. Talbot, Bogue, Cryer, Brown, Rhein, Latham, Allan and Lederer.

Dr. G. V. I. Brown, Milwaukee, read a paper on "A System for Surgical Treatment of Harelip, Cleft Palate and Facial Deformities, and Post-Operative Speech Education."

The Nominating Committee was appointed as follows: Dr. G. V. I. Brown, of Milwaukee; Dr. Alice M. Steeves, of Boston, and Dr. M. L. Rhein, of New York.

WEDNESDAY, JUNE 8—AFTERNOON.

The session was called to order at 2:30.

"Report of a Case of Vincent's Angina and Stomatitis, with

Photographs," by Dr. George C. Crandall, St. Louis. Discussed by Drs. Latham and Briggs.

A symposium on the Dental Pulp was read, consisting of the following papers:

"Vital Principles in Adult Pulp," by Dr. R. R. Andrews, Cambridge.

"Neoplasm or Epithelioma of the Tooth Pulp," by Dr. Vida A. Latham, Rogers Park, Ill.

"Degeneration of the Tooth Pulp," by Dr. Eugene S. Talbot, Chicago.

These three papers were discussed by Drs. Rhein, Bogue, Williams, Briggs, A. H. Harlan, Latham and Talbot.

THURSDAY, JUNE 9.

The meeting was called to order by the Chairman, Dr. George F. Eames, Boston, at 9:15.

"Treatment of Pathologic Irregularities of the Teeth," by Dr. M. H. Fletcher, Cincinnati. Discussed by Dr. Talbot.

"Retarded Eruption of the Teeth," by Dr. Matthew H. Cryer, Philadelphia. Discussed by Drs. Bogue, Rhein, Kassabian, Steeves, Stelwagon, Talbot and Cryer.

Dr. M. L. Rhein, New York City, read a paper entitled "Oral Infection and Sterilization." Discussed by Drs. Bogue, McCurdy, Harlan, Talbot, Steeves, Eames, Latham and Rhein.

Dr. Stewart L. McCurdy, Pittsburg, Pa., read a paper on "Necrosis of the Bones of the Face." Discussed by Drs. Talbot, Rhein and McCurdy.

The following officers were elected: Chairman, Dr. Vida A. Latham, Rogers Park, Chicago; Vice-Chairman, Dr. E. C. Briggs, Boston; Secretary, Dr. Eugene S. Talbot, Chicago; Delegate, Dr. A. E. Baldwin, Chicago.

Section on Nervous and Mental Diseases.

TUESDAY, JUNE 7.

The meeting was called to order at 2 p. m. by the Secretary, Dr. David I. Wolfstein, Cincinnati.

On motion of Dr. Herdman, Ann Arbor, Mich., Dr. Howell T. Pershing, Denver, was chosen Temporary Chairman, to fill the vacancy caused by the death of the Chairman, Dr. F. Savary Pearce.

On motion, the Chairman appointed the following committee to draw up suitable resolutions on the death of the Chairman: Dr. Charles K. Mills, Philadelphia; Dr. Richard Dewey, Wauwatosa, Wis., and Dr. W. J. Herdman, Ann Arbor, Mich., and requested that the committee report at the meeting of the society the next morning.

On motion, a similar committee was appointed to take action on the death of Dr. Orpheus Everts, Cincinnati, composed of Dr. F. W. Langdon, Cincinnati; Dr. Brainard, and Dr. Hugh T. Patrick, Chicago.

Dr. David I. Wolfstein of Cincinnati was appointed teller of the election of the Nominating Committee, composed of the following: Dr. Charles K. Mills, Philadelphia; Dr. F. W. Langdon, Cincinnati, and Dr. C. B. Burr, Flint, Mich.

The Chairman announced that the minutes of the last meeting were in the hands of the former Secretary, Dr. Pearce, prior to his death, and that as the present Secretary had not been able to obtain them, their reading would be dispensed with.

The Chairman also announced that there would be no Section dinner this year.

"Report of the Committee on the Collection of Information Regarding Public School Methods and Their Effects on Mental and Physical Health of School Children," by Dr. W. J. Herdman, Ann Arbor. On motion of Dr. C. B. Burr the report was accepted and the committee continued.

A symposium on Choreiform and Other Spasmodic Movements was read, with the following papers:

"Symptomatology, Pathology and Treatment of Choreiform Movements," by Dr. William G. Spiller, Philadelphia.

"Convulsive Tic," by Dr. Hugh T. Patrick, Chicago.

"Hysterical Movements," by Dr. Howell T. Pershing, Denver.

These three papers were discussed by Drs. Mills, Onuf, Coulter, Hamilton, McGregor, Crowell, McCarthy, Punton, Rhein, Wharton, Sinkler, Harges, Sterne, Williams, Jones, Spiller, Patrick and Pershing.

A motion by Dr. Albert E. Sterne, Indianapolis, that no Wednesday morning session be held, and that the meetings be continued on Friday morning, in order that the members might have an opportunity to attend the symposium on arteriosclerosis in the Section on Practice of Medicine on Wednesday morning, was discussed by Drs. C. H. Williams, Beebe and others and, on vote, was lost.

WEDNESDAY, JUNE 8—MORNING.

The Section was called to order by the temporary Chairman, at 9:30 a. m.

"The Nature of Traumatic Sclerosis," by Dr. Arthur Conklin Brush, Brooklyn, N. Y. Discussed by Dr. Angell.

"The Dividing Line Between Neuroses and Psychoses, and the Position of Neurasthenia," by Dr. Richard Dewey, Wauwatosa, Wis.

"The Present Campaign Against Insanity," by Dr. W. J. Herdman, Ann Arbor, Mich. Discussed by Dr. Searcy.

"Dementia Precox," by Dr. F. X. Dercum, Philadelphia. Discussed by Drs. Langdon and Dercum.

"The Treatment of Aphasia by Training, with Some Remarks on the Re-education of the Adult Brain," by Dr. Charles K. Mills, Philadelphia. Dr. Mills exhibited two patients.

"Epitome of Methods Employed in the Treatment of Aphasia," by T. H. Weisenburg, Philadelphia. Discussed by Drs. Weisenburg, Burr, Spiller, Diefendorf, Punton, Langdon, Herdman, Hersmann and Mills.

"Tuberculosis of the Nervous System," by Dr. D. J. McCarthy, Philadelphia. Discussed by Drs. Mills, Dercum, Spiller, Wolfstein and McCarthy.

WEDNESDAY, JUNE 8—AFTERNOON.

The Section was called to order at 2:15 by Dr. Pershing.

The report of the Nominating Committee was adopted: Chairman, Dr. James H. McBride, Pasadena, Cal.; Secretary, Dr. David I. Wolfstein, Cincinnati; Executive Committeeman, Dr. Howell T. Pershing, Denver.

The committee appointed to prepare resolutions of regret on the death of Dr. Everts submitted the following:

Dr. Orpheus Everts of Cincinnati, a member of the American Medical Association for many years, and a frequent and active collaborator in the work of the Section on Nervous and Mental Diseases, departed this life on June 19, 1903, at his home in College Hill, Cincinnati, in his seventy-seventh year.

Dr. Everts had a national reputation as an alienist, and was known to us personally as a dignified and companionable gentleman, and a comprehensive observer and a philosophical thinker, whose efforts contributed materially to the high character of the work of this Section; therefore, be it

1. *Resolved*, That by the death of Dr. Everts, the American Medical Association has lost a valued member in its councils, this Section an active and progressive contributor to its proceedings, and the country a physician of broad attainments and power.

2. *Resolved*, That these resolutions be spread on the minutes of the Section and published in THE JOURNAL, and that a copy of the same be transmitted to the family of our departed collaborator.

"Facial Paralysis, Bilateral, with Marked Sensory and Reflex Defects, Possibly Due to La Grippe," by Dr. F. W. Langdon, Cincinnati. Discussed by Drs. Weisenburg, Patrick, Coulter, Sterne and Langdon.

"A Clinicopathologic Study of Hemiplegia, with a Microscopic Examination in Eleven Cases," by Dr. T. H. Weisenburg, Philadelphia. Discussed by Drs. Hinsdale, Patrick, Diller, Wolfstein, Coulter, Norbury, Brush, Brainard, Sterne and Weisenburg.

"Two Cases of Congenital Deformity Possibly Due to Intrauterine Disease of the Spinal Cord," by Dr. Charles W. Burr, Philadelphia. Discussed by Drs. Dercum, Coulter, Onuf, Sterne, Shelly, Hersmann and Burr.

The committee appointed to prepare resolutions on the death of Dr. F. Savary Pearce reported as follows:

Your committee would respectfully recommend that the following minute be placed by the Secretary in the records of this Section, and that a copy of the same be sent to the family of Dr. F. Savary Pearce, to the faculty of the Medico-Chirurgical College of Philadelphia, to THE JOURNAL of the American Medical Association and to other selected journals:

The Section on Nervous and Mental Diseases of the American Medical Association desires to give fitting expression to its sense of sorrow and loss in the sudden and unexpected death of its Chairman-elect for this session, Dr. F. Savary Pearce. For many years Dr. Pearce was a regular attendant on the meetings of this Section, and a frequent and valued contributor to its proceedings. During three years he served with great efficiency as Secretary of the Section, and by his wise and untiring efforts greatly expanded its influence.

Graduating from the Medical Department of the University of Pennsylvania, Dr. Pearce in the earlier years of his professional career, filled with great credit to himself a number of important hospital positions. He early devoted himself to neurology as a special study, and made from time to time many valuable contributions to the literature of that branch of medicine. He was elected professor of nervous diseases in the Medico-Chirurgical College of Philadelphia, and about the same time became one of the neurologists of the Philadelphia Hospital, in both of which positions his work, as that of his entire professional life, was characterized by enthusiasm, zeal and ability. A few months before his death he published a text book on nervous diseases, and was engaged in preparing one of like scope on insanity.

Dr. Pearce was personally a man of genial and kindly spirit, ardent and faithful in his friendships, greatly beloved by those whose duties brought them into close contact with him. In the death of Dr. Pearce the American Medical Association, and especially this Section, has sustained a serious loss, and while yielding obedience to Divine command, we would extend to the relatives and friends of our esteemed associate our appreciation of his worth, and our profound sympathy with them in their sorrow.

"A Case of Spastic Diplegia Occurring During an Attack of Pertussis, with Autopsy," by Dr. J. H. W. Rhein, Philadelphia. Discussed by Drs. Weisenburg, Moore and Rhein.

"An Encouraging Case of Locomotor Ataxia," by Dr. Guy Hinsdale, Hot Springs, Va.

"The Treatment of Acute Anterior Poliomyelitis by Nerve Anastomosis," by Drs. W. G. Spiller and Charles Frazier, Philadelphia. Read by Dr. Spiller. Discussed by Drs. Sinkler, Sterne, Wolfstein, Hersman, Weisenburg, Pershing, Sterne and Spiller.

"Some Unusual Forms of Multiple Neuritis," by Dr. Wharton Sinkler, Philadelphia. Discussed by Drs. Rhein, Angell, Wolfstein, Weisenburg, Hersman, Moore and Sinkler.

THURSDAY, JUNE 9—MORNING.

The meeting was called to order at 9:30 a. m. by Dr. Pershing.

"A Dynamometer for Measuring Perspiration," by Dr. H. A. Wetherill, Philadelphia.

"Localized Convulsive Seizures, with Report of Case," by Dr. S. Bell, Detroit.

"Minor or Border-line Psychoses of Alcoholism," by Dr. Frank P. Norbury, Jacksonville, Ill.

"Psychic Force," by Dr. Brooks F. Beebe, Cincinnati.

These three papers were discussed by Drs. Brush, Pershing, Herdman, McBride, Sterne, Langdon, Dewey, Angell, Pershing, Searcy, Wolfstein, Diller and Beebe.

"Have Drug Habits a Pathologic Basis?" by Dr. Albert E. Sterne, Indianapolis. Discussed by Drs. Pressey, Dewey, Crowell and Sterne.

On motion of Dr. Smith Ely Jelliffe, New York, the Chairman was instructed to appoint a committee to investigate the pathologic effects of the drug habits.

"A Case of Locomotor Ataxia, with a Tremor Resembling Paralysis Agitans," by Dr. John H. W. Rhein, Philadelphia.

"Should Inebriates be Punished by Death for Crime?" by Dr. T. D. Crothers, Hartford, Conn. Discussed by Drs. Beebe, Crowell, Sterne and Crothers.

THURSDAY, JUNE 9—AFTERNOON.

The meeting was called to order at 2:15 p. m. by the temporary Chairman, Dr. Pershing.

"Some Interesting Autopsy Findings in Epilepsy," by Dr. B. Onuf, Sonyea, N. Y. Discussed by Drs. Wolfstein, Spiller and Onuf.

"A Large Tumor of the Frontal Lobe," by Drs. Philip King

Brown, San Francisco, and W. W. Keen, Philadelphia. Read by Dr. Keen.

"A Brain Tumor with Progressive Blindness as Its Most Prominent Feature, with Microscopic Report," by Drs. W. C. Kendig and D. L. Wolfstein.

These two papers were discussed by Drs. Diller, Mills, Sterne, Langdon, Dercum, Spiller, Onuf, Mills, Wolfstein and Keen.

Dr. F. W. Langdon was elected a member of the House of Delegates for the ensuing year.

"Hysterical Delirium: Report of Four Cases," by Dr. Theodore Diller, Pittsburg, Pa. Discussed by Drs. Pershing, Dercum and Diller.

"The Relation of States of Apprehension to Cardiac Disease," by Dr. William Rush Dunton, Jr., Baltimore.

In accordance with the resolution passed at the morning session, the Chairman appointed the following committee to investigate the pathologic effects of the drug hablitz: Dr. Smith Ely Jelliffe, New York; Dr. Brooks F. Beebe, Cincinnati, and Dr. Albert E. Sterne, Indianapolis.

Section on Cutaneous Medicine and Surgery.

TUESDAY, JUNE 7.

The Section was called to order by the Chairman at 2 p. m.

Dr. Henry G. Anthony, Chicago, then read the Chairman's Address, "The Developmental Defects of the Skin and Their Malignant Growths." Discussed by Drs. Fordyce, Ravogli, Corlett, Heidingsfeld, Montgomery and Anthony.

"Falling of the Hair," by Dr. R. A. McDonnell, Connecticut. Discussed by Drs. Ludwig Weiss, Kessler, Cox, Ravogli and McDonnell.

Dr. John A. Fordyce, New York, read a paper entitled "Report of a Case of Paget's Disease of the Gluteal Region." Discussed by Drs. Stelwagon and Pusey.

"Radium and Its Therapeutic Possibilities," by Dr. William Allen Pusey, Chicago. Discussed by Drs. Schamberg, Bulkley, Heidingsfeld and Pusey.

"Linear Nevi," by Dr. M. L. Heidingsfeld. Discussed by Drs. Pusey and Heidingsfeld.

Dr. John V. Shoemaker, Pennsylvania, exhibited a "Remarkable Case of Xanthoma," which was discussed by Drs. Brayton, Pusey, Lieberthal, Cox, Schamberg, Montgomery, Heidingsfeld Buckley, Anthony and Shoemaker.

Under "New Business," Dr. W. L. Baum, Chicago, stated that the American Dermatological Association had appointed Dr. Stelwagon to use his best efforts toward securing the meeting of the International Dermatological Congress, three years hence, for New York City, and made a motion that this Section give similar instructions to Dr. Stelwagon. Motion carried.

The program having been completed the Section adjourned.

WEDNESDAY, JUNE 8.

The Section was called to order by the Chairman at 2 p. m.

The Chairman announced as a Nominating Committee Drs. Baum, Keasler and Corlett.

"A False or Cicatricial Keloid," by Dr. A. Ravogli. Discussed by Drs. Gotthell, Baum, New York; Wallis, Moses, Heidingsfeld and Ravogli.

The Chairman introduced Dr. Charles B. Cooper, Honolulu, Hawaii, who said: I do not make any pretense at being a dermatologist; I am a general practitioner. In the territory of Hawaii we have had charge of the leper stations. Leprosy was first discovered among the islanders in 1848, and it spread to such an alarming extent that in 1864 or 1865 the legislature decided that all persons having the disease must be segregated. A place on the island of Molokai was picked out, comprising an area of 7,000 acres, hemmed in by high mountains from 2,000 to 4,000 feet high, and which can only be approached by a very narrow pass, which is constantly guarded. Since 1864 there has been sent to the settlement about 5,500 cases of different nationalities, over 55 per cent. being Hawaiians and not over 50 per cent. Caucasians. It is a great burden on the taxpayers to keep up the settlement, and especially so since the annexation to the United States by which the income of the territory is depleted of $120,000 a month, which goes to the federal treasury. We are very anxious that something more should be done than we are able to do for the scientific investigation of this disease, and it was with that idea that I made this trip. I attended the meeting of the state and territorial officers in Washington a few days ago and have come here in hopes that this Section would be interested to take up the matter. I feel sure that something will be done for the scientific research work in finding a cure for the disease. I have a collection of photographs of different types of the disease, also views of the settlement, showing their homes and how they live, with their surroundings.

In reply to a question Dr. Cooper said further: There is no doubt about leprosy being very mildly contagious, and it is less so among Caucasians, who live in proper hygienic surroundings, than among the natives, who eat with their fingers out of the same bowl, rub their noses together when they kiss and become inoculated through the mucous membrane. Only about 40 Americans have taken the disease since 1864; at the same time I do not think any chances should be taken. The only safety lies in absolute segregation. The Hawaiian Islands are known to have been inhabited for hundreds of years. A hundred years ago there were probably 400,000 inhabitants; to-day there are 55,000. There is no record of leprosy among them previous to 1848, and their diet has been the same from time immemorial. Leprosy is supposed to have been brought to the islands by Chinese coolies about 1840, or it might be by ships from the South Sea Islands, where leprosy existed. But the general belief is that it was brought in by the Chinese, and to-day it is called by the natives "Chinese sickness."

Dr. Cooper's report was discussed by Drs. Montgomery, Schamberg, Corlett and Cooper.

"Psorospermosis Cutanea Vegetante Follicularis: Darier's Dermatosis: Keratosis Follicularis (White)," by Dr. David Lieberthal, Chicago. Discussed by A. Ravogli, Bulkley and Lieberthal.

Dr. Henry Stelwagon, Philadelphia, read a paper entitled "A Second Case of Larva Migrans." Discussed by Drs. Schamberg, Lord and Bamberger.

"Acne Keratosa," by Dr. W. S. Gotthell.

"Cover-Glass Cultures, and Their Possibilities in Studying the Epidermic Fungi," by Dr. J. Frank Wallis. These two papers were discussed by Drs. Schamberg, Gotthell, Bulkley and Wallis.

"Prurigo (Hebra), as Observed in the United States," by Dr. W. T. Corlett. Discussed by Drs. Ravogli, Stelwagon, Weiss, Bulkley and Corlett.

Dr. William L. Baum, Chicago, read a paper on "Iodin Absorption and Elimination." On motion of Dr. Heidingsfeld, discussion on this paper was deferred until Thursday.

Dr. Jay F. Schamberg read a paper on "The Diagnosis of Scarlet Fever and Scarlatinoid Affections," which was illustrated by lantern slides. Discussed by Dr. Corlett.

The Chairman called the attention of the members to the desirability of subscribing to the printed transactions of the Section.

Dr. Jay F. Schamberg moved that the American Medical Association urge on the federal authorities an appropriation for the scientific investigation of leprosy in the Hawaiian Islands, looking toward the cure of the disease. Motion carried.

On motion, a vote of thanks was extended to the proprietors of the Shelburne Hotel for courtesies shown the Section.

THURSDAY, JUNE 9.

The Section was called to order by the Chairman at 9:30 a. m.

Report of the Nominating Committee: Chairman, Dr. D. W. Montgomery, San Francisco; Secretary, Dr. R. R. Campbell, Chicago; Delegate, Dr. A. W. Brayton, Indianapolis.

On motion, the Secretary was instructed to cast the unanimous ballot of the Section for these gentlemen.

On motion of Dr. Baum, Illinois, the Chairman appointed as a committee to gather statistics and information regarding skin diseases, and the general work of the Section, Drs. Baum, New York; Schamberg, Sumney, Morros, Shelmire, Lieberthal, Heidingsfeld and Ronssell, with instructions to report at the next annual session of the Section.

The discussion of Dr. W. L. Baum's paper was by Drs. Corlett, Currier, Coxe and Baum.

"The Treatment of Lupus Erythematosus by Repeated Refrigeration with Ethyl Chlorid," by Dr. M. B. Hartzell, Philadelphia. Discussed by Drs. Heidingsfeld, Allen, Lieberthal, Kessler, Dyer, Moses, Ravogli, Baum, New York; Gotthell, Wallis and Hartzell.

"An Instance Where Cutaneous Acrodermatitis was Controlled by the X-Ray," by Dr. D. W. Montgomery, San Francisco. Discussed by Drs. Baum, New York; Pusey, Allen, Ravogli and Montgomery.

"A Case of Dermatitis Herpetiformis Treated with the X-Ray," by Dr. William Thomas Corlett, Cleveland. Discussed by Dr. Carrier.

"Comparison of Phototherapy, Radiotherapy and High-Frequency Therapy in Skin Diseases," by Dr. C. W. Allen, New York City. Discussed by Drs. Corlett, Gotthell, Hartzell, Price, Schamberg, Skinner, New York; Currier, Varney, Bulkley, Kessler and Allen.

"X-Ray Therapy in Skin Diseases," by Dr. G. E. Pfahler, Philadelphia. Discussed by Drs. Hartzell, Price, Brayton, Allen and Bulkley.

"The Consideration of Late Hereditary Syphilis," by Dr. R. R. Campbell, Chicago. Discussed by Drs. Brayton, Bulkley, Allen, Moses, Baum, New York, and Campbell.

Dr. W. T. Corlett, Ohio, suggested that the newly-elected Chairman and Secretary appoint a committee to investigate and report at the next annual session on the use of iodin.

On motion of Dr. Schamberg the Chairman and Secretary were instructed to request the House of Delegates to appoint a delegate from the Section on Cutaneous Medicine and Surgery to the International Dermatological Congress at its next meeting, in Berlin, during the summer.

The newly-elected Chairman, Dr. D. W. Montgomery, San Francisco, was then conducted to the chair, and made a few remarks in appreciation of the honor conferred on him.

Section on Laryngology and Otology.

TUESDAY, JUNE 7.

Chairman's address, "The Present Status of Otology and Some Suggestions for Its Betterment," Dr. John F. Barnhill, Indianapolis.

"Reflex Apnea and Cardiac Inhibition in Operations on the Respiratory Tract." William Harmar Good and W. G. B. Harland, Philadelphia. (Read by Dr. Harland). Discussion by G. Hudson Makuen, Philadelphia; George L. Richards, Fall River, Mass.; J. Solis Cohen, Philadelphia; Emil Mayer, New York; Edwin Pynchon, Chicago; Robert C. Myles, New York; C. F. Cobb, Boston; Burt Russell Shurly, Detroit, and W. H. Good.

"The Relation of the Chemistry of the Saliva (Sialosemeiology) and Nasal Secretions to Diseases of the Mucous Membrane of the Mouth and Upper Respiratory Tract, with Special Reference to Hay Fever." D. Braden Kyle, Philadelphia. Discussion by E. C. Kirk, Philadelphia; Judson Dalland, Philadelphia; E. Fletcher Ingals, Chicago; William H. Fitzgerald, Hartford, Conn.; S. Willis Anderson, Detroit; J. Hollinger, Chicago; G. V. Woolen, Indianapolis, and D. Braden Kyle, Philadelphia.

"Tonsillectomy by Forceps and Snare; Thorough, Painless and Safe." E. Fletcher Ingals, Chicago. Discussion by G. Hudson Makuen, Philadelphia; W. E. Casselberry, Chicago; J. A. Stucky, Lexington, Ky.; George L. Richards, Fall River, Mass.; George B. Wood, Philadelphia; P. S. Donnellan, Philadelphia; S. H. Large, Cleveland; Edwin Pynchon, Chicago; Otto Freer, Chicago; Robert C. Myles, New York; J. A. Stucky, Lexington, Ky., and E. Fletcher Ingals, Chicago.

"The Significance of Tubercular Deposits in the Tonsils." George B. Wood, Philadelphia. Discussion by Henry L. Swain, New Haven, Conn.; J. J. Kyle, Indianapolis; C. M. Cobb, Lynn, Mass.; Emil Mayer, New York City; Robert C. Myles, New York City; E. Fletcher Ingals, Chicago; Norval Pierce, Chicago; Edwin Pynchon, Chicago; G. V. Woolen, Indianapolis; Edward R. Baldwin, Saranac Lake, New York, and George B. Wood.

WEDNESDAY, JUNE 8.

Appointment of Nominating Committee: E. E. Solly, Colorado Springs; George F. Cott, Buffalo, and G. Hudson Makuen, Philadelphia.

"Operative Treatment of the Faucial Tonsils, with a View to Prevention of Cervical Adenitis and General Infection." Robert C. Myles, New York City. Discussion by J. A. Stucky, Lexington, Ky.; Edwin Pynchon, Chicago; Oliver Tydings, Piqua, O., and Robert C. Myles, New York.

"Lithemic Nasopharyngitis Due to Systemic Disturbances." J. A. Stucky, Lexington, Ky. Discussion by L. C. Cline, Indianapolis; Sargent Snow, Syracuse, New York; E. L. Vansant, Philadelphia; George B. McAuliffe, New York; C. H. Baker, Bay City, Mich.; Robert C. Myles, New York, and J. A. Stucky, Lexington, Ky.

"Reversional Vestiges in the Human Pharynx as Sources of Irritation." Norval Pierce, Chicago. Discussion by J. Holinger, Chicago; W. S. Bryant, New York City; B. Alexander Randall, Philadelphia; Dunbar Roy, Atlanta, Ga.; Robert C. Myles, New York City; W. E. Casselberry, Chicago; A. Logan Turner, Edinburgh, Scotland; Christian R. Holmes, Cincinnati; John F. Barnhill, Indianapolis, and Norval Pierce, Chicago.

"Hemorrhage of the Larynx." John Edwin Rhodes, Chicago. Discussion by F. S. Dunscliun, Philadelphia; W. E. Casselberry, Chicago; G. V. Woolen, Indianapolis; Dunbar Roy, Atlanta, Ga., and John E. Rhodes, Chicago.

"A Review of One Hundred Operations for the Correction of Deviation of the Nasal Septum. Remarks on Septal Operations." Joseph S. Gibb, Philadelphia. Discussion by Robert C. Myles, New York; Emil Mayer, New York; George L. Richards, Fall River, Mass.; Leon E. White, Boston; Willis S. Anderson, Detroit; E. E. Foster, Sagamore, Mass.; H. H. Briggs, Asheville, N. C.; Otto Freer, Chicago; Casper Pischel, San Francisco, and Joseph S. Gibb, Philadelphia.

Display of new instruments, by George F. Cott, Buffalo, N. Y.; W. S. Bryant, New York City; Philip D. Kerrison, New York.

"Spontaneous Tonsillar Hemorrhage." Lewis S. Somers, Philadelphia. Discussion by W. E. Casselberry, Chicago.

"Tubercular Laryngitis, Prognosis and Treatment." Thomas J. Gallaher, Denver. Discussion by W. Freudenthal New York; Willis S. Anderson, Detroit; W. E. Casselberry, Chicago; Kate W. Baldwin, Philadelphia; Ross Hall Skillern, Philadelphia; J. Frank McConnell, Las Cruces, N. M.; Otto Freer, Chicago, and T. J. Gallaher.

"Throat Complications in Typhoid Fever." Francis J. Quinlan, New York. Discussion by Emil Mayer, New York; Kaspar Pischel, San Francisco; W. G. B. Harland, Philadelphia, and F. J. Quinlan, New York.

"Intubation, with Report of Some Unusual Cases." Burt Russell Shurly, Detroit. Discussion by George F. Cott, Buffalo; W. E. Casselberry, Chicago; Kate Baldwin, Philadelphia, and Burt Russell Shurly, Detroit.

"The Radical Operation for Chronic Suppurative Frontal Sinusitis." W. Freudenthal, New York City.

"The Operative Treatment of Chronic Suppuration of the Frontal Sinus, with Special Reference to the Method of Killian." Accompanied by lantern demonstrations. A. Logan Turner, Edinburgh, Scotland.

Discussion of Drs. Turner and Freudenthal's papers by G. L. Richards, Fall River, Mass.; Robert C. Myles, New York City; E. G. Foster, Sagamore, Mass.; Emil Mayer, New York City; G. E. Seaman, Milwaukee; Christian R. Holmes, Cincinnati; Casper Pischel, San Francisco; F. C. Ard, Plainfield, N. J.; B. Alexander Randall, Philadelphia; W. Freudenthal and A. Logan Turner.

On motion of Dr. Randall, a vote of thanks from the Section was given Dr. Turner, and the member of the House of Delegates was instructed to recommend the name of Dr. Turner for honorary membership in the Section.

THURSDAY, JUNE 9.

Dr. George L. Richards exhibited an improved medicated aural bougie for insertion into the external auditory meatus.

"The Present Status of the Treatment for Deafness Due to Chronic Catarrhal Otitis Media." Philip D. Kerrison, New York City.

"The Hot Water Douche in the Treatment of Chronic Catarrhal Deafness." G. P. Head, Chicago.

Both papers were discussed by W. S. Bryant, New York; Sargent F. Snow, Syracuse, N. Y.; William H. Fitzgerald, Hartford, Conn.; Herbert E. Smyth, Bridgeport, Conn.; J. A. Stucky, Lexington, Ky.; J. M. Ray, Louisville, Ky.; R. W. Seiss, Philadelphia; Edwin Pynchon, Chicago; John McReynolds, Dallas, Tex.; S. MacCuen Smith, Philadelphia; B. Alexander Randall, Philadelphia; E. B. Dench, New York City; J. J. Kyle, Indianapolis, and Philip D. Kerrison and G. P. Head.

The Nominating Committee reported through Dr. G. Hudson Makuen: Chairman, Robert C. Myles of New York; secretary, Otto T. Freer of Chicago; delegate, John F. Barnhill of Indianapolis.

"The Treatment of Otitic Septicemia." B. Alexander Randall, Philadelphia.

"Plastic Operations Following Radical and Mastoid Operations." E. B. Dench, New York City.

Both papers were discussed by Norval Pierce, Chicago; S. MacCuen Smith, Philadelphia; W. Sohier Bryant, New York City; George B. McAuliffe, New York City; H. O. Reik, Baltimore; Thomas Hubbard, Toledo, O.; George L. Richards, Fall River, Mass.; J. A. Stucky, Lexington, Ky.; G. Hudson Makuen, Philadelphia; E. B. Dench, New York City; J. Holinger, Chicago; Robert C. Myles, New York City, and B. A. Randall and E. B. Dench.

"The Palliative Treatment of Acute Mastoiditis and Its Limitations." Philip Hammond, Boston. Discussion by R. W. Seiss, Philadelphia; E. B. Dench, New York City; Kasper Pischel, San Francisco; George L. Richards, Fall River, Mass.; S. H. Large, Cleveland; C. H. Baker, Bay City, Mich.; Sargent F. Snow, Syracuse, N. Y.; George B. McAuliffe, New York City, and Philip Hammond.

Exhibition of instruments. J. H. Abraham, New York City. Discussion by Robert C. Myles, New York City; C. M. Cobb, Lynn, Mass.; Norton L. Wilson, Elizabeth, N. J.

"Tuberculosis of Both Middle Ears in an Infant." Dunbar Roy, Atlanta, Ga. Discussion by C. M. Cobb, Lynn, Mass.; B. Alexander Randall, Philadelphia, and Dunbar Roy.

Election of officers: Chairman, Robert C. Myles, New York City; secretary, Otto T. Freer, Chicago; delegate, John F. Barnhill, Indianapolis.

Addresses by Drs. Myles and Freer.

"Some Considerations Arising from the Difficulty of Choice of a Time for Mastoid Operation; Prospective Results." D. A. Kuyk, Richmond, Va. Discussed by B. Alexander Randall, Philadelphia; John F. Barnhill, Indianapolis; George B. McAuliffe, New York City; Otto T. Freer, Chicago; Herbert E. Smyth, Bridgeport, Conn.; D. J. McDonald, New York City; E. B. Dench, New York City, and D. A. Kuyk.

"Two Cases of Objective Aural Tinnitus Due to the Action of the Tubopalatal Muscles." Walter A. Wells, Washington, D. C. Discussion by W. S. Bryant, New York City; Christian R. Holmes, Cincinnati.

Materia Medica, Pharmacy and Therapeutics.

TUESDAY, JUNE 7.

Address of Chairman, "The Scourge of Nostrums and Irregular Practitioners," Oliver T. Osborne New Haven, Conn. The address was referred to a committee of Tompkins, West Virginia; Wiley, District of Columbia, and Wood, Pennsylvania which reported in favor of the recommendations: 1, the election of a Vice Chairman; 2, the appointment of a committee to assist the Postoffice Department in excluding objectionable advertisements from the mails.

Report of Committee on Proprietary Medicines, Henry H. Moody, Mobile, Ala.; William J. Robinson, New York, and Carl S. N. Hallberg, Chicago. On motion of S. Solis-Cohen, Pennsylvania, referred to the Association for publication in THE JOURNAL.

REPORT OF THE COMMITTEE ON PROPRIETARY MEDICINES.

To the Section:

The committee to which was referred the subject of Proprietary Medicines at the last Session (1903) respectfully reports:

The work of this Section last year with reference to Proprietary Medicines, while without any apparent tangible results, demonstrated:

1. That the modification or correction of the promiscuous employment of Proprietary Medicines is really a "burning question," the solution of which is of vital interest to the medical profession.

2. That such reform must proceed on scientific lines, by gradual elimination of the most objectionable medicines and their exclusion from medical patronage, so that we may in the time to come, by a process of segregation, differentiate between such articles as may not be objectionable *per se*, but at present do not conform to the ethics of medical practice or to the precepts of the Association.

3. That the American Medical Association is the only great body to grapple with this question; this Section the proper one for initiating the work, and THE JOURNAL of the Association the agency through which its efforts may be sustained and its ultimate object be accomplished.

As has often been pointed out, promiscuous condemnation serves no purpose except to antagonize and confuse, and is the chief reason why no reform has been effected.

The memorial presented at the close of last year's session recommended: "That some well-considered plan should be inaugurated for the differentiation of the thousands of medicinal articles and specialties to remove the present confusion among physicians and pharmacists alike, to afford some kind of criteria as to their ethical status and to separate the true from the false."

It is believed that this can be best accomplished by adopting certain definite principles as a guide for excluding objectionable medicinal articles from the medical journals, through which their patronage by the profession is chiefly derived.

THE CARDINAL PRINCIPLES.

The following principles are, therefore, proposed to govern the rejection of advertisements in medical journals.

Articles to be refused admission:

1. Medicinal articles of secret composition.

2. Articles for internal medicinal use, advertised, or in any manner exploited, as remedies or cures to the laity.

3. Medicinal articles of known composition whose formulæ do not give the exact quantities of the active medicinal agents and their names in recognized scientific terms.

4. Articles with trade names, without the true scientific chemical name.

5. Mixtures or pharmaceutic preparations, without a pharmaceutic title which describes its pharmaceutic character and the principal active ingredients.

First—To the first proposition no medical man can possibly object.

Second—The same may be said of the second proposition. Certain articles such as antiseptics, disinfectants, cosmetics and dietetics when not harmful, and mineral waters, when not exploited as cures or remedies, may be exempt.

Many articles in this group, however, have received medical favor only subsequently to be exploited to the laity as remedies through the testimonials of medical men.

They require strict supervision and should be quickly excluded and promptly exposed whenever their makers stray from the ethical position.

Third—Many articles give formulas which do not disclose the exact quantities of the active medicinal agents. It is not necessary to enumerate all the ingredients, the character of the vehicle nor the method of preparation, but the quantities of the active medicinal agents must be stated.

In some preparations the medicinal agents are named incorrectly, or illusively; these must be given in correct scientific terms which permit of no misinterpretation or deception.

Fourth—The bane of the physician, as well as of the pharmacist, is the use of arbitrarily selected, or coined, so-called, copyrighted or trade names. The multiplication of these has grown so as to cause great confusion and seriously threaten careful administration. Physicians, like other persons in these strenuous times, desire to save time—and thought—and have thus fallen into "the trap of convenience." While in the beginning this custom presented apparently no great objection, it is now and has been for several years, a serious phase of this problem.

There is no need of enumerating the many examples of names, almost similar, applied to vastly different medicines. With some two thousand German synthetics alone, this system of nomenclature has become almost a nightmare to those who try to keep up with the "modern" materia medica.

Until some uniform system of nomenclature is adopted, these articles should be required to give in addition to the trade name also the correct chemical or scientific name.

THE TRADE-NAME EVIL.

Pharmaceutic preparations and mixtures should give a pharmaceutic title that is the generic name of the class of which it may be

a member viz.: Tincture, elixir, liquor, powder, capsule, etc., and the specific name, so as to afford at once a fair idea as to the character and composition of the article.

For this purpose therapeutic terms should be excluded, since they are empiric and also serve to promote self-prescription by the laity.

Physicians in adopting and employing trade names, pharmaceutic mixtures, not only aid in confusing the materia medica, but play directly into the hands of the patent-medicine men. If preference is desired for an especial brand, it should be so designated by specifying the name of the brand or the maker *after* the scientific, chemical or pharmaceutic name. Failure to recognize this principle, through the temptations to use shortcuts, has familiarized the public with hypnotics and other habit-forming medicines often to the infinite harm of the individual, to the irreparable loss of prestige of the profession, to the injustic of pure pharmacy and to the unequivocal financial disadvantage of the physician.

LEGITIMATE MANUFACTURERS.

While the principlea set forth may not cover the entire field of medicinal articles patronized by the medical profession, yet their general application would be a decided advance and of great benefit to all legitimate interests. Aside from the medical necessity which exists for this reform, manufacturers engaged in the legitimate exploitation of ethical and valuable medicinal articles demand relief. Old historic houses, chemists and pharmacists of national reputation, who have contributed so much to the advance of rational therapeutics through improved processes and inventions, should be given some recognition as against the nondescript, anonymous "chemical companies," mostly composed of persons without any claim to scientific knowledge and whose sole object is to hoodwink the medical profession into the use of their "stuff," only to afterward, through misrepresentatioo and audacity, "work the public."

THE PLAN EFFECTIVE.

To make this proposed plan effective it is essential that a committee or bureau be formed to supervise the work. To proceed with the greatest caution and do no injustice, the claims of every doubtful article should be carefully examined by a group of experts. This committee might work in conjunction with similar committees of the American Pharmaceutical Association, the Committee on Revision of the U. S. Pharmacopeia and the National Formulary and the Drug Laboratory of the Bureau of Chemistry of the Agricultural Department and similar organizations of the federal government.

Inasmuch as this work would be of great financial benefit to legitimate advertisers and incidental to THE JOURNAL, it is recommended that this Section, in the event of the approval of this report and the adoption of the principles announced, ask the Board of Trustees of the American Medical Association to make such provision as may be required, to adequately inaugurate this proposed plan.

"Federal Supervision of Drugs," Harvey W. Wiley, Washington.

"Eighth Decennial Revision of the Pharmacopela of the U. S. A." Joseph P. Remington, Philadelphia.

"The Relation of the Physician to Proprietary Remedies. How May Substitution be Avoided and the Desired Preparation Obtained Without Unduly Advertising the Manufacturer?" William J. Robinson, New York.

These papers were discussed by H. C. Wood, Jr., Philadelphia; Theodore Potter, Indiana; C. B. Lowe, Philadelphia; H. C. Beates, Philadelphia; Adolph Koenig, Pittsburg, Pa.; Thomas L. Coley, Philadelphia; M. I. Wilbert, Philadelphia; W. C. Westcott, Atlantic City, N. J.; H. Schweitzer, New York (by permission); Wiley, Remington and Robinson.

The Secretary presented the following names of members of the American Pharmaceutical Association, who had been recommended by the officers of the Section for pharmaceutical members according to Article III, Section 6 of the by-laws, and they were then unanimously elected by ballot by the members of the Section: Joseph P. Remington, Philadelphia; Clement B. Lowe, Philadelphia; Martin I. Wilbert, Philadelphia; Harvey W. Wiley, Washington; Alfred R. L. Dohme, Baltimore; Harvey H. Hynson, Baltimore. At a subsequent meeting Joseph W. England, Philadelphia, was also elected. A number of names of other candidates were referred for further consideration.

The Secretary presented the credentials from the American Pharmaceutical Association of the following delegates to the Section: J. P. Remington, Philadelphia; C. B. Lowe, Philadelphia; M. I. Wilbert, Philadelphia; H. K. Mulford, Philadelphia; F. T. Gordon, Washington, D. C.; H. W. Wiley, Washington, D. C.; L. F. Kebler, Washington, D. C.; L. C. Spangler, Lewes, Del.; A. R. L. Dohme, Baltimore; D. M. R. Culbreth, Baltimore; A. M Roebrig, Stapleton, N. Y.; R. G. Eccles, Brooklyn; E. H. Squibb, Brooklyn; Thomas P. Cook, New York City; Eustace H. Gane, New York City; C. A. Mayo, New York City; H. H. Rusby, New York City; W. L. Scoville, Boston; W. C. Wescott, Atlantic City, N. J.; George M. Beringer, Camden, N. J.; Charles Holzhauer, Newark, N. J.; George W. Parisen, Perth Amboy, N. J.; R. E. Rhode, Chicago; C. H. Wood, Chicago; Joseph Helfman, Detroit; A. R. Lyons, Detroit; C. G. Merrell, Cincinnati; George B. Kauffman, Columbus, O.; G. H. C. Klie, St. Louis; A. J. Schaettlin, Louisville, Ky.

The report was received, and on motion the persons named were tendered the privilege of the floor during the session.

WEDNESDAY, JUNE 8—MORNING.

The Chairman appointed the following committee to aid the Postoffice Department in excluding objectionable advertisements: C. S. Hallberg, H. W. Wiley, H. C. Wood, Jr.

"The Relation of the Internal Secretions to Epilepsy, Puerperal Eclamnsia and Kindred Convulsive Disorders," Charles E. D. Sajous, Philadelphia. Discussion by H. Stern, New York; C. B. Lowe, Philadelphia, and C. E. D. Sajous.

"The Indications for and the Value of the Various Hypnotic Druga," Allan R. Diefendorf, Middletown, Conn. Discussion by Lowe, Robinson, New York; J. W. Foss, Arizona; W. C. Westcott, New Jersey; W. F. Waugh, Illinois; Sajous, Stern, W. W. Tompkins, West Virginia; Joseph Clements, New Jersey; Osborne and Diefendorf.

"Chronic Arterial Hypertension," Henry W. Cook, Richmond, Va.

"Vasodilatation and Its Production by Drugs." Arthur R. Elliott, Chicago, was not read, but the subject was discussed by Noble P. Barnes, Sajous, Waugh, Wood, Robinson, Clements, Tompkins, Osborne and Cook.

"The Control of Internal Hemorrhage by Drugs," Thomas Coley, Philadelphia. Discussion by William J. Robinson, Waugh, W. J. Abbott, Wood, Cook, Sajous and Coley.

WEDNESDAY, JUNE 8—AFTERNOON.

A symposium on the Artificial and Pathologic Perversions of Metabolism and Their Relation to Gout, was read with the following papers:

"Drugs Irritant to the Kidneys and Hence to be Avoided in Impaired Kidney Function," by Torald Sollman, Cleveland; read by Robert A. Hatcher, Cleveland, O.

"Some Aspects of the Newer Physiology of the Gastrointestinal Canal," Lafayette B. Mendel, New Haven, Conn.

"The Etiology and Pathology of Gout," Thomas B. Futcher, Baltimore.

"The Uric Acid Delusion and the Prevention of Gout," by Woods Hutchinson, Portland, Ore.; read by H. C. Wood, Jr.

"The Systemic Value of Radical Changes in Diet" Russell H. Chittenden, New Haven, Conn.

The symposium was discussed by Fenton B. Turck, Chicago; H. Stern, Boardman Reed, Philadelphia; S. Solis-Cohen, H. W. Wiley, District of Columbia; Lowe, Mendel, Futcher and Wood.

THURSDAY, JUNE 9—MORNING.

"Hydrastis; Some of Its Therapeutic Uses," W. Blair Stewart, Atlantic City. Discussed by W. R. White, Providence, R. I.; W. F. Waugh, Illinois; Lowe, Stern and Stewart.

"Apocynum Cannabinum," Horatio C. Wood, Jr., Philadelphia. Discussed by Lowe, Hallberg, Remington and Wood.

"The Rational Application and Value of Specific Treatment for Tuberculosis," Edward R. Baldwin, Saranac Lake, N. Y. Discussion by V. Y. Bowditch, Boston; Edward O. Otis, Boston; R. C. Newton, New Jersey; John W. Foss, Phoenix, Arizona; C. L. Minor, North Carolina; J. H. Lowman, Ohio; Lawrason Brown, New York; J. H. Elliott, Gravenhurst, Ont., Canada.

THURSDAY, JUNE 9—AFTERNOON.

The report of the Nominating Committee was presented, when on motion of W. F. Waugh, Illinois, nominations were ordered from the floor and the following were elected for the ensuing year: Chairman, Heinrich Stern, New York; Vice Chairman, William J. Robinson, New York; Delegate, J. W. Foss, Phoenix, Arizona; Secretary, C. S. N. Hallberg, Chicago.

The Section adopted a resolution that the title of the Section should be: Section on Pharmacology and Therapeutics, instead of simply Section on Pharmacology, and ordered the resolution transmitted to the House of Delegates through the President, Dr. Musser.

The Section ordered the Delegates to present the recommendation of the Committee on Proprietary Medicines to the House of Delegates, asking the Board of Trustees of the American Medical Association to make such provision as may be required to adequately inaugurate this proposed plan.

"The Therapeutic Value of Massage in Acute Disease," Jay W. Seaver, New Haven, Conn. Discussed by J. W. Foss, Phoenix, Arizona; R. C. Newton, New Jersey; H. Stern and J. W. Seaver.

"The Year's Progress in Actinotherapy," William S. Gotthelf, New York.

"Pharmacodynamics from the Viewpoint of Osmology and an Outline of a System of Osmotherapy," Heinrich Stern, New York.

A symposium on Pneumonia was read, with the following papers:

"The Value of Internal Medication and of External Local Applications," George Dock, Ann Arbor, Mich.

"The Prevention and Management of Cardiac Failure," Solomon Solis-Cohen, Philadelphia.

"The Value of Serum Treatment," John M. Anders, Philadelphia.

The symposium was discussed by F. R. Weber, Milwaukee, Wis.; Theodore Potter, Indianapolis; H. C. Wood, Jr., Philadelphia; David S. Funk, Harrisburg, Pa.; W. R. White, Rhode Island; A. O. Stranahan, New York; O. T. Osborne, Dock and Cohen.

The Section adopted the following by-law to control the election of pharmaceutical members:

Pharmacists desiring to become pharmaceutical members must present their names to the county medical society in the county in which they may be practicing pharmacy three months preceding the annual session, and on approval of the county medical society their names should be submitted to the officers of the Section according to Article III, Section 6.

On motion of M. I. Wilbert, Philadelphia, it was ordered that the Chairman appoint a Committee on Proprietary Medicines, to report next year.

The following papers, whose authors were absent in the House of Delegates, were by unanimous consent read by title and referred for publication:

"Therapy of Arsenic," H. N. Moyer, Chicago. "Etiology and Treatment of Recurrent Headaches," Gustavus Eliot, New Haven, Conn. "The Present Status of Strentococcus and Tetanus Antitoxin Injections," Victor C. Vaughan, Ann Arbor, Mich. "The Physical and Psychic Effects of Hydrotherapy," George F. Butler, Alma, Mich.

On motion, after thanks to the retiring Chairman, the Section adjourned.

Section on Pathology and Physiology.

TUESDAY, JUNE 7—MORNING.

Chairman's Address: "The Relation of the Section on Pathology and Physiology to the Other Sections of the Association," by Dr. Joseph McFarland, Philadelphia.

"Will the Long-Continued Administration of Digitalis Induce Cardiac Hypertrophy?" by Dr. Frank R. Wyon, Indianapolis. Discussed by Drs. Bergey, Hall and Wyon.

"Secondary Manifestations of Hypernephromata," by Dr. Walter L. Bierring and Dr. Henry Albert, Iowa City, Ia. Read by Dr. Bierring. Discussed by Drs. MacCallum, Stokes, Bierring, Wyon, McFarland and Copiin.

"The Character of the Chromatophores," by Dr. Leo Loeb, Philadelphia.

Report on the Metabolism of a Case of Diabetes Mellitus," by Dr. Graham Lusk, New York City. Discussed by Drs. Vaughan, Hall and Lusk.

TUESDAY, JUNE 7—AFTERNOON.

"Regenerative Changes in Cirrhosis of the Liver," by Dr. W. G. MacCallum, Baltimore. Discussed by Drs. Loeb, Adler, Libman, McFarland, Bierring and MacCallum.

On motion Dr. W. S. Hall, Chicago, was allowed to read two papers (abstracted into the time limit of one): "The Relation of Chest Contour to Lung Capacity," by Dr. F. F. Maloney, Chicago, and "Mathematical Relations of Chest Dimensions," by Dr. Hall.

On motion, the discussion of these two papers was dispensed with owing to the lateness of the hour.

"Notes on Vaccine," by Dr. Charles J. McClintock, Detroit. Discussed by Drs. Rosenau, Bergey, Ohlmacher and McClintock.

WEDNESDAY, JUNE 8.

"Uncinariasis in the South, with Special Reference to Mode of Infection," by Dr. Claude A. Smith, Atlanta, Ga. Discussed by Drs. Ward and Smith.

"The Nature and Significance of Leucocytosis," by Dr. A. Mansfield Holmes, Denver. Discussed by Drs. Christian and Holmes.

"Further Observations on Leucocytotoxins," by Dr. Henry A. Christian and Dr. Thomas F. Leen, Boston. Read by Dr. Christian. Discussed by Drs. Bergey and Christian.

"Studies on Antistreptococcus Serum," by Dr. D. H. Bergey, Philadelphia.

"A Bacteriologic and Clinical Investigation of a Curative Serum for Typhoid Fever," by Dr. William Royal Stokes, and Dr. John S. Fulton, Baltimore. Read by Dr. Stokes. Discussed by Drs. Yarborough, Stokes and McFarland.

On motion of Dr. C. A. Smith, a Nominating Committee was appointed.

"Bone Cysts. A Consideration of the Benign and Adamantine Dentigerous Cysts of the Jaw, and Benign Cysts of the Long Pipe Bones" (with lantern slide demonstration), by Dr. Joseph C. Bloodgood, Baltimore. Discussed by Drs. Hall and Bloodgood.

"Note on Ascaris Texana: a Hitherto Undescribed Ascaris Parasitic in the Human Intestine," by Dr. Allen J. Smith, Philadelphia, and Dr. Richard A. Goeth, San Antonio, Tex. Read by Dr. Smith.

THURSDAY, JUNE 9.

"The Physiology of the Middle Ear," by Dr. J. Holinger, Chicago. Discussed by Dr. Hall.

"Anatomy of Bartholin's Glands; Cysts of Bartholin's Glands," by Dr. Thomas S. Cullen, Baltimore.

"Further Studies on Bacterial Intracellular Toxins," by Dr. Victor C. Vaughan, Ann Arbor. Discussed by Drs. Terrill, Clements, Sewall, Meltzer, Hall and Vaughan.

The Section passed a resolution of thanks to Dr. Vaughan and his department for the epoch-making work that he is doing.

In a discussion of the question whether the section favored the Association session next year on the Pacific coast, the Section directed its members in the House of Delegates that it left them uninstructed, and to use their own judgment.

"The Pelvic Urethral Sheath and Its Relation to the Extension of Carcinoma Cervicis Uteri," by Dr. John A. Sampson, Baltimore.

On motion of Dr. Stokes, Baltimore, it was resolved that members of the Section be permitted to consult with the General Secretary of the Association, and make arrangements for the publication of papers elsewhere, as well as in THE JOURNAL.

On motion of Dr. Rosenau, the Secretary was instructed to cast a ballot on nominations, presented by the Nominating Committee, which resulted in the election unanimously of Dr. Winfield S. Hall, Chicago, as Chairman; Dr. Henry A. Christian, Boston, as Secretary and Dr. Joseph McFarland, Philadelphia, as Delegate.

"The Passage of Different Foodstuffs from the Stomach," by Dr. W. B. Cannon, Boston. Discussed by Drs. Hall, Harrington, Bergey, Turck, Smith and Cannon.

"Extensive Thrombosis of the Sinuses of the Cerebral Dura, with a Report of Two Cases," by Dr. William H. Spiller, and Dr. C. D. Camp, Philadelphia. Read by Dr. Camp. Discussed by Drs. Welch and Libman.

Dr. E. E. Southard presented, in the time limit of one paper, "A Case of Diffuse Encephalitis Showing the Pneumococcus," by Dr. W. N. Bullard and Dr. F. R. Sims, and "A Case of Cortical Hemorrhages Following Scarlet Fever," by Dr. E. E. Southard and Dr. F. R. Sims, all of Boston.

"Borated Food as a Cause of Kidney Lesions," by Dr. Charles Harrington.

By courtesy of the Section, Dr. M. Miyashima, of the Imperial Japanese Institute for Investigation of Infectious Diseases, Tokio, Japan, read a brief paper on his work on the subject of malaria in Japan. In Japan he finds but one form of mosquito to exist, and but one form of malaria. In Formosa, on the other hand, there are several forms of mosquito of the anopheles group, and here more than one form of malaria is found. He presented drawings and photographs of some of these mosquitoes, and contributed the very important observation that of these mosquitoes there are some which can convey only one form of malaria, and not other forms of the disease. Beside this, he presented a method of preserving and staining cultures of bacteria in Petri dishes, which give very beautiful results. Dr. Miyashima's paper was discussed by Dr. Welch.

FRIDAY, JUNE 10.

"Malignant Endotracheal Tumor, Simulating Aneurism," by Dr. Judson Daland, and Dr. Joseph McFarland, Philadelphia. (As to its clinical aspects, by Dr. Daland, and as to its pathologic aspects, by Dr. McFarland, the latter using lantern slides in the presentation).

Dr. McFarland also gave a demonstration of a series of slides presented by Dr. John V. Shoemaker.

"The Influence of Posture on the Pulse Rate and Blood Pressure," by Dr. O. Z. Stephens, Chicago. Read in abstract by Dr. Hall, Chicago. Discussed by Drs. Brainerd and Hall.

On motion of the Secretary, the Section voted to request the editor of THE JOURNAL to publish in THE JOURNAL and in the transactions the paper presented by Dr. Miyashima, on work done on malaria in the lymph institution, Department of Interior, Tokio, Japan, under the direction of Professor Kitasato.

On motion of the Secretary, the Section recommended for publication in THE JOURNAL and in the proceedings the paper entitled "The Mechanism of Streptococcus Infections," by Dr. G. F. Ruediger, Chicago, under a grant of the Association.

"Experiments Illustrating Physiologic Optics," by Dr. Winfield S Hall. Discussed by Drs. Randall and Hall.

"Chylous (Milky) Ascites, with Eosinophilia, and an Analysis of Reported Cases," by Dr. L. Napoleon Boston, Philadelphia.

"A Case of Early Acute Pancreatitis, Without Hemorrhage," by Dr. H. H. Germain and Dr. Henry A. Christian, Boston. Read by Dr. Christian.

"The Pathologic Histology of Adipose Tissue," by Dr. Henry A. Christian. Discussed by Drs. McFarland and Boston.

As the outcome of research under a grant from the Association, Dr. C. W. Duval, Boston, read a paper, "Another Member of B. Dysenteriæ Group." Discussed by Drs. Libman, Page, Christian and Duval.

ATLANTIC CITY REGISTRATION.

List of Members, Associate Members and Guests Who Registered at the Atlantic City Session.

The total registration at the Atlantic City Session was 2,890. As we have stated, this is the largest registration of any session in the Association's history. We print below the names and addresses of the members, associate members and guests who registered. The names that are starred are of associate members or guests. Preceding the names are two summaries: one giving the registration by states and one by sections. In the latter are mentioned "Miscellaneous, 65." This includes those who have not forwarded credentials for membership and those who did not sign their names distinctly, or who failed to fill out the card for publication. These are not counted in the summary by states.

REGISTRATION BY SECTIONS.

Practice of Medicine	838
Obstetrics and Diseases of Women	258
Surgery and Anatomy	739
Hygiene and Sanitary Science	64
Ophthalmology	281
Diseases of Children	109
Stomatology	35
Nervous and Mental Diseases	105
Cutaneous Medicine and Surgery	60
Laryngology and Otology	127
Materia Medica, Pharmacy and Therapeutics	52
Pathology and Physiology	46
Registered without specifying any particular section	111
Miscellaneous	65
Total	2,890

REGISTRATION BY STATES.

Alabama	18	Montana	7
Arkansas	20	Nebraska	14
Arizona	2	New Hampshire	10
California	42	New Jersey	221
Colorado	27	New Mexico	5
Connecticut	70	New York	352
Delaware	14	North Carolina	1
District of Columbia	55	North Dakota	6
Florida	5	Ohio	142
Georgia	19	Oklahoma	1
Idaho	1	Oregon	9
Illinois	159	Pennsylvania	846
Indian Territory	1	Rhode Island	19
Indiana	57	South Carolina	23
Iowa	36	South Dakota	8
Kansas	9	Tennessee	44
Kentucky	45	Texas	22
Louisiana	14	Utah	11
Maine	14	Vermont	19
Maryland	91	Virginia	41
Massachusetts	95	Washington	5
Michigan	69	West Virginia	24
Minnesota	31	Wisconsin	37
Mississippi	12	Wyoming	2
Missouri	28	Foreign	22

Section on Practice of Medicine.

Abernathy, Thomas E., Chattanooga, Tenn.
Acker, T. J., Croton-on-Hudson, N. Y.
Allbee, E. S., Bellows Falls, Vt.
Alleman, H. M., Hanover, Pa.
Allen, J. S., Washington, D. C.
Allen, Luther M., Philadelphia.
Allen, Van, H. W., Springfield, Mass.
Aliyo, Herman B., Philadelphia.
Alter, J. G., New Kensington, Pa.
Amdor, Frank P., Carbon, Ia.
Ames, R. P. M., Springfield, Mass.
Amerland, J. H., St. Louis.
Anders, Howard S., Philadelphia.
Anders, J. M., Philadelphia.
Anderson, William E., Farmville, Va.
Angear, Benjamin H. S., Sublette, Ill.
Apple, S. S., Easton, Pa.
Appleton, Mary, New York.
Archer, William A., Houston, Tex.
Ash, H St. Clair, Philadelphia.
Ashcraft, Samuel F., Mullica Hill, N. J.
Ashley, W. W., Ouray, Colo.

Ashton, Thos. G., Philadelphia.
Atwood, John W., Fishkill-on-Hudson, N. Y.
Babcock, Robert H., Chicago.
Backenstoe, M. J., Emaus, Pa.
Bailey, Saml., Mt. Ayr, Ia.
Baker, Eugene, Ithaca, N. Y.
Baker, F. Kline, Philadelphia.
Bannan, Theresa, Syracuse, N. Y.*
Barber, T. L., Charleston, W. Va.
Barshinger, M. L., York, Pa.
Barrier, J. M., Delhi, La.
Barlow, W. Jarvis, Los Angeles, Cal.
Bass, Chas. C., Columbia, Miss.
Batten, John M., Downingtown, Pa.
Bauer, L. D., Philadelphia.
Beatty, H. M., Trenton, N. J.
Beck, J. S., Dayton, O.
Beckett, H. C., Scottsburg, Va.
Beetham, A. C., Bellaire, O.
Bell, John W., Minneapolis.
Bennet, W. H., Chicago.
Bennett, John W., Long Branch, N. J.
Bennett, W. H., Philadelphia.
Berner, David, Atlantic City.
Bernheim, Albert, Philadelphia.
Bernheim, Louis, Butte, Mont.
Berry, Edward S., Shippensburg, Pa.
Bettmann, H. W., Cincinnati.
Bierring W. L., Iowa City, Ia.
Bill, Benj. J., Genoa Junctina, Wis.
Bill, C. H., Bridgeport, Conn.
Billings, Frank, Chicago.
Birney, H. H., Philadelphia.
Bishop, Louis F., New York.
Black, Wm. T., Memphis, Tenn.
Blackburn, A. E. Philadelphia.
Blankenhorn, H., Orrville, O.
Blundell, Wm., Paterson, N. J.
Bodine, J. M., Lonisville.
Bolin, Jesse A., Philadelphia.
Bonnet, A. O., Columbus, O.
Bonney, S. G., Denver, Colo.
Bonham, Jas. M., Hobart, O. T.
Bowman, H. C., Mahanoy City, Pa.
Bowditch, V. Y., Boston.
Boyce, D. C., Allegheny, Pa.
Bradshaw, L. L., New York.*
Brannan, John W., New York.
Brattain, G. E., Paulding, O.
Brayton, C. E., Stonington, Conn.
Breuer, E. J., Shabbona, Ill.
Brodbeck, John R., Codorus, Pa.
Broidrick, Jas. P., Boston.
Broheck, A. L., Hoopeston, Ill
Brooke, Roger, Sandy Springs, Md.
Brown, Laurason, Saranac Lake, N. Y.
Brown, Ellen E., Chester, Pa.
Brown, Otis S., Warren, Pa.
Browning, C. C., Highland, Cal.
Broyles, Chas. J. Johnson City, Tenn.
Brunning, F., Cincinnati.
Buermann, W., Newark, N. J.
Burke, Joseph J., Philadelphia.
Burnham, Clark James, San Francisco.
Burnham, M. P., Gaffney, S. C.
Burroughs, James A., Asheville, N. C.
Burroughs, H. S., Pittsburg.
Bushey, S. G., Camden, N. J.
Butterworth, W. W., New Orleans, La.
Byrne, Patrick J., New York.
Cabot, R. C., Boston.
Cahall, W. C., Germantown, Pa.
Cameron, G. A., Germantown, Philadelphia.
Campbell, A. D., Cleveland.
Campbell, C. L., Sheradenville, Pa.
Campbell, D., Butte, Mont.
Campbell, E. R., Bellows Falls, Vt.
Carmichael, J. W., Knoxville, Tenn.
Carpenter, A. E., Boonton, N. J.
Carrell, J. B., Hatboro, Pa.
Carson, S. C., Greenshoro, Ala.
Castleman, H. L., Sylacauga, Ala.
Cathell D. W., Baltimore.
Caywood, J. R., Piqua, O.
Champlin, John, Westerly, R. I.
Chestnut, J. C., Philadelphia.
Chew, E. C., Atlantic City.
Chipman, J. C., Sterling, Colo.
Christopher, W. H., London, O.
Clark, C. R., Youngstown, O.
Clark Robt. C., Pittsburg.
Clark, Wm. A., Trenton, N. J.
Cobleigh, E. A., Chattanooga, Coe, John W., New York.
Coffman, John J., Scotland, Pa.
Coleman, N. R., Columbus, O.
Coleman, T. D., Augusta, Ga.
Collins, C. E., Crisfield, Md.
Condon, A. S., Ogden, Utah.
Congdon, W. O., Cuba, N. Y.
Connor, G. L., Detroit.
Cooper, C. B., Honolulu, Hawaii.
Cooper, J. C., Philadelphia.
Cordell, E. F., Baltimore.
Corl, H. E., Middlebranch, O.
Cornell, I. M., Wappingers Falls, N. Y.*
Corson, Susan R., Lansdowne, Pa.
Corss, Frederic, Kingston, Pa.
Councilman, W. T., Boston.
Cox, James A., Morgantown, W. Va.
Craig, J. M. New York.
Craig, Frank A., Philadelphia.
Crawford, Jas. R., Philadelphia.
Crewitt, J. A., Newtown, Pa.
Culkins, J. R., Rochester, N. Y.
Cummins, G. W., Belvidere, N. J.
Cunningham, T. M., Marquette, Mich.
Curtin, R. G., Philadelphia.
Curtiss, R. M., Marengo, Ill.
Cutler, Elbridge G., Boston.
Daggett, Wm. G., New Haven, Conn.
Daland, Judson, Philadelphia.
Danforth, I. N., Chicago.
Dare, Geo. S., Rising Sun, Md.
Davis, H. K., East Orange, N. J.
Davis, Jeff., Toccoa, Ga.
Davis, N. S., Jr., Chicago.
Davis, T. D., Pittsburg.
Davis, Theo. G., Bridgeton, N. J.
Davis, W. A., Camden, N. J.
Davis, Wm. H. K., East Orange, N. J.
Davis, Wm., St. Paul.
Day, G. E., Strasburg, Pa.
Delaney, W. E., Slate Run, Pa.
Denison, Ellery, New York.
Dercum, Clara T., Philadelphia.
De Silver, J. F., Atlantic City.
Dewey, H. W., Tacoma, Wash.
Dibrell, E. R., Little Rock, Ark.
Dice, Seth D., Xenia, O.
Dickes, J. T., Portland, Ind.
Dickson, W. R., McDonald, Pa.
Diverty, H. B., Woodbury, N. J.
Divine, Alice, Ellerville, N. Y.
Dock, George, Ann Arbor, Mich.
Dodin, Henry A., New York.
Donaldson, J. B., Canonsburg, Pa.
Doty, E. A., Oxford, Ia.
Dotterrer, C. B., Zieglerville, Pa.
Douglas, W. E., Middletown, N. Y.
Dougherty, M. M., Mechanicsburg, Pa.
Dreschler, William, Denver.
Drennen, C. T., Hot Springs, Ark.
Drips, J. H., Philadelphia.
Drummond, W., Philadelphia.
Duhhs, J. H., Philadelphia.
Dunmire, G. B., Philadelphia.
Eastman, H. A., Jamestown, N. Y.
Eastman, R. D., Berkshire, N. Y.
Eberle, J. G., Ft. Smith, Ark.
Eby, Jas. B., Newport, Pa.
Eckert, J. W., Temple, Pa.
Eckman, P. N., Philadelphia.
Edson, C. E., Denver.
Edsall, D. L., Philadelphia.
Einhorn, Max, New York.
Eisenberg, J. L., Norristown, Pa.
Ellenberger, J. W., Harrisburg, Pa.
Ellinwood, A G., Attica, N. Y.
Ellis, Aller G., Philadelphia.
Elmer, William, Trenton, N. J.
Elsner, H. L., Syracuse, N. Y.*
Elwell, Alfred M., Camden, N. J.
Ely, Wm. S. Rochester, N. Y.*
Emmerling, Karl, Pittsburg.
English, D. E., Millburn, N. J.
Erdman, Wm. B, Macungie, Pa.
Erdman, Wm. T., Bucklagham, Pa.
Erwin, R. W., Bay City, Mich.
Evans, D. W., Scranton, Pa.
Ewing, W. B., West Grove, Pa.
Eyestone, A. G., Gibsonburg, O.
Farles, C. T., Narberth, Pa.
Farquhar, Chas., Olney, Md.
Fassett C. W., St. Joseph, Mo.
Fehlen, A., San Francisco.
Ferguson, B. W., Beemerville, N. J.
Ferguson, F., New York.
Ferguson, Wm. N., Philadelphia.
Fish, C. M., Pleasantville, N. J.
Fish, Samuel A., Denver.
Fisher, J. C., Elmira, N. Y.
Fisher, M. O., Clear Creek, Utah.
Fisler, C. F., Clayton, N. J.
Fitch, T. S. P., East Orange, N. J.
Fitch, A. B., Factoryville, Pa.
Fitz, Reginald H., Boston.
Fitzgerald, D. J., Glens Falls, N. Y.
Fleckenstine, Horace, Newportville, Pa.
Fleisher, Rebecca, Philadelphia.
Fleming, J. C., Elkhart, Ind.
Fleming, T. J., Philadelphia.
Floyd, J. C. M., Steubenville, O.
Flynn, E. H., Marquette, Mich.
Forman, L. H., Buckhannon, W. Va.
Foster, W. R., Crafton, Pa.
Foster, W. S., Pittsburg.
Foshay, P. M., Chicago.
Fountain, J. H., Chapin, Ill.
Foster, J. P. C., New Haven, Conn.
Fox, C. J., Willimantic, Conn.
Francine, Albert P., Philadelphia.
Frank, G. S., Millheim, Pa.
Frazier, J. M., Belton, Tex.
Fretz, A. E., Sellersville, Pa.
Freund, H. H., Philadelphia.
Friedenwaid, J., Baltimore.
Fronfield, J. H., Media. Pa.
Fry, Samuel, Washington, D. C.
Fulton, D., South Bend, Ind.
Fuller, G. E., Monson, Mass.
Funk, D. S., Harrisburg, Pa.
Fussell, M. L., Philadelphia.
Futcher, T. B., Baltimore.
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Gagnou, A. L., Kankakee, Ill.
Gageby, Lenore H., New Castle, Pa.
Gage-Day, Mary, Kingston-on-Hudson, N. Y.
Gains, Charles O., Homelisville, N. Y.
Garcelon, Alonzo, Lewiston, Me.
Garrison, Daniel, Penn Grove, N. J.
Gardner, Edward R., Montrose, Pa.
Gault, W. E., Portsmouth, Ohio.
Geisler, Howard D., Philadelphia.
Gemmill, Harry C., Indianapolis.
Gerhard, Saml P., Philadelphia.
Gibbs, L. J., Chicopee, Mass.
Gichner, Joseph E., Baltimore.
Gifford, Henry B., Juda Wis.
Gifford, John H., Fall River, Mass.
Gilbert, Samuel D., New Haven, Conn.
Gill, William T., Washington, D. C.
Gillette, Herbert F., Cuba, N. Y.
Gillette, Arthur A., Rome, N. Y.*
Glass, Jos. H., South Fork, Pa.
Gobbel, Frederick R., English, Ind.
Goenn, R. Max, Philadelphia.
Goldthwait, Joel E., Boston.
Good, Wm. H., Philadelphia, Pa.
Good, J. F., New Cumberland, Pa.
Gordon, John A., Quincy, Mass.
Gordinier, Herman C., Troy, N. Y.
Gow, Frank F., Schuylerville, N. Y.
Graham, W. H., Shreveport, La.
Grandy, Chas. R., Norfolk, Va.
Gray, Mason W., Pontiac, Mich.
Graybill, J. W., Newton, Kan.
Greene, Clark W., Binghamton, N. Y.
Green, Edgar M., Easton, Pa.
Greene, F. C., Chicago.
Green, Peyton, Wytheville, Va.
Greenwald, Dan'l F., Philadelphia.
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Grosvenor, Joseph W., Buffalo.
Grove, W. T., Eureka, Kan.
Gulick, W. V., Oronoco, Minn.
Gulliford, Wm. M., Lebanon, Pa.
Haecker, L. F., Hampton, Ia.
Hahn, E., Leetonia, O.
Haines, J. C., Vincentown, N. J.
Hall, E. N., Woodburn, Ky.
Hall, H. M., Jr., Pittsburg.
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Hammer, A. W., Philadelphia.
Hamburger, L. P., Baltimore.
Hamilton, J. H., Union, S. C.
Hammond, Wm., Glenolden, Pa.
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Hannum, Wm., Hatboro, Pa.
Hannum, J. W., Ludlow, Mass.
Happel, T. J., Trenton, Tenn.
Hare, H. A., Philadelphia.
Hartzell, W. H., Allentown, Pa.
Harrison, F. M., Napoleon, O.
Hartman, W. F., Swoope, Va.
Harvey, E. H., Atlantic City.
Hart, J. A., Colorado Springs, Colo.
Haskins, Mary G., Detroit.
Hatfield, C. J., Philadelphia.
Hatton, E. M., Columbus, O.
Hauser, C. D., Youngstown, O.
Hawley, J. E., Burr Oak, Kan.
Hazelton, G. W., Haverhill, N. H.
Heacock, J. D., Birmingham, Ala.
Heilman, S. P., Kittanning, Pa.
Heidner, G. A., West Bend, Wis.
Heller, H. D., Hellertown, Pa.
Henry, J. P., Jersey City.
Hertz, Wm. J., Allentown, Pa.
Herbst, H. H., Allentown, Pa.
Herst, H. E., McComb, O.
Heritage, C. S., Glassboro, N. J.
Hickman, N., Philadelphia.
Hickman, W. A., Atlantic City.
Highee, W. S., Philadelphia.
Hildreth J. L., Cambridge, Mass.
Hills. A. K., New York.*
Hirsh, A. B., Philadelphia.
Hirst, L. B., Camden, N. J.
Hitzrot, C. H., Pittsburg.
Hoag, D. E., New York.*
Hobley, Thomas, Amherstburg, Ont., Canada.
Hoffmann, R., Baltimore.
Hogeboom, W. L., Troy, N. Y.
Holden, T. N., New York.
Holmes, A. M., Denver.
Holt, G. T., Cincinnati.
Holland, T. E., Hot Springs, Ark.
Holbert, J. F., Fairchance, Pa.
Holtzapple, G. E., York, Pa.
Hoopes, W. H., Newport, Pa.
Hornbeck, J. S., Catasauqua, Pa.
Horsky, R., Helena, Mont.
Horne, J. A., Mauch Chunk, Pa.
Howe Wm. A., Phelps, N. Y.
Hotchkiss, J. H., New York.
Hughes, W. E., Philadelphia.
Hull, A. P., Montgomery, Pa.
Hume, E. E., Frankfort, Ky.
Hume, J. E., Philadelphia.
Hunsberger, J. N., Skippack, Pa.
Iams, J. T., Waynesburg, Pa.
Ilman, G. M., Philadelphia.
Irving, S. W., New Britain, Conn.
Iszard, W. H., Camden, N. J.
Jacobs, H. B., Baltimore.
Jack. C. M., Decatur, Ill.
Jackson, A. J., Matawan, N. J.
James, S. C., Kansas City, Mo.
Jameson, H., Indianapolis.
James, H. C., Mays Landing, N. J.
Jamesson, J. R., Apple Creek, O.
Janes, W. H., Pennsville, N. J.
Janeway, E. G., New York.
Jarrett, H. S., Towson, Md.
Jenkins, G. F., Keokuk, Ia.
Jepson, S. L., Wheeling, W. Va.
Jessop, Roland, York, Pa.
Johnson, O. B., Lizton, Ind.
Johnston, J. I., Pittsburg.
Johnston, G. W. B., Pittsburg.
Johnson, F. S., Chicago.
Jones, H. H., York, Pa.
Jones, W. W., Allegheny, Pa.
Jones, Frank, Memphis, Tenn.
Jones. Allen A., Buffalo.
Joy. J. A., Atlantic City.
Jump. H. D., Philadelphia.
Karpeles, M. J., Philadelphia.
Kelly, Jos. V., Philadelphia.
Keller, J. C., Wird Gap, Pa.
Kempton, A. F., Philadelphia.
Kendall, F. E., Waterford, Pa.
Kinyoun, J. J., Glenolden, Pa.
King, John T., Baltimore.
Knight, A. L., Cincinnati.
Knox, W. F., McKeesport, Pa.
Kunkel, H., Kingston, Pa.
Kathan, D. R., Corinth, N. Y.
Kauffman, J. H., Reading, Pa.
Kehl, G. W., Reading, Pa.
Kelsey, E. W., Philadelphia.
Kelly, W. C., Morgantown, W
Keller, C. J., Baltimore.
Kembel, C. L., Bloomfield, Ia.
Kent, J. Bryden, Putnam, Conn.
Kenyon, Frank, Scipio, N. Y.
Kenyon, Paul, Wadena, Minn.

Kerr, E., Downingtown, Pa.
Kerr, George, Pierson, Fla.
Keyes, P. H., Dana, Ind.
Kimberlin, A. C., Indianapolis.
Kincaid, J. W., Catlettsburg, Ky.
King, J. M., Los Angeles.
King, E. Y., Richwood, O.
Kirkpatrick, D. F., Lewisville, Tex.
Klemm, A., Philadelphia.
Kleinhaus, F. A., Milwaukee. Va.
Klebs, A. C., Chicago.
Knight, A. S., Enfield, N. Y.*
Knopf, S. A., New York.
Krauss, W., Memphis, Tenn.
Kremer, W. H., Germantown, Pa.
Kurtz, C. S., Malvern, Pa.
Ladova, Rosalia M., Chicago.
Lambert, Alex., New York.
Lancaster, T., Philadelphia.
Landis, H. R. M., Philadelphia.
Langmann, G. A., New York.*
Larned, E. R., Chicago.
La Ross, W. A., McDonald, Pa.
Lawler, W. P., Lowell, Mass.
Lawrence, G. W., East Berlin, Conn.
Leaver, M. H., Quakerstown, N. J.
Lebman, Emanuel, New York
Leech, D. O., Washington, D. C.
Leidy, E. O., Flemington, N. J.
Lenker, C., Schuylkill Haven, Pa.
Leof, M. V., Philadelphia.
Leroy, L., Nashville, Tenn.
LeRoy, I. D., Pleasant Valley, N. Y.
Lester, Elias, Seneca Falls, N. Y.
Lessig, J. A., Schuylkill Haven, Pa.
Lewis, H. E., Burlington, Vt.
Lewis, H. H., Salt Lick, Ky.
Lewinthal, D. C., New York.
Lichty, M. J., Cleveland.
Lichty, J. A., Pittsburg.
Lindsley, C. P., Neew Haven, Conn.
Lindsey, R. W., Little Rock, Ark.
Littig, L. W., Iowa City, Ia.
Livingston, T. M., Columbia, Pa.
Livingston, A. T., Jamestown, N. Y.
Logan, Hugh, The Dalles, Ore.
Long, A. A., York, Pa.
Long, J.*S., Freehold, N. J.
Loughridge, S. S., Philadelphia.
Longshore, W. R., McAdoo, Pa.
Loose, C. G., Reading, Pa.
Lowman, J. H., Cleveland.
Luce, C. R., Washington, D. C.
Luckett, C. D., Reading, Pa.
Ludlow, D. H., Easton, Pa.
Lukens Anna, New York.
Lummis, M. F., Cape May Court House, N. J.
*Lyman, F. R., Hastings-on-Hudson, N. Y.
McCallum, J. A., Arkadelphia, Ark.
McCreary, J. Ernce, Shippensburg, Pa.
McClendon, J. W. Hot Springs.
McClure, James B., Williamstown, N. J.
McConnell, J. Frank, Las Cruces, N. M.
McConnell Chas. W., Altoona, Pa.
McCormick, Horace G., Williamsport, Pa.
McCown, O. S., Memphis, Tenn.
McCrae, Thomas, Baltimore.
McCready, R. J., Allegheny, Pa.
McDougald, J. Q., Philadelphia.
McGahan, C. F., Aiken, S. C.
McGuigan, Jno I., Philadelphia.
McIlhaney, Wm. H., Easton, Pa.
McKean, Geo. E., Detroit.
McKinnon, Chas. L., McKees Rocks, Pa.
McKenzie, William, Consho hocken, Pa.
McLaughry, Elizabeth, Newcastle, Pa.
McLaughlin, J. W., Galveston, Tex.
McLean, John D., Philadelphia.
McMullen, W. H., Merrittatown, Pa.
McNaul, H. J., Philadelphia.
McNeal, H. J., Philadelphia.
McOscar, J. R., Waterville, O.
McPhedran, Alexander, Toronto, Canada.*
Maher, S. J., New Haven, Conn.
Malone, Jos. W., Brooklyn, N. Y.
Manges, Morris, New York.
Mann, E. S., Dallastown, Pa.
Marchand, J. F., Canton, O.
Marcy, Alex., Jr., Riverton, N. J.
Marcy, M. S., Peoria, Ill.
Marshall, G. W., Milford, Del.
Martin, C. S., Allentown, Pa.
Martindale, J. W. Camden, N. J.
Marvel, Philip, Atlantic City.
Mathews, G. S., Providence, R. I.
Matthews, W. J., Johnson City, Tenn.
Maytum, W. J., Alexandria, S. D.
Maxy, E. E., Boise, Ida.
Maxwell, A., Indianapolis.
Maxwell, William S., Still Pond, Md.
Meigh, J., Bernardaville, N. J.
Meltzer, S. J., New York.
Mercur, Wm. H., Pittsburg.
Merryman, John W., Leonard, Pa.
Meyer, Alfred, New York.*
Middleton, Wm. J., Steelton, Pa.
Miller, Ansel I., Brattleboro, Vt.
Miller, De Witt C. R., Mason and Dixon, Pa.
Miller, Harold A., Pittsburg.
Miller, S. B., Laramie, Wyo.
Miller, J. L., Chicago.
Miller, Joseph S., York, Pa.
Miller, Wm. R., Southington Conn.
Millikin T. N. Waynesburg Pa.
Minor, C. L., Asheville, N. C.
Mitchell, H. F., South Bend, Ind.
Mock, Harry E., Muncie, Ind.
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Moore, J. S., New Hope, Ky.
Moore, Hugh M., Oxford, O.
Morrison, W. B., Hagerstown, Md.
Morrow, Geo. S., Dayton, Pa.
Morgan, A. C., Philadelphia.
Morgan, W. T., Washington, D. C.
Morton, W. W., Catlettsburg, Ky.
Morrow, E. O., Canton, O.
Morris, John G., Boston.
Moss, Woodson, Columbia, Mo.
Moulton, W. A., Nichols, N. Y.
Moylan, P. F., Philadelphia.
Moyer, C. C., Lincoln, Neb.
Murdoch, F. H., Pittsburg.
Murfree, Jr., James B., Murfreesboro, Tenn.
Murphy, Felix A., Doylestown, Pa.
Musser, J. H., Philadelphia.
Nagle, T. S., Allentown, Pa.
Nash, A. B., Frenchton, N. J.
Nelson, S. W., Old Forge, N. Y.
Nelson, D. E., Chattanooga, Tenn.
Newbill, C. F., Norfolk, Va.
Newbern, J. M., Powells Point, N. C.
Newhall, L. T., Brookfield, Mass.
Newmayer, S. W. Philadelphia.
Newcomb, A. T., Pasadena, Cal.
Nicholls, R. D., Glassport, Pa.
Nock, T. O., Philadelphia.
Norris, G. W., Philadelphia.
Nunn, W. T., Chestnut Bluff, Tenn.
Odom, J. N., America, Ala.
Oettiker, Jas., Platteville, Wis.
Ogden, C. R., Clarksburg, W. Va.
Osler, William, Baltimore.
Orr, W. P., Sr., Lewes, Del.
Osterhout, E. R., Trumansburg, N. Y.
Otis, Edard O., Boston.
Overleech, M. G., Worcester, Mass.
Page, H. F., Philadelphia.
Paine, R. R., Mandeville, La.
Palmer, A. H., Marlborough, Parkhill, C. S., Hornellsville, N.
Parsons, R. H., Mt. Holly, N. J.
Patterson, E. L., Barnwell, S. C.
Pennington, R. C., Atlantic City.
Pepper, W. L., Philadelphia.
Peterman, A. L., Parker, S. D.
Peters, W. H., Providence, R. I.
Pettit, A., Pittsburg.
Pettit, J. W., Ottawa, Ill.
Pickett, I. N., Odell, Neb.
Pietrowicz, S. R., Chicago.
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Presbrey, S. D., Taunton, Mass.
Preston, J. W., Kingston, W. Va.
Preston, B. S., Burnwell, W. Va.
Priestley, J. T., Des Moines, Ia.
Pugh, J. H., Burlington, N. J.
Pursell, H., Bristol, Pa.
Putnam, J. M., Chelsea, Mass.
Putt, M. O., Oberlin, Pa.
Putnam, Helen C., Providence, R. I.
Quick, T. C., Falls Church, Va.
Quimby, C. E., New York.
Quinn, A. T., Wilmington, O.
Rahter, C. A., Harrisburg, Pa.
Rea, Charles, York, Pa.
Read, R. W., Murfreesboro, Tenn.
Read, F. B., Osceola Mills, Pa.
Reading, G. E., Woodbury, N. J.
Reed, Thos. K., Atlantic City.
Reed, Boardman, Philadelphia.
Register, E. C., Charlotte, N. C.
Reid, G. C., Westerneville, N. Y.
Reiley, Edward A., Atlantic City.
Reinhardt, G. F., Berkeley, Cal.
Rentzheimer, W. H., Hellertown, Pa.
Reynolds, Anna M., Philadelphia.
Reynolds, J. C., Lake Geneva,
Reynolds, J. H., Bellevue, Pa.
Reynolds, W., Atlantic City.
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Riegel, H. H., Catasauqua, Pa.
Richards, C. H., Dunkirk, N. Y.*
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Robertson, W. E., Philadelphia.
Roberts, F. C., Easton, Pa.
Robinson, O. D., Georgetown, Del.
Robinson, R. E., Harvard, Ill.
Robinson, R., Danielson, Conn.
Robbins, G. E., Chillicothe, Ohio.
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Rodman, W. E., Hodgenville, Ky.
Rodenhurst, DeW. C., Philadelphia.
Rogers, R. R., Trenton, N. J.
Root, E. K., Hartford, Conn.
Roussel, A. E., Philadelphia.
Rover, Dr. H. W., Denver.
Rowe, Mark, Paris, Ill.
von Ruck, Karl, Asheville, N. C.
Ruffin, S., Washington, D. C.
Rutherford, J. E., Straight, Pa.
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Sailer, Joseph, Philadelphia.
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Seibert, W. H., Steelton, Pa.
Seibert, J. L., Bellefonte, Pa.
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Sewall, Henry, Denver.
Shaff, J. N., Alton, Ill.
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Shelmerdine, F. K., Philadelphia.
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Sherman A. E., Aurora, Ill.
Shindle, W. L., Sunbury, Pa.
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McGehee, E. P., Lake Village, Ark.
Montgomery, D. W., San Francisco.
Moses, Mortimer A., New York.*
Peterkin, G. S., Seattle, Wash.
Pfahler, G. E., Philadelphia.
Piffard, H. G., New York.
Price, J. C., Scranton, Pa.
Pusey, W. A., Chicago.
Ravogli, A., Cincinnati.
Reade, T. M., Springfield, O.
Rosenthal, M., Baltimore.
Schamberg, J. F., Philadelphia.
Stearns, B. W., Binghamton, N. Y.
Stern, Charles S., New York.
Stelwagon H. W., Philadelphia.
Swarts, G. T., Providence, R. I.
Swoboda, L., Omaha, Neb.
Varney, H. R., Detroit.
Wallis, J. Frank, Philadelphia.
Wayland, A. B., Crozet, Va.
Weiss, Ludwig, New York.
Wolf, W. B., Baltimore.
Young, J. K., Philadelphia.

Section on Materia Medica, Pharmacy and Therapeutics.

Abbott, W. C., Chicago.
Baldwin, E. R., Saranac Lake, N. Y.
Barker, H. H., Washington, D. C.
Barnes, N. P., Washington, D. C.
Beates, H., Jr., Philadelphia.
Butler, G. F., Alma, Mich.
Chittenden, R. H., New Haven, Conn.*
Clements, Jos., Nutley, N. J.
Cohen, S. Solis, Philadelphia.
Coley, Thos. L., Philadelphia.
Cook, H. W., Richmond, Va.
Dickerson, W. L., St. Louis.
Eliot, Gustavus, New Haven, Conn.
England, J. W., Philadelphia.
Foss, John W., Phoenix, Ariz.
Hallberg, C. S. N., Chicago.
Harris, E. Eliot, New York.
Hatcher, R. A., New York.
Hill, J. S., Bellows Falls, Vt.
Huested, A. B., Albany, N. Y.*
Iland, E. M., Coraopolis, Pa.
Jones, P. M., San Francisco.
Koenig, Adolph, Pittsburg.
Leard, J. S. H., Jamaica Plain, Boston.
Livingood, W. W., Reading, Pa.
Lowe, Clement B., Philadelphia.
Mansfield, H. P., Ridgefield, Conn.
Mendel, L. B., New Haven, Conn.*
Moyer, S. R., Monroe, Wis.
Osborne, O. T., New Haven, Conn.
Reed, R. C. S., Los Angeles.
Reilly, Thos. F., New York.
Remington, Jos. P., Philadelphia.
Robinson, Wm. J., New York.
Sajous, C. E. deM., Philadelphia.
Schweitzer, H., New York.*
Shoemaker, Jno. V., Philadelphia.
Snively, N., Philadelphia.
Stern, Heinrich, New York.
Stevens, F. W., Bridgeport, Conn.
Stewart, W. B., Atlantic City.
Tompkins, W. W., Charleston, W. Va.
Wade, D. W. C., Holly, Mich.
Wallace, J. C., Ft. Wayne, Ind.
Webb, O. W., Wellsboro, Pa.
White, Wm. R., Providence, R. I.
Wiley, H. W., Washington, D. C.
Wilbert, M. J., Philadelphia.
Wood, H. C., Jr., Philadelphia.
Woodbury, Frank, Philadelphia.
Yarbrough, Chas. C., Detroit.
Yarnall, J. H., Washington, D. C.

Section on Laryngology and Otology.

Abbott, H. P., Providence, R. I.
Abraham, Jos. H., New York.
Anderson, Willis S., Detroit.
Baker, C. H., Bay City, Mich.
Baldwin, Kate W., Philadelphia.
Barnhill, John F., Indianapolis.
Bean, C. E., St. Paul.
Beers, G. H., Ticonderoga, N. Y.
Biedert, C. C., Philadelphia.
Bindley, J. H., San Antonio, Tex.
Bryant, W. S., New York.
Bullock, E. S., Silver City, N. M.
Burke, T. A., Cleveland.
Butler, Harry, Bangor, Me.
Butler, Margaret F., Philadelphia.
Butler, Ralph, Philadelphia.
Casselberry, W. E., Chicago.
Clementson, W. A., Braddock, Pa.
Cline, Lewis C., Indianapolis.
Cobb Caroline M., Lynn, Mass.
Cocke, W. I., Port Washington, N. Y.
Cohen, J. Solis, Philadelphia.
Corson, G. R. S., Philadelphia.
Corwin, F. W., Newark, N. J.
Cott, George F., Buffalo.
Cracraft, C. C., Claysville, Pa.
Cryer, M. H., Philadelphia.
Demarest, F. F. C., Passaic, N. J.
Denison, C. E., New York.
Dietrich, W. A., Chattanooga, Tenn.
Donnellan, P. S., Philadelphia.
Doriss, H. S., Atlantic City.
Dufour, C. R., Washington, D. C.
Feit, C. L., Philadelphia.
Fischelis, Philipp, Philadelphia.
Fitzgerald, W. H., Hartford, Conn.
Fleming, E. W., Los Angeles.
Frendenthal, Wolff, New York.
Freer, Otto T., Chicago.
Gallaher, Thomas J., Denver.
Garrison, J. E., Ocean City, N. J.
Getchell, A. C., Worcester, Mass.
Gip, Jos. S., Philadelphia.
Halsted, T. H., Syracuse, N. Y.*
Hammond, Philip, Boston.
Harland, W. G. B., Philadelphia.
Hartman, Jacob H., Baltimore.
Head, Gustavus P., Chicago.
Hitschler, Wm. A., Philadelphia.
Hubbard, Thomas, Toledo, O.
Iglauer, Samuel, Cincinnati.
Ingals, E. Fletcher, Chicago.
Irwin, V. J., Springfield, Mass.
Jurist, Louis, Philadelphia.
Johnston, Samuel, Baltimore.
Jones, W. S., Camden, N. J.
Kennon, B. R., Norfolk, Va.
Kerrison, P. D., New York.
Kyle, D. Broden, Philadelphia.
Kuyk, D. A., Richmond, Va.
Large, Secord H., Cleveland.
Lautenbach, L. J., Philadelphia.
Lutz, Stephen H., Brooklyn, N. Y.
Mahon, J. S., Allegheny, Pa.
Mackenzie, John N., Baltimore.
Mukuen, G. H., Philadelphia.
Masland, H. C., Philadelphia.
Mayer, Emil, New York.
McAuliffe, Geo. R., New York.
McDonald, D. J., New York.
McKimmie, O. A. M., Washington, D. C.
Means, D. W., Scranton, Pa.
Miller, Elizabeth K., Ridley Park, Pa.
Milligan, S. C., Pittsburg.

Section on Pathology and Physiology.

Adler, Isaac, New York.
Bergey, David H., Philadelphia.
Boston, L. Napoleon, Philadelphia.
Brooks, Henry T., New York.*
Busch, Frederick C., Buffalo.
Cannon, Walter B., Boston.
Christian, Henry A., Boston.
Cozad, H. Irving, Akron, O.
Cushing, Harvey, Baltimore.
Gies, Wm. J., New York.
Hall, Frank J., Kansas City, Mo.
Hall, Winfield S., Chicago.
Hitchens, Arthur P., Glenolden, Pa.
Hoxie, Geo. H., Lawrence, Kan.
Irving, P. A., Richmond, Va.
Jack, Geo. N., Denew, N. Y.
Kneass, Samuel S., Philadelphia.
Kotz, A. L., Easton, Pa.
Litterer, Wm., Nashville, Tenn.
Loeb, Leo, Philadelphia.
Lusk, Graham, New York.*
MacCallum, W. G., Baltimore.
McClintock, Chas. T., Detroit.
McConnell, Guthrie, Philadelphia.
McFarland, Joseph, Philadelphia.
Malone, F. F., Chicago.*
Newcomet, Wm. S., Philadelphia.
Ohlmacher, A. P., Gallipolis, O.
Page, Calvin G., Boston
Park, William H., New York
Rosenau, M. J., Washington, D. C.
Rosenberger, Randle C., Philadelphia.
Schoney, L., New York.*
Smith, Allen J., Philadelphia.
Smith, Claude A., Atlanta, Ga
Stephens, O. Z., Chicago.*
Stokes, Wm. R., Baltimore.
Terrill, James J., Galveston, Tex.
Ulrich, W. B., Chester, Pa.
Vaughan, Victor C., Ann Arbor, Mich.
Ward, Henry B., Lincoln, Neb.*
Welch, William H., Baltimore.
White, C. G., Philadelphia.
Whitney, E. L., Baltimore.
Williams, Roger, Pittsburg
Wynn, Frank B., Indianapolis.

The following did not specify any particular section:

Abbott, J. T., Ovid, Mich.
Adams, O. H., Vineland, N. J.
Alguire, Aonie, Belvidere, Ill.
Alguire, Alden, Belvidere, Ill.
Allis, Oscar H., Philadelphia.
Arthur, F. M., Pittsford, Vt.
Ashton, W. E., Philadelphia.
Bailey, W. G., Camden, N. J.
Barkey, Peter, Erie, Pa.
Barnhill, James U., Columbus, O.
Brouner, Walter B., New York.
Burnett, C. D., Newark, N. J.
Burch, W. Thompson, Washington, D. C.
Burns, R. Bruce, Philadelphia.
Cole, W. W., Allegheny, Pa.
Coplin, W. M. L., Philadelphia.
Crane, S. E., Syracuse, N. Y.*
Crankshaw, C. W., Newark, N. J.
Crumb, Chas. W., Utica, N. Y.*
Crummer, LeRoy, Omaha, Neb.
Currens, J. R., Two Rivers, Wis.
Currie, T. R., Philadelphia.
Cuskaden, A. D., Atlantic City, N. J.
Deaver, R. W., Germantown, Pa
Dougherty, Henrietta M., Philadelphia.

Dix, J. Morgan, Cape May C. H., N. J.
Dundor, Adam B., Reading, Pa.
Dumond, M. A., Ithaca, N. Y.
Dunlap, H. M., Battle Creek, Mich.
Dunlap, Mary J., Vineland, N. J.
Earle, S. T., Jr., Baltimore.
Ellis, C. M., Elkton, Md.
Elliott, J. H., Gravenhurst, Ont., Canada.*
Exton, J. A., Arlington, N. J.
Foltz, J. Clinton, Philadelphia.
Franklin, M. M., Philadelphia.
Frauenthal, H. C., New York.*
Frauenthal, H. W., New York.
Garner, H. B., Traverse City, Mich.
Goler, G. N., Rochester, N. Y.
Gottschalk, L., Chester, Pa.
Grant, J. G., Akron, O.
Gray, F. D., Jersey City.
Gutshall, Frank A., Blair, Pa.
Harvey, Edwin B., Boston.
Hemmeter, John C., Baltimore.
Hogan, R. F., Brooooklyn, N. Y.*
Hogue, G. I., Ft. McDowell, Cal.
Hollinger, J., Chicago.
Hoover, A. M., Parkers Landing, Pa.
Hosmer, A. J., Salt Lake City.
Howard, E. C., Philadelphia.
Jarecky, H., New York.
Johnson, W. B., Paterson, N. J.
Jones S. C., Rochester, N. Y.
Judkins, D. M., Fullerton, Neb.
Kelchner, W. L., Camden, N. J.
Kirker, G. A., Detroit.
Kohler, J. B., New Holland, Pa.
Kuehn, R., Bluefields, Nicaragua.*
Kyle, Jno. J., Indianapolis.
Leech, F., Washington, D. C.
Leonard, J. E., Harford Mills, N. Y.*
Lombard, Guy D., New York.
Long, J. W., Greensboro, N. C.
Lucas, V. C., Cleveland.
McKay, J. S., Potsdam, N. Y.
Mason, L. D., Brooklyn, N. Y.
Meierhof, Edw. Lee, New York.*
Metzler, V. W., Atlantic City.
Minnich, W. H., Dallastown, Pa.
Modell, Daniel A., Philadelphia.
Mohun, C. C., San Francisco.
Montgomery, L. H., Chicago.
Morgan, James B., Augusta, Ga.
Mudgett, John H., Philadelphia.
Murray, D. H., Syracuse, N. Y.*
Neville, Francis A., Meredosia, Ill.
Nichols, Estes, Portland, Me.
Palmer, Edmund J., New York.
Peckham, F. E., Providence, R. I.
McPhedran, A., Toronto, Can.*
Putney, Jas., Charleston, W. Va.
Quackenbush, L. H., Broome, N. Y.
Ramsay, Wm. E., Perth Amboy, N. J.
Raudenbush, A. G., Reading, Pa.
Reed, E. L., Atlantic City.
Reynolds, J. H., Bellevue, Pa.
Richmond, N. G., Fredonia, N. Y.*
Rodham, T. B., Scranton, Pa.
Rogers, C. A., Freeport, Pa.
Romine, G. L., Lambertville, N. J.
Roy, Dunbar, Atlanta, Ga.
Russell, E. R., Charlotte, N. C.
Ryan, D. M., Ware, Mass.
Saxman, N. H., Philadelphia.
Schachner, A., Louisville.
Simmons, Horace M., Baltimore.
Schmitt, Gustav, Milwaukee.
Stern, A. A., Rondout, N. Y.*
Stotts, A. F., Ebrenfeld, Pa.
Thomason, F. G., Kissimmee, Fla.
Underwood, Adelaide M., Lancaster, Pa.
Salinger, Julius.
Webster, J. B., Atlantic City.
Wedgwood, M. C., Lewiston, Me.
Wharton, H. R., Philadelphia.
Whitmyer, John F., New York.*
Wilhelm, E. T., South Bethlehem, Pa.
Young, Charles, Newark, N. J.

Marriages.

ALEXANDER FREED, M.D., to Miss Lucille Delevic, at Baltimore, June 22.

C. H. BANKHEAD, M.D., to Miss Maude Harding, at Elkins, W. Va., June 16.

WILMER CLIFTON ENSOR, M.D., to Miss Mary Virginia Stromberg, at Texas, Md.

ROBERT PARK GRIFFITH, M.D., to Miss Julia Walton, at Richmond, Va., June 22.

CHARLES W. HARTWIG, M.D., to Miss Ida M. Alvey, both of Baltimore, June 11.

D. T. QUIGLEY, M.D., to Miss Helen Seyforth, both of North Platte, Neb., June 15.

CHARLES R. KOSSAT, M.D., to Miss Ollie Roloff, both of Milwaukee, Wis., June 8.

GEORGE B. BILSBOROW, M.D., to Miss Nette F. Conover, both of Yuma, Colo., June 15.

THOMAS M. HARRIS, M.D., to Miss Mary Lassiter, both of Mustang, Texas, June 8.

S. L. STEVENS, M.D., to Miss Vida E. Uppendahl, both of Dalton City, Ill., May 16.

WILLIAM H. MICK, M.D., Denver, Colo., to Miss Ethel T. Wead of Omaha, May 25.

D. G. BODKIN, M.D., to Miss Madelaine Fisher, both of Brooklyn, N. Y., June 14.

HUGH A. BEAM, M.D., Eagle Grove, Iowa, to Miss Grace M. Brown of Rolfe, Iowa, June 8.

ION JACKSON, M.D., New York City, to Miss Florence Slater of Middletown, N. Y., June 15.

JAMES S. HANSON, M.D., Sandusky, Ohio, to Miss Bessie E. Arnold of Avery, Ohio, June 15.

E. JAY CLEMENS, M.D., Aberdeen, S. D., to Miss Katherine Welles of Meadville, Pa., June 15.

THOMAS H. LEONARD, M.D., Chicago, to Miss Caroline M. Gehlbach of Lincoln, Ill., June 21.

FRANK HILL HEDGES, M.D., Frederick, Md., to Miss Mary Simpson Mullinix, at Urbana, Md.

JOHN FLOYD HOLT, M.D., Pittsburg, Pa., to Miss Estelle Spear of Parker's Landing, June 15.

PAUL WARRINER BECKHAM, M.D., to Miss Maude Boaz Hamner, at Covesville, Va., June 11.

JOSEPH MARTIN HITCH, M.D., Laurel, Del., to Miss Llewellyn Kerr Freeny, at Suffold, Va., June 22.

BRANDRETH SYMONDS, M.D., New York City, to Miss Florence Bacon of Goshen, N. Y., June 11.

WILLIAM H. RYLAND, M.D., Meyersdale, Pa., to Miss Mary Schuyler of Lonaconing, Md., June 11.

RAYMOND P. FRINK, M.D., Wagner, S. D., to Miss Daisy Belle Salley of Archer, Iowa, June 15.

ARTHUR WISE DEBELL, M.D., Powellton, W. Va., to Elizabeth Fairfax, at Richmond, Va., June 29.

J. NELSON BARGER, M.D., Darlington, Mo., to Miss Ruby Pearl Cravens, at St. Joseph, Mo., April 20.

LOUIS W. CULBREATH, M.D., Stanton, Tenn., to Miss Willie Thomas Capelli of Van Buren, Ark., June 15.

Deaths.

Asbury McKendree Crow, M.D. Bellevue Hospital Medical College, New York City, 1865, a member of the American Medical Association, three times city physician of Kansas City, Mo., a member of the county and state societies, and for 35 years a leading member of the local medical profession, died at his home in Kansas City, June 23, from Bright's disease, with associated hepatic disease, after a prolonged illness, aged 63.

Vincent H. Moore, M.D. Faculty of Medicine of Queen's University, Kingston, Ont., 1876, past president of the Canadian Medical Association; representative of his college on the Ontario Medical Council for many years, and its president in 1890, and vice-president of the Association of Military Medical Officers of Canada, died suddenly at his home in Brockville, June 8, aged 56.

James W. Keiser, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1882, of Reading, Pa., a member of the Reading and Berks County medical societies, and for fourteen years secretary and in 1901 president of the latter, died at the Reading Hospital, June 8, from valvular heart disease, after an illness of one week, aged 43.

Lafayette J. Jones, M.D. Jefferson Medical College, Philadelphia, 1861, surgeon in the Confederate Service, and in charge of the Winder Hospital, Richmond, Va., during the Civil War; chief surgeon of the Confederate Soldiers' Home, Pewee Valley, Ky., died at his home in Franklin, Ky., from organic heart disease, June 11, aged 66.

James Hosking, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1891, physician of the Wolverine, Allouez and Mohawk mines, and secretary of the Houghton County Medical Society, died at his home in Wolverine, Mich., June 9, from fracture of the skull, received in a runaway accident, aged 36.

William S. Hereford, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1877, formerly assistant secretary to the State Board of Health, and city physician of San Francisco, was found dead at his home in that city, June 13, from heart disease and alcoholism, aged 52.

George L. Fitch, M.D. Bellevue Hospital Medical College, New York City, 1870, of San Francisco, for five years crown physician of Hawaii, who passed on all cases of leprosy in Honolulu for five years, died at the Belmont Sanitarium, in San Mateo County, Cal., June 2, aged 60.

Michael J. Hughes, M.D. Jefferson Medical College, Philadelphia, 1883, port physician and ex-officio member of the board of health of Wilmington, Del., died at Bedford Springs, Pa., June 19, from Bright's disease, from which he had suffered several years.

Thomas Flint, M.D. Jefferson Medical College, Philadelphia, 1849, a member of the American Medical Association, and one of the most prominent citizens of San Benito County, Cal., died at his home near San Juan, Cal., June 19, from paralysis, after an illness of five days.

James T. Crow, M.D. Medical Department of the St. Louis University, 1854, a member of the American Medical Association; for more than 40 years an esteemed practitioner of Carrollton, Ill., died at the Illinois Central Hospital for the Insane, June 1, aged 77.

Edward Gumpert, M.D. University of Würzburg, Germany, 1856, one of the oldest physicians of Wilkesbarre, Pa., died at his home in that city, June 3, from paralysis, aged 78. During the Civil War he served on the staff of General McClellan.

John Walter Bethea, M.D., a member of the American Medical Association, and of the Mississippi State Medical Association, was instantly killed, June 18, by a train, while driving over a grade crossing at his home in Fernwood, Miss.

William Hoyle Haddock, M.D. College of Physicians and Surgeons of Baltimore, 1896, for several years physician of Duval County, Fla., died at his home in Jacksonville, June 15, from typhoid fever, after an illness of one month, aged 31.

John Walter Hunt, M.D. Kentucky School of Medicine, Louisville, 1879, died recently at his home in Anderson, Ind., and was buried, June 20. His funeral was attended by the Madison County Medical Society in a body.

William D. Spencer, M.D. College of Physicians and Surgeons in the City of New York, 1873, a member of the American Medical Association and the Connecticut Medical Society, died at his home in Old Saybrook, Conn., June 3.

Cedric Le Moine Cotton, M.D. McGill University, Montreal, 1878, of Cowansville, Quebec, died in the Montreal General Hospital, June 16, from septicemia following an operation wound, after an illness of ten days, aged 47.

George A. Geist, M.D. University of Michigan, Ann Arbor, 1897, of Prairie du Chien, Wis., died from cerebral hemorrhage following an overdose of morphin taken with suicidal intent, at McGregor, Iowa, June 16, aged 30.

Matthew Leepere, M.D., major-surgeon, U. S. V., formerly of Chicago; for the last year and a half president of the board of health of the island of Mindoro, P. I., died from nephritis, in Glen Cove, L. I., June 4, aged 50.

Silas N. Denham, M.D. St. Louis Medical College, 1860, a surgeon in the Confederate Army during the Civil War, died at his home in Kansas City, Mo., June 9, from nephritis, after an illness of two weeks, aged 66.

James Lawless, M.D. Rush Medical College, Chicago, 1877, some-time assistant superintendent of the Cook County Hospital for the Insane, died suddenly at his home in Chicago, June 9, from heart disease, aged 60.

Sevier D. Clark, M.D. Vanderbilt University Medical Department, Nashville, 1886, of Nocona, Texas, died at a sanitarium in Gainesville, Texas, June 16, two days after an operation for cancer of the liver.

Philip W. Beale, M.D. Jefferson Medical College, Philadelphia, 1876, coroner of Camden County, N. J., died at his home in Camden, June 7, after an illness of five days from cerebral hemorrhage, aged 47.

Walter Scott McCall, Jr., M.D., Missouri Medical College, St. Louis, 1882, of Steedman, Mo., died at the home of his parents in Fulton, Mo., from chronic malaria, after an illness of five years, aged 46.

Frank P. Collins, M.D. Michigan College of Medicine and Surgery, Detroit, of Detroit, died at the Detroit Sanitarium, June 2, from consumption after an illness of four months, aged 31.

Gaspard Archambault, M.D. University of the Victoria College, Cobourg, Ont., 1873, formerly professor of dermatology at Laval University, died at his home in Montreal, June 14, aged 53.

Finis Brandon, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1879, died at his home in Lafayette, Ky., June 8, from gastritis, after an illness of one year, aged 48.

John Hardin Dorn, M.D. Albany (N. Y.) Medical College, 1864, for 21 years police surgeon in New York City, died suddenly from angina pectoris in London, England, June 17, aged 62.

William T. Duersen, M.D. American Medical College, Indianapolis, 1899, died at his home in Bethlehem, Ind., June 12, from acute gastritis, after an illness of only a few hours, aged 59.

Wilbur R. McKnew, M.D. University of Maryland, Baltimore, 1862, surgeon in the Confederate service during the Civil War, died at his home in Baltimore, May 31, after a lingering illness, aged 64.

Andrew J. Morgan, M.D. Cincinnati College of Medicine and Surgery, 1890, formerly city physician of Chattanooga, Tenn., died at Antelope, Texas, May 25, after a prolonged illness, aged 50.

John A. Brenneman, M.D. Rush Medical College, Chicago, for many years in practice at Freeport, Ill., died at his home in Riverside, Cal., May 22, from heart disease, after a brief illness, aged 78.

Osa Ray Summers, M.D. Medical College of Indiana, Indianapolis, 1897, ex-president of the Henry County Medical Society, died at his home in Middletown, Ind., June 8, from pneumonia, aged 29.

Swan W. Carlson, M.D. University of Minnesota College of Medicine and Surgery, Minneapolis, 1902, of Starbuck, Minn., died at Bethesda Hospital, St. Paul, June 3, from consumption, aged 30.

Frank Freemire, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882, died at his home in Chester, Iowa, June 10, from the effects of carbolic acid accidentally self-administered.

Michael D. Scanlon, M.D. Jefferson Medical College, Philadelphia, 1869, formerly of Washington, Ind., died at the Home of the Little Sisters of the Poor, Evansville, Ind., May 30, aged 75.

Samuel T. Dunning, M.D. Vanderbilt University Medical Department, Nashville, 1887, died from cerebral hemorrhage, June 20, at his home in Canton, Miss., after an illness of three hours.

Alvin J. Howe, M.D. Medical College of the Pacific, San Francisco, 1873, died at his home in Alameda, Cal., June 12, from Bright's disease, after an illness of several years, aged 55.

Hugh McD. Martin, M.D. University of Virginia Medical Department, Charlottesville, 1855, surgeon in the Confederate service, died at his home in Fredericksburg, Va., June 23.

Robert Elmer Bunker, M.D. University of California Medical Department, San Francisco, 1889, was found dead from heart disease in his office in San Francisco, June 12, aged 42.

Henry E. Childs, M.D. Harvard University Medical School, Boston, died at his home in East Hartford, Conn., June 14, from Bright's disease, after a prolonged illness, aged 59.

Stafford J. Meek, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1882, died at his home in Winsted, Minn., June 17, from pneumonia, aged 64.

Charles J. Kneeland, M.D. University of Pennsylvania, Philadelphia, 1870, of Traverse City, Mich., died at the Alma Sanitarium, June 4, from organic heart disease, aged 68.

Elias J. Van Court, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1853, died, June 4, at his plantation home near Kingston, Miss., aged 73.

Albion A. Andrews, M.D. University of Michigan, Ann Arbor, 1877, died at his home in Fargo, N. D., June 12, after an illness of several months, from Bright's disease, aged 59.

Emmet E. Bracey, M.D. Michigan College of Medicine and Surgery, Detroit, 1882, of Thompsonville, Mich., died, June 18, in Grand Rapids, Mich., after a protracted illness.

William H. Coe, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1866, died at his home in Auburn, N. Y., recently, and was buried May 25.

George Washington Brooks, M.D. New York University, 1850, who retired from active practice in 1896, died at his home in New York City, June 3, from apoplexy, aged 87.

John H. Hudson, M.D. Illinois, 1890, mayor of Negaunee, Mich., was drowned in the Escanaba River while on a fishing expedition. His body was recovered June 6.

R. T. Ellett, M.D. Medical College of Virginia, Richmond, 1858, surgeon in the Confederate service during the Civil War, died at his home in Christiansburg, Va., May 27.

William Herbert Brinder, M.D. Barnes Medical College, St. Louis, 1901, of Satan, Mo., was run over by a train near that place, June 12, and instantly killed, aged 27.

John H. Creekbaum, M.D. Miami Medical College, Cincinnati, formerly of Denver, died from pneumonia at the Holy Cross Hospital, Salt Lake City, June 6, aged 25.

Joseph William Akin, M.D. Louisville Medical College, surgeon in the Confederate service during the Civil War, died at his home in Louisville, June 20, aged 74.

John Ballard, M.D. Jefferson Medical College, Philadelphia, 1868, died at his home in Haubstadt, Ind., June 12, from paralysis, after a lingering illness, aged 64.

E. W. Parkins, M.D., a young practitioner of Bramwell, W. Va., was thrown from his buggy in a runaway, June 18, fracturing his skull. He died June 20.

Daniel W. Moseley, M.D. Jefferson Medical College, Philadelphia, died at his home in Richmond, Va., June 15, from apoplexy, after a short illness, aged 76.

David Williams, M.D. Jefferson Medical College, Philadelphia, 1891, died at his home in Slatington, Pa., June 1, from consumption, after a long illness, aged 42.

Henry D. Denaut, M.D. Faculty of Medicine of Queen's University, Kingston, Ont., 1892, died of pneumonia at his home in Walkerton, Ind., June 7, aged 37.

Robert Fitzgerald Gillin, M.D. New York University, New York City, 1879, died at his home in East Orange, N. J., May 28, after a long and painful illness.

Oliver E. E. Arndt, M.D. University of Michigan, Ann Arbor, 1887, died at his home in Easton, Pa., June 1, from intermittent fever, after a brief illness, aged 41.

Caleb Edward Iddings, M.D., surgeon in the U. S. Army during the Civil War, died at his home in Sandy Spring, Md., June 4, from Bright's disease, aged 75.

Joseph Haven, M.D. Rush Medical College, Chicago, 1880, of Chicago, United States consul at St. Kitts, British West Indies, died at his post of duty, June 10.

Robert M. Merryman, M.D. Columbus (Ohio) Medical College, 1891, died at his home in Dublin, Ohio, after a lingering illness from lung disease, June 2.

Charles S. Rannells, M.D. Starling Medical College, Columbus, 1871, a charter member of the Vinton County Medical Society, of Zaleski, Ohio, died recently.

Waterman F. Corey, M.D. Howard University Medical Department, Washington, D. C., 1880, died at his home in Washington, D. C., June 16, aged 70.

Washington Fithian, M.D. Medical College of Ohio, Cincinnati, 1848, the oldest practitioner of Bourbon County, Ky., died at his home in Paris, June 16.

L. E. Hutchinson, M.D. Illinois, 1877, died at his home in Marinette, Wis., June 8, from cerebral hemorrhage complicating pneumonia, aged 54.

Benjamin Franklin Lang, M.D. Ohio, 1882, died at his home in Pawtucket, R. I., June 8, from diphtheria, after an illness of one week, aged 48.

Lucius Smith Ingman, M.D. Ohio, 1868, died at his home in Oak Park, Ill., June 3, from Bright's disease, after an illness of six months, aged 66.

Joseph Lewis Fant, M.D. Medical College of the State of South Carolina, Charleston, 1876, died at his home in Tuscaloosa, Ala., May 30.

William Joseph Simpson, M.D. Kansas City (Mo.) Medical College, 1882, of Weston, Mo., was shot and instantly killed, June 3, aged 50.

Henry I. Hummel, M.D. Starling Medical College, Columbus, 1865, died at his home in Baltimore, Ohio, June 11, after a short illness, aged 66.

William L. Williamson, M.D. University of Maryland School of Medicine, Baltimore, 1869, died at his home in Marianna, Ark., May 29.

George W. Burke, M.D. Medical Institution of Yale College, New Haven, 1843, died at his home in Middletown, Conn., June 4, aged 82.

Henry B. Bessac, M.D. University of Michigan, Ann Arbor, 1873, died recently from septicemia at his home in Forbestown, Cal.

Jacob Hoke Beidler, M.D. Illinois, died at his home in Lincoln, Ill., June 6, from bronchitis, after an illness of four weeks, aged 75.

O. E. E. Findley, M.D. Medico-Chirurgical College of Philadelphia, 1888, died at his home in Easton, Pa., May 31, aged 41.

Elizabeth Young Taylor, M.D. Ohio, 1893, died recently at her home in Grand Rapids, Mich., and was buried, June 4.

Thomas P. Leedom, M.D. Keokuk (Iowa) Medical College, 1893, died suddenly at his home in Kirksville, Mo., June 4.

Fabius Hawood Seawell, M.D., surgeon in the Confederate service, died at his home in Emit, N. C., May 30, aged 63.

I. W. Cousins, M.D. Atlanta (Ga.) Medical College, 1860, died at his home in Jonesboro, Ga., June 9, aged 69.

Samuel P. Town, M.D. Ohio, 1871, died at his home in Jackson, Mich., June 1, from paralysis, aged 82.

William M. Davis, M.D., died at his home in Mullins, S. C., June 17, after a short illness, aged 73.

John Henry Floto, M.D. Pennsylvania, 1837, died at his home in Oakland, Cal., June 10, aged 98.

W. H. Bentley, M.D. Kentucky, 1895, died at his home in Woodstock, Ky., May 12.

A. L. W. Bowers, M.D., 1842, died recently at his home in Winfield, Ohio, aged 80.

W. Andrew Cook, M.D., 1879, died at his home in Denver, Colo., June 12, aged 58.

Noah Bergman, M.D. Illinois, 1892, died at Mount Corey, Ohio, June 6, aged 57.

Reuben Owen, M.D. Pennsylvania, 1875, died at his home in Philadelphia, June 9.

James Austin, M.D., died at his home in Owosso, Mich., June 3, aged 70.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, for the two weeks ending June 25, 1904:

Vose, William E., asst.-surgeon, leave of absence granted for two months and twenty-three days is revoked.

Gilchrist, Harry L., asst.-surgeon, granted ten days' leave about June 20, 1904.

Havard, Valery, asst.-surgeon-general, relieved from duty at U. S. Military Academy, West Point, N. Y., and ordered to proceed Sept. 1, 1904, to Governor's Island, N. Y., and report to commanding general, Department of the East, for duty as chief surgeon of that department.

Rand, I. W., asst.-surgeon, granted twenty days' leave of absence.

Murray, Alexander, asst.-surgeon, reported for duty U. S. General Hospital, Fort Bayard, N. M.

Owen, Wm. O., surgeon, and Geer, Chas. C., asst. surgeon, arrived at San Francisco from Manila on the *Logan*, sick.

Morse, Arthur W., asst.-surgeon, left Vancouver Barracks, Wash., with troops en route to American Lake, Wash.

Ewing, Charles B., surgeon, left Columbus Barracks, Ohio, on seven days' leave of absence.

Jones, Percy L., asst.-surgeon, reports arrival at Mt. Gretna, Pa., with engineer battalion.

McAndrew, P. H., asst.-surgeon, left Jefferson Barracks, Mo., with Squadron Fourth Cavalry, en route to Rifle Range, Arcadia, Mo.

Phillips, Jno. L., surgeon, temporarily in charge of the office of chief surgeon, Department of the East, is relieved temporarily from his present duties as post surgeon, Fort Jay, and attending surgeon at department headquarters, and will report direct to Division Headquarters, for duty in connection with field exercises at Manassas.

Edger, Benj. J., Jr., asst.-surgeon, promoted captain and asst.-surgeon, U. S. Army, to rank from June 14, 1904.

Davidson, W. T., asst.-surgeon, arrived at San Francisco on transport *Buford* from Manila.

Miller, Edgar W., asst.-surgeon, left Fort Clark, Texas, on practice march with Third Squadron, First Cavalry, en route to Camp Eagle Pass, Texas.

Wilson, James S., asst.-surgeon, reported for temporary duty at Fort Monroe, Va.

Wickline, Wm. A., asst.-surgeon, left Fort Ethan Allen, Vt., en route to Fort Adams, R. I., for temporary duty.

Stiles, Henry R., asst.-surgeon, leave of absence on account of sickness extended three months.

Vose, William E., asst.-surgeon, granted two months' leave of absence, to take effect on arrival at Fort Logan H. Roots, Ark., of a medical officer to be ordered there to relieve him.

Minor, James C., contract surgeon, granted fifteen days' leave of absence from the Army and Navy General Hospital, Hot Springs, Ark., to take effect about June 25.

Allen, Ira A., contract surgeon, relieved from further duty in the Philippine Division and assigned to duty at the expiration of his present leave of absence to Fort Dade, Fla.

Feeney, John M., contract surgeon, now on leave of absence from the Philippine Division, has been granted an extension of one month.

Stoney, Randell C., contract surgeon, granted leave of absence from June 18 to July 3 from Fort Hamilton, N. Y.

Titus, Frank H., contract surgeon, arrived at Ord Barracks, Cal., for duty.

Adair, George F., contract surgeon, returned June 13 to his proper station, Fort Wadsworth, N. Y., from temporary duty at Fort Hamilton, N. Y.

Geddings, E. F., asst.-surgeon, leave of absence extended thirty days.

Owen, William O., surgeon, granted thirty days' sick leave with permission to apply for thirty days' extension.

Appel, Aaron H., surgeon, granted ten days' sick leave of absence.

Rutherford, H. H., asst.-surgeon, relieved from further temporary duty at Army and Navy General Hospital, Hot Springs, Ark., and will return to his station, Fort Mackenzie, Wyo.

Davidson, Wilson T., asst.-surgeon, relieved from further duty in Philippine Division and assigned to duty at U. S. Army General Hospital, Presidio of San Francisco.

Shortlidge, E. D., asst.-surgeon, relieved from duty at U. S. General Hospital, Presidio of San Francisco, and ordered to Fort Miley, Cal., for duty.

Glennan, Jas. D., surgeon, detailed for duty as chief surgeon, First Provisional Division Army maneuvers at Manassas, Va.

Brooks, Wm. H., asst.-surgeon, relieved from duty at U. S. Army General Hospital, Washington Barracks, D. C., and ordered to Fort Washington, Md.

Reynolds, Chas. R., asst.-surgeon, relieved from duty at Fort Washington, Md., and ordered to U. S. A. General Hospital, Washington Barracks, D. C., for duty.

Reynolds, F. P., asst.-surgeon, granted two months' leave, to take effect when relieved from duty at U. S. A. General Hospital, Washington Barracks, D. C.

Crampton, Louis W., deputy surgeon general, granted twenty days' sick leave of absence.

Raymond, Thomas U., surgeon, in addition to present duties, will take charge of the Medical Supply Depot, St. Louis, during the absence of Lieutenant Colonel Crampton on sick leave.

Shimer, Ira A., asst.-surgeon, granted thirty days' leave of absence about July 1, 1904.

Barney, Chas. N., asst. surgeon, assigned to temporary duty in C. S. O. Department of the East, and will proceed from Fort Schuyler to Governor's Island, N. Y., daily and return for that service until July 1, 1904.

Merrick, John N., contract surgeon, ordered from Fort Missoula, Mont., to Fort Yellowstone, Wyo., for duty in the National Park during the tourist season.

Felts, Robert L., contract surgeon, returned to Fort Sam Houston, Texas, June 13, from leave of absence.

Daywalt, George W., contract surgeon, granted leave of absence for one month, beginning July 9.

Van Kirk, Harry H., contract surgeon, arrived at Fort Sill, Okla., June 16, for duty.

Decker, George M., contract dental surgeon, left Fort Du Chesne, Utah, for duty at Fort Douglas, Utah, June 13.

Tignor, Edwin P., contract dental surgeon, left Fort Riley, Kan., June 16, on leave of absence for fifteen days.

Thornton, James W., contract surgeon, arrived at San Francisco June 13 from the Philippine Division, and assigned to temporary duty at Fort McDowell, Cal.

Wilkins, Archibald M., contract surgeon, arrived at San Francisco June 13 from the Philippine Division, and assigned to temporary duty at Fort Baker, Cal.

Love, Joseph W., contract surgeon, arrived at San Francisco June 14 from the Philippine Division on leave of absence for two months.

Bailey, Edward B., contract surgeon, arrived at San Francisco, June 13, from the Philippine Division, and assigned to duty at Fort Miley, Cal.

Griswold, W. Church, contract surgeon, arrived at San Francisco June 13 from the Philippine Division, and assigned to temporary duty at the Presidio of San Francisco.

Stoney, Randell, contract surgeon, relieved from duty at Fort Hamilton, N. Y., to take effect July 2, 1904, and ordered to his home for annulment of contract.

Kellogg, W. V., contract surgeon, leave of absence extended two months on surgeon's certificate of disability, and at expiration of leave of absence ordered to his home for annulment of contract.

Halsell, John T., contract surgeon, leave of absence extended one month.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the two weeks ending June 25, 1904:

Hart, G. G., A. A. surgeon, ordered to the *Alliance* for temporary duty, and on arrival of that vessel at Culebra, W. I., detached and ordered home to wait orders.

Mink, O. J., and Porter, F. E., asst.-surgeons, appointed asst.-surgeons with rank of lieutenant, junior grade, from June 7, 1904.

Chapman, R. R., asst.-surgeon, detached from the Naval Hospital, Mare Island, Cal., June 27, and ordered to the Navy Yard, Washington, D. C.

Balch, A. W., asst.-surgeon, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Kite, I. W., surgeon, when discharged from treatment at the Naval Hospital, Pensacola, Fla., ordered home and granted sick leave for two months.

Biddle, C., surgeon, ordered to the *Wisconsin* for duty as fleet surgeon.

Dykes, J. R., asst.-surgeon, ordered to the *Rainbow*.

Verner, W. W., asst.-surgeon, ordered to the *Wisconsin*.

Oman, C. M., asst.-surgeon, detached from the Naval Station, Cavite, and ordered to the *Frolic*.

DeBruler, J. P., and Dean, F. W. S., asst.-surgeons, ordered to the Naval Station, Olongope, P. I.

Geiger, A. J., ordered to the Naval Hospital, Yokohama, Japan.

Rennie, W. H., Hoen, W. S., Grieve, C. C., asst. surgeons, ordered to the Naval Station, Cavite, P. I.

Morse, E. P., pharmacist, ordered to the Naval Station, Cavite, P. I.

Marcour, R. O., asst.-surgeon, detached from the *Hancock* and ordered home and granted leave for three months, and resignation to be accepted Sept. 27, 1904.

Angwin, W. A., asst.-surgeon, ordered to the Naval Hospital, Mare Island, Cal.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the fourteen days ended June 9, 1904:

Purviance, George, assistant surgeon general, granted leave of absence for twenty days from May 31.

Vaughan, G. T., and Geddings, H. D., assistant surgeon generals, detailed to represent the service at session of American Medical Association, Atlantic City, N. J., June 7-10.

Carter, H. R., surgeon, directed to report to chairman of Isthmian Canal Commission for duty.

Carmichael, D. A., surgeon, bureau letter of May 4, granting leave of absence for fifteen days from May 12, amended to read twelve days from May 12.

Peckham, C. T., surgeon, granted leave of absence for seven days from May 28, 1904, under paragraph 191 of the regulations. Relieved from duty at the Immigration depot, New York, and directed to proceed to Buffalo and assume command of the service, relieving Surgeon Eugene Wasdin.

Wasdin, Eugene, surgeon, on being relieved by Surgeon C. T. Peckham, to proceed to Memphis, Tenn., and assume command of the service, relieving Surgeon G. M. Magruder. Granted extension of leave of absence on account of sickness for sixteen days from May 1.

Magruder, G. M., on being relieved by Surgeon Eugene Wasdin, to proceed to Cincinnati and assume command of the service.

Young, G. B., passed assistant surgeon, two days' leave of absence under Paragraph 189 of the Regulations.

Rosenau, M. J., passed assistant surgeon, detailed to represent the service at meeting of International Association for Study and Prevention of Tuberculosis, Atlantic City, N. J., June 6. Detailed to represent service at session of American Medical Association, Atlantic City, June 7-10, stopping at Philadelphia en route, on special temporary duty.

Nydegger, J. A., passed assistant surgeon, granted extension of leave of absence, on account of sickness, for twenty-one days from May 21.

Oakley, J. H., passed assistant surgeon, directed to proceed to Vancouver, B. C., for special temporary duty.

Anderson, J. F., passed assistant surgeon, directed to proceed to Detroit for special temporary duty.

Gwyn, M. K., assistant surgeon, directed to report to chairman of examining board at Manila, P. I., Aug 8, 1904, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

Bakes, R. C., acting assistant surgeon, granted leave of absence for fourteen days from June 13.

Delgado, J. M., acting assistant surgeon, granted leave of absence for ten days.

Foster, J. P. C., acting assistant surgeon, granted leave of absence for four days from June 5.

Goldsborough, B. W., acting assistant surgeon, granted leave of absence for four days from June 7.

Hallett, E. B., acting assistant surgeon, granted leave of absence for four days from June 7.

Mason, W. C., acting assistant surgeon, granted leave of absence for five days from June 27.

Rodman, J. C., acting assistant surgeon, granted leave of absence for seven days from June 7.

PROMOTION.

Hall L. P., pharmacist of the third class, promoted to be pharmacist of the second class, effective from April 19.

BOARD CONVENED.

Board convened at Washington, D. C., June 1, 1904, for the physical examination of an officer of the Revenue-cutter Service. Detail for the board: Assistant Surgeon General L. L. Williams, chairman; Assistant Surgeon General W. J. Pettus, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended June 17, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, May 9-June 5, 1 case.
District of Columbia: Washington, May 8-June 4, 7 cases.
Florida: Jacksonville, June 4-11, 1 case.
Georgia: Macon, June 4-11, 1 case.
Illinois: Chicago, June 4-11, 1 case.
Iowa: Dubuque, June 4-11, 2 cases.
Kentucky: Covington, June 4-11, 2 cases.
Louisiana: New Orleans, June 4-11, 5 cases.
Maryland: Baltimore, June 4-11, 6 cases.
Michigan: June 4-11, Detroit, 3 cases; Grand Rapids, 1 case.
Missouri: St. Louis, May 28-June 4, 22 cases.
Nebraska: Omaha, June 4-11, 9 cases.
New Hampshire: Manchester, June 4-11, 8 cases.
New York: Buffalo, May 28-June 4, 5 cases; New York City, June 4-11, 1 death.
Ohio: Cincinnati, May 27-June 3, 10 cases; June 4-11, Dayton, 2 cases; Toledo, 1 case; Zanesville, April 30-May 7, 1 case.
Pennsylvania: Altoona, May 4-11, 4 cases; June 4-11, Philadelphia, 4 cases, 2 deaths; Pittsburg, 2 cases.
South Carolina: Greenville, May 28-June 4, 2 cases.
Tennessee: June 4-11, Memphis, 4 cases; Nashville, 2 cases.
Washington: Tacoma, May 29-June 6, 1 case.
Wisconsin: Milwaukee, June 4-11, 6 cases.

SMALLPOX—FOREIGN.

Austria: Prague, May 14-21, 12 cases.
Brazil: Campinhas, April 17, epidemic.
Canada: Winnipeg, May 27-June 4, 2 cases.
China: Canton, April 26, present.
Colombia: Barranquilla, May 23-29, 1 death.
France: Paris, May 21-28, 13 cases.
Great Britain: Bradford, May 7-21, 11 cases; May 14-21, Bristol, 5 cases; Sheffield, 2 cases; May 21-28, Dundee, 1 case; Edinburgh, 2 cases; Newcastle-on-Tyne, 2 cases; Nottingham, 7 cases; Glasgow, May 27-June 3, 334 cases, 1 death; May 14-28, Hull, 8 cases; Manchester, 6 cases; London, May 21-28, 33 cases, 2 deaths.
India: Bombay, May 3-17, 46 cases; Karachi, May 8-15, 7 deaths.
Italy: Leghorn, April 10-17, 1 case; Palermo, May 7-14, 1 case.
Japan: Nagasaki, May 1-10, 40 cases, 18 deaths.
Panama: May 22-June 5, 1 case.
Russia: Moscow, May 14-21, 15 cases, 5 deaths; Odessa, May 21-28, 5 cases; St. Petersburg, May 14-28, 25 cases, 7 deaths.

YELLOW FEVER.

Costa Rica: Limon, May 21-June 4, 3 cases.
Ecuador: Guayaquil, May 11-25, 24 deaths.
Mexico: May 21-28, Coatzacoalcos, 3 cases; Jalapan, 2 cases; Merida, May 22-June 4, 5 cases, 1 death; Salina Cruz, May 28-June 4, 1 case, 1 death; Tehuantepec, May 22-June 4, 11 cases, 2 deaths; Vera Cruz, June 4-11, 1 case, 1 death.

CHOLERA.

India: Madras, April 30-May 6, 1 death.
Turkey in Asia: To May 9, 165 cases, 130 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, June 8, 1 death.

PLAGUE—FOREIGN.

Africa: Cape Colony, May 9-16, 1 case.
Arabia: Aden, May 15-24, 4 cases, 2 deaths.
Argentina: Tucuman, May 7, present.
Australia: Brisbane, April 16-30, 4 cases, 2 deaths; Sydney, April 9-26, 4 cases, 1 death.
Egypt: April 30-May 7, Port Said, 3 cases, 3 deaths; all Egypt, 41 cases, 18 deaths.
Formosa: April 23-May 14, 1,222 case, 842 deaths.
India: Bombay, May 10-17, 567 deaths; Karachi, May 8-15, 127 cases 105 deaths.
Peru: Lima, May 7-14, 9 cases, 6 deaths.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from June 17 to 25, 1904:

SMALLPOX—UNITED STATES.

Colorado: Denver, April 16-May 28, 14 cases.
Delaware: Wilmington, June 11-18, 1 case.
Florida: Jacksonville, June 11-18, 1 case.
Georgia: Macon, June 11-18, 2 cases.
Illinois: Chicago, June 11-18, 5 cases.
Louisiana: New Orleans, June 11-18, 2 cases.
Maryland: Baltimore, June 11-18, 1 case, 1 death.
Michigan: Detroit, June 11-18, 1 case.
Missouri: St. Louis, June 4-18, 15 cases, 1 death.
Nebraska: June 11-18, Omaha, 2 cases, South Omaha, 1 case.
New Hampshire: Manchester, June 11-18, 7 cases.
New York: Buffalo, June 11-18, 1 case.
Ohio: Cincinnati, June 3-17, 10 cases; Dayton, June 11-18, 4 cases; Hamilton, June 7-14, 2 cases.
Pennsylvania: June 11-18, Altoona, 2 cases; Philadelphia, 5 cases, 1 death.
South Carolina: Charleston, June 11-18, 1 case.
Tennessee: June 11-8, Memphis, 5 cases; Nashville, 5 cases.
Wisconsin: Milwaukee, June 11-18, 8 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, April 30-May 7, 2 cases, 3 deaths.

SMALLPOX—FOREIGN.

Austria: Prague, May 21-28, 13 cases.
Belgium: Antwerp, May 28-June 4, 2 cases.
Brazil: Pernambuco, May 1-15, 33 deaths; Rio de Janeiro, May 8-22, 228 cases, 106 deaths.
Canada: Vancouver, May 1-31, 8 cases, 1 death.
France: Lyons, May 14-28, 4 deaths; Paris, May 28-June 4, 18 cases.
Gibraltar: May 22-29, 1 case.
Great Britain: May 28-June 4, Birmingham, 2 cases; Bradford, 5 cases; Cardiff, 2 cases; Dundee, 2 cases; Edinburgh, 5 cases; Hull, 4 cases; Liverpool, 2 cases; London, 10 cases; Manchester, 5 cases; Newcastle-on-Tyne, 5 cases; Nottingham, 3 cases; Bristol, May 28-June 11, 3 cases; Glasgow, June 3-10, 12 cases, 2 deaths.
India: Bombay, May 17-24, 12 deaths; Calcutta, May 14-21, 1 death; Karachi, May 15-22, 3 cases, 2 deaths.
Italy: Milan, April 1-30, 1 case; Palermo, May 14-June 4, 10 cases, 2 deaths.
Japan: Nagasaki, May 11-20, 18 cases, 6 deaths.
Mexico: City of Mexico, May 28-June 5, 6 cases, 4 deaths; Vera Cruz, May 28-June 4, 1 case imported.
Netherlands: Amsterdam, June 4-11, 1 case.
Panama: Panama, June 5-12, 1 case.
Russia: Moscow, May 21-28, 8 cases, 9 deaths; Odessa, May 28-June 4, 3 cases, 1 death; Warsaw, April 30-May 14, 40 deaths.
Turkey: Constantinople, May 27-June 5, 3 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, May 8-22, 19 cases, 5 deaths.
Mexico: June 5-11, Merida, 1 case; Tehuantepec, 5 cases, 2 deaths; Vera Cruz, May 28-June 4, 3 cases.

PLAGUE—INSULAR.

Hawaii: Honolulu, June 10, 1 case.
Philippine Islands: Manila, April 30-May 7, 6 cases, 5 deaths.

PLAGUE—FOREIGN.

Egypt: May 14-21, 36 cases 26 deaths.
India: Bombay, May 18-24, 160 deaths; Calcutta, May 14-21, 134 deaths; Karachi, May 15-22, 87 cases, 79 deaths.

CHOLERA.

India: Calcutta, May 14-21, 111 deaths; Madras, May 14-20, 1 death.

State Boards of Registration.

COMING EXAMINATIONS.

Arizona Board of Medical Examiners, July 4, Phoenix. Secretary, William Duffield, M.D., Phoenix.

Utah State Board of Medical Examiners, July 4, Salt Lake City. Secretary, R. W. Fisher, M.D., Salt Lake City.

North Dakota State Examining Board, July 5, Grand Forks. Secretary, H. M. Wheeler, M.D., Grand Forks.

Board of Medical Examiners of the State of Oregon, July 5-7, Portland. Secretary, Byron E. Miller, M.D., the "Dakum," Portland.

Washington State Board of Medical Examiners, July 5-7, Spokane. Secretary, P. B. Sweringen, Tacoma.

Rhode Island State Board of Health, July 7, State House, Providence. Secretary, Gardner T. Swarts, M.D., Providence.

Board of Registration in Medicine of Massachusetts, State House, Boston, July 12 and 13. Secretary, Edwin B. Harvey, M.D., Boston. Secretary, Hugh A. Barbee, Point Pleasant.

Illinois State Board of Health, The Coliseum Annex, Chicago, July 20, 21 and 22. Secretary, J. A. Egan, M.D., Springfield.

West Virginia State Board of Health, July 19, 20 and 21, Charleston. Secretary, Hugh A. Barbee, Point Pleasant.

Indiana State Board of Medical Registration and Examination, July 12, State House, Indianapolis. Secretary, W. T. Gott, M.D., Crawfordsville.

Arkansas State Medical Board of Examiners, July 12, Little Rock. Secretary, J. P. Runyan, M.D., Little Rock.

Connecticut Medical Examining Board, July 12-13, City Hall, New Haven. Secretary, Charles A. Tuttle, M.D., New Haven.

Wisconsin State Medical Board, July 12, Madison. Secretary, F. A. Forsbeck, M.D., Milwaukee.

Board of Medical Examiners of the State of California, July 12, Los Angeles. Secretary, George G. Gere, M.D., San Francisco.

Maine Board of Registration of Medicine, July 12 and 13, City Building, Portland. Secretary, A. K. P. Meserve, M.D., Portland.

Vermont State Board of Medical Censors, July 13-14, Y. M. C. A. Building, Burlington. Secretary, S. W. Hammond, Rutland.

South Dakota Board of Medical Examiners, July 13 and 14, Watertown. Secretary, H. E. McNutt, M.D., Aberdeen.

Board of Medical Supervisors of the District of Columbia, July 14, Washington. Secretary, Wm. C. Woodward, M.D., Health Department, Washington.

The Medical Practice Act of Indian Territory.—Considerable uncertainty has existed with reference to the requirements of the medical laws in Indian Territory. Hitherto, the various nations of the Territory, the Cherokee, Creek and Choctaw, have had separate laws, thus creating considerable confusion. In April, 1904, Congress enacted a law regulating the practice of medicine and surgery in this territory. The territory was divided into four districts (Northern, Southern, Central and Western), each of which has a board of medical examiners who hold examinations on the first Monday in January, April, July and October of each year, and at such other time as may be necessary. Those engaged in practice at the time of the passage of the new law have six months in which to present their diplomas to the board of the district in which they wish to practice. Those who have no diploma must, within six months, submit sworn applications setting forth the extent of their qualification and their experience as practitioners, and submit to an examination by the board. Those holding diplomas must submit them to the board of examiners for the district in which they desire to practice, for examination and approval, for which a fee of $1.00 is required. Approval of the diploma obviates the necessity of further examination by the board.

"No person holding a diploma issued after July 1, 1904, shall be permitted to practice medicine or surgery for pay, . . . except that the diploma be issued by a medical school or college requiring a preliminary examination for admission to its course of study in all the common branches and in higher mathematics, which requirements shall be published regularly . . . by said school, and said school or college shall also require as a requisite for granting the degree of doctor of medicine attendance upon at least four courses of lectures of six months each, no two of said courses to be held within one year. Said college must have a full faculty of capable professors in all the different branches of medical education, to wit, anatomy, physiology, chemistry, toxicology, histology, pathology, hygiene, materia medica, therapeutics, obstetrics, bacteriology medical jurisprudence, gynecology, principles and practice of medicine and surgery, and specially requiring clinical instruction in the last two subjects of not less than four hours per week in each of the last two courses."

"Any persons who shall prescribe or administer medicine for, or who shall in any manner treat disease, wounds, fractures, or other bodily injury for pay, shall be deemed physicians and surgeons. Osteopathy, massage, Christian science and herbal treatment shall not be affected by this act."

The next examination will be held July 4, 5, 6 and 7 at South McAlester, Ardmore, Vinita, and Muskogee. Dr. B. W. Caldwell of Hugo, I. T., is the secretary of the Central District; Dr. B. F. Fortner of Vinita, secretary of the Northern District; Dr. E. E. Chivers of Mannsville, secretary of the Southern District. The board for the Western District has not been appointed.

Medical Organization.

Arizona.

YAVAPAI COUNTY MEDICAL SOCIETY.—This society was organized on the standard plan at Prescott, June 18, with 14 charter members. The following officers were elected: Dr. Thomas B. Davis, president; Dr. Will S. Smith, vice-president, and Dr. Clarence E. Yount, secretary-treasurer, all of Prescott; delegates to the Arizona Medical Association, Drs. J. W. Coleman, Jerome, and John S. Barrett, Prescott; and censors, Drs. Henry D. Thomason, U. S. Army, Whipple Barracks, James N. McCandless, Prescott, and John Dennett, Jr., Congress.

California.

ELDORADO COUNTY MEDICAL SOCIETY.—Physicians of the county met at Placerville, May 31, and organized a medical

society on the standard plan with the following officers: President, Dr. William S. Hickman, Georgetown, and secretary and treasurer, Dr. Luther M. Leisenring, Placerville.

Delaware.

DELAWARE STATE MEDICAL SOCIETY.—The one hundred and fifteenth annual session was held at Lewes, June 14, 1904. At the previous session a committee had been created to report a constitution and by-laws in conformity with the plan of organization recommended by the American Medical Association. The address of President Kolluck was devoted mainly to the purposes and possibilities of a complete organization of the profession of Delaware and of the United States. Later, the committee reported the standard constitution and by-laws with only such modifications as were necessary to adapt them to local conditions, and after full consideration, they were adopted unanimously. The society also decided to hold its annual meetings in the fall in accordance with the recommendation of the House of Delegates of the American Medical Association at the Atlantic City session, so as to give the members better opportunities for attending both the state and national associations.

The following officers were elected for the coming year: President, Dr. Alexander J. Lowber, Wilmington; vice-presidents, Drs. William F. Haines, Seaford, and Benjamin Whitely, Catonsville; secretary, Dr. John Palmer, Jr., Wilmington; assistant secretary, Dr. Joseph W. Bastian, Wilmington, and councilors, Drs. Peter W. Tomlinson, Wilmington; James H. Wilson, Dover; and Robert B. Hopkins, Milton. One could not but be impressed with the culture and urbanity of the profession of Delaware. A majority of the physicians are already members of the state society, but, outside of Wilmington, practically no attention has heretofore been given to local organization and attendance at the annual meetings is usually small, and the session too short for much to be accomplished. The state is compact and densely populated, the facilities for travel are unusually good, and the councilors, officers and members have entered on the new work with an enthusiasm which promises immediate results possible in few other states.

Illinois.

HENDERSON COUNTY MEDICAL SOCIETY.—At a meeting held in Stronghurst, June 6, the reorganization of the society on the standard plan was effected. The following officers were elected: Dr. Isaac F. Harter, Stronghurst, president; Dr. Hugh L. Marshall, Stronghurst, vice-president; Dr. Ralph Graham, Biggsville, secretary and treasurer, and Drs. Riggs, Media, William D. Henderson, Biggsville, and Nathan Barlow, Lomax, censors.

Indiana.

ELKHART COUNTY MEDICAL SOCIETY.—The new constitution of this society in conformity with that of the American Medical Association, went into effect June 1.

Oklahoma.

CUSTER COUNTY MEDICAL SOCIETY.—Dr. Mahlon A. Kelso, Enid, councilor for the Third District, met fourteen physicians of the county at Arapahoe, June 7, and assisted in organizing a county society on the standard plan, with the following officers: President, Dr. Robert McCullough, Arapahoe; vice-president, Dr. William J. Omer, Thomas; secretary-treasurer, Dr. Everett S. Lain, Weatherford; censors, Drs. J. Johnson Williams, Weatherford, K. D. Gossom, Graves, and Walter E. Hempstead, Arapahoe. This is the first county society organized in conformity with the American Medical Association since the reorganization of the territorial society.

Society Proceedings.

COMING MEETINGS.

American Ophthalmological Society, Atlantic City, July 13.
Washington State Medical Association, Seattle, July 13-15.

WISCONSIN STATE MEDICAL SOCIETY.

Fifty-eighth Meeting, held at Milwaukee, June 22-24, 1904.

Officers Report Era of Prosperity.

The house of delegates held its first meeting under the constitution, and the celerity with which business was dispatched demonstrated the advantages of the new plan of organization. The councilors recounted the successful organization of county medical societies. The treasurer's report showed the society to be in a flourishing condition financially.

The secretary gave an interesting account of the labors of the councilors and officers in the reorganization work, the great increase in membership and the new era of prosperity on which the society had evidently entered. He said that the new constitution was working to better advantage than its most sanguine advocate had dared to hope. A business committee of five was appointed to determine what communications offered should be referred to the council.

In addition to Dr. Evans, who holds over, the following delegates and alternates to the next session of the American Medical Association were selected: Dr. John Walbridge, alternate to Dr. Evans; Dr. W. T. Sarles—Dr. C. S. Sheldon, alternate; Dr. Bennett of Beloit—Dr. J. M. Dodd, alternate.

La Crosse was selected as the next place of meeting.

The state was redistricted into twelve convenient districts, not following Congressional divisions.

A contract was made with the Milwaukee Medical Journal for the publication of the proceedings of the society for the ensuing year on the same terms as preceding contract.

A petition requesting speedy enactment of the bill by Congress incorporating the American Medical Association was signed by delegates.

At the Friday meeting the question of changing the time of meeting to fall was postponed for one year.

The New Officers.

The following officers were elected for the ensuing year: President, Dr. C. W. Oviatt, Oshkosh; vice-presidents, Drs. J. L. Bradfield, La Crosse; Gilbert E. Seaman, Milwaukee, and A. D. Rosenberry, Wausau.

COUNCILORS.

For One Year—First District, H. B. Sears of Beaver Dam; Second District, John Meachem of Racine.
For Two Years—Third District, J. T. Nye of Beloit; Fourth District, E. S. Hooper of Darlington.
For Three Years—Fifth District, J. F. Pritchard of Manitowoc; Sixth District, John S. Walbridge of Berlin.
For Four Years—Seventh District, W. T. Sarles of Sparta; Eighth District, J. T. Redelings of Marinette.
For Five Years—Ninth District, A. B. Sauerhering of Wausau; Tenth District, E. L. Boothby of Hammond.
For Six Years—Eleventh District, J. M. Dodd of Ashland; Twelth District, A. T. Holbrook of Milwaukee.

It was decided to arrange the program for next year's meeting in two sections.

The question of allowing proprietary medicine companies to present their exhibits was left to the local Committee of Arrangements at La Crosse.

The question of non-resident members was brought up, and it was decided that there could be no non-resident active membership under the constitution, but that non-residents could become honorary members.

The attendance at the house of delegates was 50, and the attendance at the society meetings 400; 1,330 members of the society have paid dues for 1904.

The Ethical Conduct of the Physician.

Before the general meeting, Wednesday, the president, Dr. F. E. Walbridge, delivered his annual address. Among other things, he said: "There are too many low-grade schools. Newspaper doctors are a great evil. When a physician voluntarily puts himself in the public eye in a manner that must be considered immodest and improper, we must feel it to be an offense. Do not talk for publication for the sake of notoriety. Much expert testimony is biased, and some is the result of crass ignorance. The aim of expert testimony, in addition to its applicability to a given case, ought to be the accumulation of facts which can serve as a basis for future action in similar cases. The only remedy for the evil is honest action and love of truth."

Surgical Treatment of Intestinal Obstruction.

DR. F. SHIMONEK, Milwaukee, in a paper on "The Indication for Enterotomy," said that in intestinal obstruction opium is usually contraindicated, as it masks the symptoms. Enterotomy frequently saves life. It is a safe procedure and should be more frequently employed.

DISCUSSION.

DR. W. A. BATCHELOR, Milwaukee, said: "In many cases of general peritonitis this procedure will improve the patient's chances, although post-operative sequelæ frequently follow operation. The chief indication for enterotomy is over-distension. Patients of this character frequently endure anesthesia badly."

DR. F. THIENHAUS, Milwaukee, advocated evisceration as an operative procedure, a view which was opposed by the writer of the paper.

Premature Labor to Save the Mother's Life.

DR. T. L. HARRINGTON, Milwaukee, read a paper on "The Moral Aspect of Abortion, Craniotomy and Extrauterine Pregnancy." He said: "The physician has no right to sacrifice the unborn child to save the mother. We are justified in removing the sac in extrauterine pregnancy before the fourth month, if there is danger to the mother. Craniotomy on the living child is never justified."

DISCUSSION.

DR. J. J. MCGOVERN, Milwaukee, said that we are not only justified, but it is our duty, under certain conditions, to induce premature labor or abortion to save the mother's life. Not over 40 per cent. of conceptions reach maturity, and the mother's life is, therefore, more valuable than the child's. Medical societies should attempt to stop criminal abortions. When the mother's life is in peril the first consideration must be given the mother.

DR. EDWARD EVANS, La Crosse, said that he believed that 50 per cent. of the physicians in Wisconsin would perform criminal abortions. This statement was indignantly denied by members of the society.

Less Drugs in Labor.

DR. J. F. FORD, Omro, said: "There is a tendency toward a less use of drugs in labor. The use of ergot still seems to be justified by a number of general practitioners (a recent instance was cited from a late number of THE JOURNAL of the American Medical Association, in which case the use of ergot was promptly condemned by the editor), but such use of the drug is not in accord with the teachings of leading obstetricians. The only safe place for ergot is as a hemostatic and indirect post-partum antiseptic. Quinine and other so-called oxytoxics act as nerve stimulants and muscular tonics. The exigencies of rural practice render it certain that drugs will be used.

DISCUSSION.

DR. HUGO PHILLER, Waukesha, said he would as soon go to a case of labor without his scissors as without chloroform. The use of chloroform in labor meets with general favor.

Intermittent Claudication and Analogous Phenomena.

DR. ARTHUR J. PATEK, Milwaukee, read a paper and concluded: Intermittent claudication is a more frequent symptom complex than is generally recognized. It is often confounded with sciatica, neuralgia and rheumatism. The diagnosis will be made certain by noting an absence of pulsation in one or more distal arteries of one or both legs. The pain is due to an arteritis plus angiospasm of the affected vessel. The various internal viscera may suffer from such an angiospasm when their vessels are sclerosed as in angina pectoris. Total occlusion of the vessels may lead to gangrene of an extremity, to prevent which early recognition of the disease is important.

DISCUSSION.

DR. W. H. WASHBURN, Milwaukee, said that statistics presented by Dr. Cabot of Boston seemed to show that alcohol was not a causative factor in this disease. Trunecek's so-called serum introduced hypodermically in cases of arteriosclerosis involving cerebral vessels has produced excellent results.

Estimation of Indemnity for Accidental Loss of One or Both Eyes.

DR. H. V. WÜRDEMANN, Milwaukee, said: Present usages for the estimation of pensions, insurance and damages for the injury of vision are based wholly on precedent and are purely empirical. The relation of the visual act to earning ability is susceptible of mathematical demonstration. The effect on the earning ability may be determined by the particular injury to vision. Insurance contracts could equitably be made subject to the amount of economic damage. In the case of one eye the rates should be modified to between 18 and 30 per cent. of the total disability. Pensions should be based on the full economic damage. Probable economic damage should be the principal element of damages in suits at law. The calculations of Magnus, as modified by the writer, afford a just means of calculating probable economic damage.

DISCUSSION.

DR. WALTER KEMPSTER said that physicians make a great mistake when testifying in courts in using too technical language. They should talk plain English, and there will be no difficulty in getting a clear judgment from the jury, based on the opinion of the witness.

DR. G. B. SEAMAN, Milwaukee, said that the estimates of indemnity were based on the figures of German specialists. It is impracticable to grant full economic damages.

DR. WÜRDEMANN said that economic damage is the principal factor on which claims at law should be allowed, taking into consideration the factors of pain, anguish, etc.

Active Principles in Therapeutics.

DR. E. L. BOOTHBY, Hammond, read a paper regarding "Lack of Progress in Scientific Therapeutics." He said: "The obsolete and useless should be eliminated. I can carry in my vest pocket more medicine, in better shape for immediate use and positive results, than the best span of mules owned by Uncle Sam can haul down hill of the antiquated, useless proprietaries used in the United States Army to-day. We should have a revised standardization, based on active principles, and colleges should drop the dangerous medication of the past and teach up-to-date drug therapeusis. The proper principle of practice is to use active principles wherever obtainable."

DISCUSSION.

DR. F. R. WEBER, Milwaukee, said: "Wonderful progress has been made in therapeutics. We can not now afford to treat any case of infectious disease without applying the ice-bag to the heart. I desire strongly to defend the modern hospital, and to state that many children are lost through the folly of parents in refusing to send them to hospitals when occasion requires."

Therapeutic Uses of the Roentgen Ray in Dermatology.

DR. LOUIS FRANK, Milwaukee, said that he had obtained good results in cases not involving the deeper structures. He advised caution in the use of this two-edged sword; it should not be used in milder affections until milder agents have failed.

DISCUSSION.

DR. J. J. MADISON, Milwaukee, agreed on the successful treatment of superficial growths by means of the *x*-ray.

DR. H. V. WÜRDEMANN, Milwaukee, called attention to radiotherapy as a valuable adjunct after radical operation for removal of malignant growths.

The Borderland Between Medicine and Surgery.

DR. JAMES C. WILSON, Philadelphia, delivered the Annual Address in Medicine. He said: "Border line conditions cover the organs of the large cavities of the body. Probable diagnosis of biliary calculus is an indication for surgical interference. Operation on brain tumors is frequently advisable. Exophthalmic goitre is on the border line; medicine produces some improvements, few cures and overwhelming failures; the best results are offered by surgery, but they are not very satisfactory. The drift of opinion with reference to lung surgery is radical. Tubercular foci have been removed from the lungs by surgical interference. In serofibrinous effusions, repeated aspirations are the proper treatment. In stomach surgery the results in pyloric operations have been excellent. No gallstone can be dissolved in situ. Cholelithiasis is distinctly a surgical disease. In atrophic cirrhosis early operations offer a favorable prognosis. The infected appendix had better always be re-

moved; medical treatment is unsatisfactory, and most apparent recoveries have been merely periods of latency."

Early Removal of All Neoplasms.

DR. C. W. OVIATT, Oshkosh, urged the early removal of all neoplasms, whether malignant or benign, claiming that very many benign tumors become malignant if not disturbed.

DISCUSSION.

DR. SIFTON said: "The presence of any form of neoplasm, whether malignant or benign, is a perversion from the normal type, and, as the mortality from removal in early stages is very slight, and as benign forms may tend to malignant degeneration, they should be removed at the earliest possible moment."

DR. MAYO, Rochester, Minn., agreed, for the same reason, that early removal of even benign tumors was advisable.

DR. A. H. LEVINGS, Milwaukee, took the opposite view, and said the conversion of the benign tumor into a malignant one, so far as pathology teaches at the present time, is a rare process.

Chronic Continued Secretion of the Gastric Juice.

DR. L. F. GERMAIN, Milwaukee, said: "It is important to differentiate between this condition and cancer. The diagnosis and therapeutics of diseases of the stomach to-day are on a less scientific basis than the diseases of any other organ of the body. It is absurd to give (as is often done) dilute hydrochloric acid to a patient suffering from hyper-secretion of gastric juice."

The Surgical Treatment of Dyspepsia.

DR. ROSWELL PARK, Buffalo, delivered the Annual Address on Surgery. He impressed the point that cancer has no symptomatology in any part of the body. In cancer of the stomach early operation is important, but the difficulty lies in making the diagnosis. A well-founded suspicion of any internal cancer amply justifies exploratory operation. Gallstones frequently cause what is vaguely denominated as dyspepsia. Cholelithiasis is essentially a surgical disease. The gall bladder is a superfluous organ, and, like the appendix, is prone to go wrong on slight provocation. Practically all diseases of the pancreas are surgical.

Epileptic Colony Desired.

DR. W. A. GORDON, Oshkosh, read a paper on "The Establishment of an Epileptic Colony." The many epileptics in institutions for the insane in Wisconsin have a very bad influence on the insane, and vice versa. The colony is the solution of the problem. Wisconsin is behind the times in this matter.

After much enthusiastic discussion, Dr. Gordon made a motion, which was unanimously carried, that the committee on public policy and legislation be instructed to present to the next session of the Wisconsin Legislature a proposition looking to the establishment of a colony for epileptics in the state.

A Review of Laryngeal Diphtheria.

DR. P. H. MCGOVERN, Milwaukee, read a paper at the general session Friday, in which he advocated very large doses of antitoxin. These are especially and promptly required in cases of laryngeal obstruction. There may be generalized infection in diphtheria, just as in pneumonia, yet many cases of generalized infection may be saved by the use of antitoxin in extraordinarily large doses. In these desperate cases this treatment has reduced the mortality from 20 per cent. to 5 or 6 per cent.

DISCUSSION.

DR. W. T. SARLES, Sparta, endorsed what Dr. McGovern

DR. HENRY B. HITZ, Milwaukee, said a case of laryngeal diphtheritic serum in scarlatinal infection, thus preventing the diphtheritic sequelæ causing nephritic trouble.

DR. HENRY B. HITZ, Milwaukee, said a case of laryngeal diphtheria is usually a dead case, unless one gives copious doses of antitoxin.

DR. G. E. SEAMAN, Milwaukee, said there would be fewer cases of intubation necessary if larger and earlier doses of serum were used.

DR. MCGOVERN said nephritis is never the result of the antitoxin, but is the result of the general diphtheritic infection which has not been checked by the early use of antitoxin. Intubation is preferable to tracheotomy if skillfully performed, although the results of tracheotomy in the Glasgow Hospital, with only 6.5 per cent. mortality, can not be excelled.

Urea Estimation in Body Fluids.

DR. C. J. COMBS, Oshkosh, read a paper on "Quantitative Estimation of Urea and Its Significance." Urea is important, he said, in determining nitrogenous waste, as in fevers; in judging of the activity of the liver by its ability to form urea, but first being sure of the ability of the kidney to excrete urea if formed, and as a means of diagnosis of danger in pregnancy.

DISCUSSION.

DR. D. W. HARRINGTON, Milwaukee, said: "To obtain valuable results, the amount of food taken in must be measured. It is of vastly more importance to estimate the amount of urea in the blood than in the urine. In the study of the urea, we should go back to the liver, as even a diseased kidney will excrete a normal amount of urea. We should differentiate between chronic rheumatism and those cases of gout in which there is a greater deficiency of urea than in chronic rheumatism. Uric acid itself is not poisonous, nor is urea very poisonous. Uric acid is not a retrograde product of ordinary proteids and does not go on to the formation of urea under any circumstances."

Tuberculosis Propaganda.

DR. J. W. COON presented the report of the Committee on Tuberculosis, recommending co-operation in disseminating knowledge on the subject, and the establishment of sanatoria by the state and by the larger cities. The report was unanimously adopted, and a resolution urging the support of the state tuberculosis commission was passed.

Other papers were read by the following authors:

DR. A. W. MYERS, Milwaukee, "Some Home Modifications of Milk in Infant Feeding;" DR. J. P. COX, Spooner, "General Practice in Northern Wisconsin;" DR. CHARLES ZIMMERMAN, Milwaukee, "Affections of the Facial Nerve in Ear Diseases;" DR. WILLIAM SICKLES, Milwaukee, "Radioactivity;" DR. G. D. LADD, Milwaukee, "Hydronephrosis;" DR. WILLIAM MACKIE, Milwaukee, "Surgical Treatment of Cirrhosis of Liver;" DR. EDWARD EVANS, La Crosse, "A Case of Perineorectal, Transvesical Perforation of Peritoneum, with Successful Result After Operation."

AMERICAN SURGICAL ASSOCIATION.

Twenty-fifth Annual Meeting, held in St. Louis, June 14-17, 1904.

Under the Presidency of Dr. N. P. Dandridge, Cincinnati.

President's Address.

President Dandridge departed somewhat from the practice of his predecessors, and took the members to the backwoods and interested them in the life and exploits of a pioneer doctor, Antoine François Saugrain de Vigni, who was born in Paris, Feb. 17, 1763.

Officers.

The following officers were elected: President, Dr. George Ben Johnston, Richmond, Va.; vice-presidents, Drs. Emmet Rixford, San Francisco, and James Bell, Montreal; secretary, Dr. Dudley P. Allen, Cleveland, Ohio; treasurer, Dr. George R. Fowler, Brooklyn, N. Y.

San Francisco was selected as the place for the next meeting, the date to be decided.

Minimum Requirements for Aseptic Operating in a Hospital in which the Personnel of the Operating Room is Permanent.

DR. A. J. OCHSNER, Chicago, pointed out the fact that with a permanent personnel a definite system could be developed, which was most satisfactory, because the observations which suggested changes as well as those which confirmed satisfactory methods could be carried through a large continuous series of cases under unchanged external conditions. Dr. Ochsner gave a detailed account of the system followed at the Augustana Hospital, where he had had an opportunity to develop uniform

methods with permanent conditions during fifteen years. Stress was laid on the danger which arises from tying sutures too tightly, thus causing pressure necrosis. The method of selecting assistants and nurses was described, and a table was shown illustrating the manner in which each assistant recorded the progress of the wounds under his care.

A paper on "What Are the Minimum Requirements for Aseptic Surgical Operations" was read by Dr. George H. Monks, Boston.

DR. CHARLES HARRINGTON, Boston, detailed his studies in asepsis, after which the three papers were discussed jointly.

DISCUSSION.

DR. DE FOREST WILLARD, Philadelphia, said that a hospital which had permanent assistants and nurses was likely to secure the best results.

DR. CHARES B. NANCREDE, Ann Arbor, Mich., emphasized inhibition and tissue resistance. A germ might be inhibited to the point that would render it safe in a given wound.

DR. JOHN E. OWENS, Chicago, stated that different results were reported by different surgeons after using the same methods, and he had often wondered whether some of them might not have been due largely to the habits of surgeons.

DR. W. W. KEEN, Philadelphia, said he had adopted the use of chlorid of lime and carbonate of soda for cleansing the hands. Every person who took an active part in his clinic had a culture taken from the finger nails, and from the free surface of the skin. During last winter in only 3 out of 213 cultures was any result obtained. There was but one person who was free at every clinic, and that was the head nurse, who was a permanent official in the operating room. All the other assistants, except his principal assistant, changed every three months.

DR. W. B. COLEY of New York, did not believe sufficient stress had been laid on sterilization of the skin; his experiments showed that with careful preparation the day before operation, in addition to what was done on the day of operation, sterilization of the skin even then could not be said to be perfect. In 250 specimens of skin taken from the field immediately before operation, 25, or 9 per cent. of the cases showed all kinds of cultures, some of them being staphylococcus and streptococcus. Carefully sterilizing the hands, using tincture of green soap, brushing and hot water, then washing the hands thoroughly with 95 per cent. alcohol, with the use of rubber gloves, would give as good results as any of the measures which rendered the hands very hard. With reference to primary union, an important element in aseptic surgery was to guard against the bruising of tissues.

Forty-Six Operative Cases of Duodenal Ulcer.

DRS. CHRISTOPHER GRAHAM and W. J. MAYO, Rochester, Minn., stated that a careful history was of prime importance. The leading symptoms in the 46 cases reported were, first, pain, which might be due to peritonitis, distension from gas formation, pyloric spasm, and the irritation of acid gastric contents on open ulcer. The pain might come on in colics or last for some hours. Second, vomiting, principally of sour, bitter liquids, or if obstruction supervened, of food after varying intervals. Third, gastric insufficiency from interference with drainage. There was usually hyperacidity of gastric contents, constipation, and a great desire for food, although the patient reduced the diet and ate often a small quantity, but might fail to get the relief sometimes obtained in gastric ulcer proper. In latent cases, evidences of blood in the fecal movements might be the only sign. Differential diagnosis from pyloric ulcer in some cases might be impossible. A considerable number of cases closely resembled gallstone disease, and differentiation often could not be made except on the operating table. During the past eighteen months 27 per cent. of their operative gastric and duodenal ulcers involved the duodenum. There were thirty-three males, and thirteen females. In forty-three out of forty-six cases the ulcer was easily detected on abdominal exploration as a thick, white, scar-like area. Liability of duodenal ulcer to perforate is greater than gastric, but more often safely protected by adhesions. Relatively sterile contents is also favorable. In all cases the ulcer was situated in the first two and one-half inches below the pylorus, and entirely above the entrance of the common duct. In all doubtful cases of differentiation between duodenal ulcer, pyloric ulcer and gallstones, they recommended making an incision through the right rectus muscle one inch to the right of the median line. Gastroenterostomy best met the indications, in that it diverted the gastric contents. In acute perforation, suture was recommended, with suprapubic drainage, with after-treatment, and exaggerated Fowler's position, sitting posture. The 46 cases were divided into five groups. (1) Acute perforation of chronic ulcer, 4 cases, 2 deaths. (2) Acute hemorrhage in chronic ulcer, 1 case, 1 death. (3) Duodenal ulcer with gastric complications, 25 cases, 1 death. (4) Duodenal ulcer, with gall-bladder and liver complications, usually due to adhesions from chronic peritonitis, 9 cases, one re-operation, no deaths. (5) Eight cases, chronic pain and distress with debility, no deaths. Total, 47 operations, 46 cases. Five operations for acute conditions, with 3 deaths; forty-two operations for chronic conditions, with 1 death.

DISCUSSION.

DR. E. WYLLYS ANDREWS, Chicago, had seen several cases in which marked hyperplasia, patches of exudate, with thickening of the wall of the duodenum, ulceration of the first inch and a half of the duodenum connected with a similar condition of the pylorus, had produced such a degree of thickening that clinically at the time of operation it was indistinguishable from carcinoma. In one such case the operation, which was a McGraw elastic ligature gastroenterostomy, left him in a dissatisfied state of mind, as he feared he should have done a more radical operation, and yet when operating for obstruction a year later he found absolute disappearance of the thickened massive wall, which had formed in the first place, and simulated carcinoma.

DR. JOHN B. MURPHY, Chicago, said the practical lesson taught by the paper was the frequency of occurrence of ulcer of the duodenum, which was not recognized, and was not differentiated from gastric ulcer or gall bladder disease, whether it was of infective or of stone origin.

DR. ALEXANDER HUGH FERGUSON, Chicago, asked Dr. Mayo in what class of cases he would do posterior gastroenterostomy, and in what class he would do gastrojejunostomy.

DR. MAYO said that they had never tried to excise any of these ulcers excepting by gastrojejunostomy. They were irregular and thick; they led to large vessels close to the common duct, and it was difficult to get a good stump. He thought the best thing to do was to make a gastroenterostomy, which would afford at least temporary relief, but the gastroenterostomy opening was very likely to contract, so that food would after a time continue to pass down over the duodenal ulcerated surface, and sometimes these patients would return for a second operation.

Certain Unavoidable Post-Operative Calamities in Abdominal Surgery.

DR. MAURICE H. RICHARDSON, Boston, read a paper considering four classes of calamities: (1) Suppression of urine; (2) inexplicable deaths, with symptoms of local and general sepsis, but without any detectable bacterial source; (3) uncontrollable capillary hemorrhage; and (4) pulmonary embolism. Suppression of urine could be regarded as an unavoidable accident only when it took place after the urine had been shown to be normal. The influence of ether alone was not regarded as sufficient cause. Suppression was doubtless due to some pathologic change in the secreting substance, or a tendency to glomerular irritation or real inflammation, but a change or tendency which could not be detected beforehand. Such suppression of urine, however, might be prevented by the avoidance of all but imperative operations whenever there was the least evidence of renal disease, especially in insufficiency in the elimination of urea. Uncontrollable capillary oozing might be regarded as unavoidable only when it took place after careful examination of the blood with reference to its coagulability, etc. Capillary hemorrhage from jaundice could be regarded as

uncontrollable only when operation was performed in spite of the evidence of the tendency to hemorrhage. The coagulation tumor did not reasonably assure safety against bleeding, even if it was shown experimentally to be brief. His last case of fatal hemorrhage in jaundice took place from the capillaries of the lesser curvature of the stomach, remote from the operation area, though the blood coagulation tumor was perfectly satisfactory. In another case, a fatal and uncontrollable capillary oozing followed an operation on the common duct after a year of biliary fistula. In this case no bile had entered the intestine during the existence of the biliary fistula. The most frequent of such rare calamities was sudden death from pulmonary embolism. It could be neither predicted nor prevented. It occurred with no peritonitis. The probability of embolism being the result of a phlebitis was considered. In his experience, in a considerable number of deaths there were no premonitory symptoms whatsoever, while in cases of phlebitis, definite and unmistakable, no such accident occurred. Pulmonary embolism had been observed most frequently after pelvic operations on women with large uterine or ovarian tumors, and especially in women long exsanguinated by fibroids.

Papillary Cysts and Papillary Tumors of the Ovaries, with Consideration of Prognosis and Treatment.

PROF. SAMUEL POZZI, Paris, France, said that papillary tumors of the ovary, cystic or solid, must not be considered as always malignant. Some never undergo malignant degeneration, and do not relapse after removal. Some relapse after a long time, and locally without metastases. A careful distinction must be made between carcinomatous generalization through the lymphatics and blood vessels, and simple grafts from contact or from the growing over the peritoneum of detached papillary vegetations of the ovary. This process is benign and may be compared to the grafting of papillomas and warts of the skin. Some of these tumors undergo a malignant degeneration, which is for some time limited, but may later extend all over the mass, and which at last brings on a real generalization with cancer matastases. At the outset of the malignant transformation, it is impossible to discern it with the naked eye, and microscopic investigations are needed. The prognosis is uncertain before a thorough pathologic examination. Even such examination may lead to misinterprètation, if it has not been carried all over the tumor, for the degeneration may be limited to a small part of the growth.

When positive symptoms of malignancy are absent, such as cancerous cachexia or visceral metastases, operators must always treat these tumors as if they were benign, and proceed to remove the neoplasm to the largest extent possible. The disseminated growths or even small parts of the papillary tumor detached and lost in the peritoneal cavity may disappear. In other cases they may be the origin of local recurrence, which can be treated successfully by secondary operations. Frequency of successive invasion of both ovaries by papillary tumors furnishes an indication to remove the adnexa on both sides, even if one is still healthy, at least in women who are near the menopause. In young women it would be better to preserve a non-diseased ovary. In bilateral papillary tumors the operative technic can be greatly improved by performing partial or total hysterectomy, according to the case.

Drainage is not necessary when the cysts have no outside vegetations, and when there is no ascites. In case ascites exists, it is well to drain the peritoneal cavity. Incomplete removal, or even an exploratory section, in inoperable cases, is often accompanied by a real diminution of ascites, with local and general improvement.

Ankylosis Treated by Arthroplasty, Clinical and Experimental.

DR. JOHN B. MURPHY, Chicago, mentioned three types of ankylosis—ankylosis from periarthritis, ankylosis from capsular lesions and bony ankylosis. He said that bony ankylosis could be relieved. Tissue could be interposed to prevent the re-establishment of bony union, and a joint could be produced with a serous secreting surface. His experimental work had shown that after the removal of the hip joint in a dog, cartilage, synovial membrane, and the articular surfaces in their entirety, with replacement of tissue in the acetabulum and replacement of bone again, he had produced a typical synovial membrane in the sense of a hygroma. In the production of hygroma, pressure on fatty tissue had a tendency to bring about a coalescence of the small fatty capsules. The shaft of these capsules produced a serous secretion, and there was developed a condition which was seen in housemaid's knee, over the trochanter of the boilermaker, and over the wrist of the stonecutter. This could be done in a joint. The surgeon could restore joints to practically their normal condition.

Dr. Murphy reported a case in which a bullet perforated the intestine eight times, fractured the head of the femur, remained in a pocket for a time, ulcerated out, and was finally voided through the intestine. The patient recovered with a sinus, and with ankylosis of the leg at right angles. After removing the head of the femur, curetting and removing the bony débris from the ilium, the wound was allowed to heal, and a plan was devised for the restoration of the joint and the relief of deformity. He decided that it was necessary, first, to expose the joint and to secure bony tissue for the new head. Second, it was necessary to interpose between the fragments not only muscle, but fascia, covered with fatty tissue, because the fatty tissue here, subject to pressure, like the fascia lata of the trochanter, formed hygromata. A U-shaped flap was made, carrying with it fascia lata and all the superficial tissue of the skin, and then the joint sawed from around the trochanter major. None of the muscles was divided. A fracture was produced at the base of the cavity, and the head, which was new bone formation, as the original head was removed, was thrown out in connection with the neck, rounded off with bone-cutting forceps, and the curette was used to enlarge the cavity. The next step was to separate the fascia lata with its fat and a few fibers of the gluteus muscle; a flap was swung in behind the muscular attachments, and the trochanter major put in around the head of the femur and sewed to the neck. The neck was made short to prevent reunion of the fibrous portion of the capsule which remained, because, if the capsule remained in its fixed position, the ankylosis would continue, and this was one of the practical points derived from this particular case. The trochanter major was sutured to the neck, the head replaced, the trochanter major rounded off, the flap turned down, and the wound drained. The result was ideal. Dr. Murphy mentioned other cases on which he had operated by this method with gratifying results.

New Aids in Diagnosis of Surgical Diseases of the Kidney.

DR. A. T. CABOT, Boston, concluded that segregation of the urines was of great use sometimes in deciding which kidney was diseased, or most affected. Determination of the functional capacity of the kidney, by testing the elimination through it, might be of assistance by adding strength to what evidence we had, but would be often misleading if too implicitly relied on for deciding operative measures.

A Case of Acute Pancreatitis Associated with Gallstones.

DR. JAMES BELL, Montreal, said that the demonstrated facts in this case were: (1) In March, 1898, there were all the characteristic lesions, signs and symptoms of acute pancreatitis, and at the same time an apparently healthy liver and gall passage, with two or three stones in the gall bladder. (2) All signs and symptoms of pancreatitis disappeared and the patient recovered; but two years later characteristic symptoms of gallstones developed. (3) Three years after the attack of acute pancreatitis it was demonstrated that, while extensive and serious pathologic changes had taken place in the gall-bladder and bile ducts, all local signs of acute pancreatitis had entirely disappeared (subperitoneal fat necrosis and swelling of the pancreas). Acute pancreatitis, therefore, developed before there were any pathologic changes in the gall bladder and bile ducts, and while such changes were taking place pancreatitis was recovered from. These facts seem to be at variance with modern views of the etiology of acute pancreatitis, which attribute this condition, in a general way, to pathologic change in the common bile duct due to the passage of gallstones from the gall bladder to the intestine.

Treatment of Congenital Cleft Palate; A Plea for Operations in Early Infancy.

DR. TRUMAN W. BROPHY, Chicago, urged that the most desirable time to select for operating was within three months after birth. Thus one was able to secure more satisfactory results than later in life, and to avoid the objections usually raised. His experience in operating, at from ten days to fifty years of age, had more and more justified the early operation.

Among the advantages mentioned were: Less surgical shock, because the nervous system of the young child is not well developed, and it is not capable of receiving the same impressions that it would late in life. Better reaction in young children. Less alarm and dread, which are among the most powerful factors in producing shock. Less deformity, for all the tissues, bony as well as soft, develop naturally and according to accepted types. Possibility of development so that normal speech may follow when the child reaches a speaking age.

Dr. Brophy described his method of operating on cleft palate in detail. He stated that if operations were made later in life the patient should be placed under the instruction of one who had the perseverance, ability and patience to teach him how to overcome the defective speech which he had acquired.

A Mechanical Device for Gastric and Intestinal Anastomosis.

DR. F. B. HARRINGTON, Boston, described a ring for intestinal anastomosis for which he claims safety and speed, a complete resection and suture being easily done in fifteen minutes; cleanliness; assisted by clamps, the pursestring sutures prevent even a mucous ooze; the intestinal suture is more easily done over the ring than without it; a single layer of continuous stitches may be used, since the ring allows a perfect approximation to be made, and protects the suture until adhesions have formed; it is not necessary to sew up any of the layers, repair being more rapid when the mucous membrane is not sutured; the presence of the ring guarantees a free opening at the site of operation; in case the continuous stitch should be improperly applied, the weak spots are protected by the ring; after operation the ring holds the suture immovable and acts like a splint.

DISCUSSION.

DR. J. W. DRAPER MAURY, New York City, stated that instead of using the elastic ligature at the laboratory of Columbia University, they had been employing twine. The method of introducing the twine might follow the McGraw technic, although the triangular stitch possessed a distinct advantage over it. This stitch punched out as much tissue as might have been included in the triangle. It would cut through in less than three and a half days. It must be very tightly tied. This was the sole requirement to success.

The Subtle Force of Radium.

DR. ROBERT ABBE, New York City, narrated his experience, and said that radium had a powerful effect on carcinoma. The agent had been used in cases of lupus, superficial epitheliomata, carcinoma, rodent ulcer, superficial sarcomas, etc. In some cases of superficial recurrent carcinoma of the breast, if radium was applied to the diseased area for a considerable time, say an hour, then the patient permitted to go, and the agent reapplied at intervals of two or three days, the carcinomatous masses would disappear. In other instances, they would disappear under the use of the *x*-ray. Radium had an extraordinary power in inhibiting the growth of malignant cells in some cases.

DISCUSSION.

DR. W. W. KEEN, Philadelphia, said that one positive fact was worth a dozen negative ones. He had had an experience now covering twenty-two cases in which radium was used. Whether his results were due to the quality of radium, to a difference in the character of the growths, to the method of using it, or what not, he did not know; but in not one single case had there been the slightest benefit, except in one feature, and that was as to pain. Unquestionably, in cases of carcinoma the patients had suffered less, and in a large number pain had disappeared. He had used the German instead of the French radium. Some of his specimens had varied from 17,000 radio-activity up to a larger radio-activity, until finally he was able to obtain one specimen with 1,800,000 radio-activity.

Gastrostomy in Esophageal Stricture.

DR. JAMES H. DUNN, Minneapolis, said that cicatricial stricture was the most serious benign affection of the esophagus. He referred to the improvements in operative technic, saying that surgeons could now approach these cases with a very safe and certain method. He described the steps of the operation. A modification of Dunham's wire and spindle bougies was suggested as somewhat simpler and more handy. He had not found it necessary to use guards to protect the epiglottis and stomach fistula from chafing. By this plan but one anesthesia was necessary in each case. The fistula had not leaked and had healed spontaneously. He reported three very severe cases, one in a girl aged 19, following typhoid ulceration, and two in children, aged 9 and 2 years, from the ingestion of concentrated lye. Repeated attempts had failed to reach the stomach through the mouth in all these cases.

Surgery of Nerves; The Bridging of Nerve Defects.

DR. CHARLES A. POWERS, Denver, reported in detail a case of transplantation of four inches of the great sciatic of a dog to the external popliteal of a man. Union was prompt. The fragments stayed in place, and the immediate results seemed to be encouraging, but the ultimate result was a total failure. Examination and report were made eight years after operation. Cases of the bridging of nerve defects gathered from literature showed the following number: Grafting, 22; flap operations, 11; implantations (anastomosis), 10; resection of bone, 7; suture à distance, 3; tubulization, 1. Analysis of these cases showed that grafting was a failure and should be discarded, while the results in flap operations and anastomosis were about the same, something over 50 per cent. of the cases being successful.

Final Results in Secondary Suture of Nerves.

DR. EMMET RIXFORD, San Francisco, reported three cases of secondary nerve suture, of the ulnar at the wrist, of the musculospiral and the facial at the stylomastoid foramen, six, four and two years respectively after operation. In the first case the atrophic thenar, hypothenar and interosseous muscles regained their normal volume and function, save in so far as motion of the fingers was limited by adhesions, the result of fixation and chronic arthritis. In the second case the musculospiral nerve was sutured eight weeks after rupture complicating a fracture of the humerus. A defect of three centimeters was overcome by shortening the humerus that amount, and the result was complete motor and sensory restoration of function, with slight atrophy, one-half centimeter difference in circumference in the forearms. In the third case the facial nerve was severed by a narrow tooth beneath the mastoid process. Facial paralysis was complete. The suture was done at eight weeks after the injury. In order to secure tissue for the suture, the mastoid process was cut away with the surgical engine, and the external wall of the fallopian canal removed for five or six millimeters. Result: Face symmetrical when in repose; eye closes in sleep; may be closed at will; angle of mouth, tip of nose and chin can be drawn to the paralyzed side.

The prognosis in secondary suture was but little, if at all, inferior to the prognosis in primary suture. In the presence of infection secondary suture was preferable to primary. All scar tissue should be removed, including the whole of the terminal neuroma of central segment, the nerve ends united by absorbable suture with the least possible traumatism. Defects, if not too great, could be overcome by stretching, which should be done before section of the nerve ends or by shortening of the bone.

Thyroidectomy for Exophthalmic Goiter, with Report of 40 Cases from 128 Operations on the Thyroid.

DR. CHARLES H. MAYO, Rochester, Minn., said the subject of goiter was still unsettled both as regards etiology and treatment. Recent investigations concerning the lymphatic system

and ductless glands rendered the subject very interesting at this time. Exophthalmic goiter was a distinct type, with many symptoms, involving the mental, muscular, digestive and circulatory function, the most common being the tachycardia without other cause. While the mortality was comparatively high, it was among those cases which had run the gauntlet of most known remedies for the disease, and should not be entirely laid at the surgeon's door.

The surgical methods were exothyropexy, ligation of the thyroid arteries, removal of the cervical sympathetic ganglia, thyroidectomy, and the physiologic effect of operations on other regions. He and his brother had operated on 130 goiters; 40 were of the exophthalmic type, and of these 6 died as the result of the operation. In the first 15 there were 4 deaths due to lack of judgment in accepting almost moribund cases. There were but two deaths in the last 25 cases. Very severe cases were subjected to *x*-ray exposures, and belladonna given internally for a few days or weeks previous to operation. Their cases showed marked improvement in all who survived the operation. Of these, 50 per cent. made a very early recovery, especially of the severe symptoms, such as tachycardia, nervousness and tremor; 25 per cent. did so after several months, and 25 per cent. were improved, yet suffered from irregular recurrence of some of the major symptoms.

Gallstones in the Common Bile Duct.

DR. S. H. WEEKS, Portland, Me., stated that impaction of a gallstone in the common duct rarely caused marked distension of the gall bladder; it caused dilatation of the branches of the hepatic duct, and might result in pronounced and even fatal jaundice. Obstruction of the common duct was always accompanied by jaundice, which was intermittent or remittent where the calculus floated in an enlargement of the common duct, because the system would eliminate the coloring matter of the bile in the interval. The cystic duct might be occluded and give rise to grave symptoms without there being any trace of jaundice or history of biliary colic. Jaundice with distended gall bladder not due to gallstones was presumptive evidence of malignant disease. Jaundice without distended gall bladder favored the diagnosis of cholelithiasis.

Dr. A. F. Jonas, Omaha, read a paper on "Primary Splenomegaly, Accessory Spleens, Splenectomy." Dr. S. J. Mixter, Boston, reported a case in which he removed the upper jaw for extensive osteosarcoma, with an excellent result, considering the formidability of the operation. Dr. Rudolph Matas, New Orleans, exhibited a new interdental splint which he had recently devised for the treatment of fractures of the jaw, particularly of the lower jaw, without bandages. Dr. Alexander Hugh Ferguson, Chicago, exhibited a patient on whom he had performed renal decapsulation for chronic interstitial nephritis three and a half months ago, with an excellent result. Dr. George B. Johnston, Richmond, Va., reported seven cases of complete removal of the shaft of the tibia, with restoration of the bone. Dr. J. E. Mears, Philadelphia, read a paper on "The Evolution of Surgery." Dr. Leonard Freeman reported a case of primary carcinoma of the liver.

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

Organized at Atlantic City, June 6, 1904.

The constitution and by-laws of this new society were adopted June 6, at Atlantic City. The objects of the organization, as stated in its constitution, are as follows:

(*a*) The study of tuberculosis in all its forms and relations. (*b*) The dissemination of knowledge about the causes, treatment and prevention of tuberculosis. (*c*) The encouragement of the prevention and scientific treatment of tuberculosis.

The Officers.

The following are the officers: Dr. Edward L. Trudeau, Saranac Lake, N. Y., president; Drs. William Osler, Baltimore, Hermann M. Biggs, New York, vice-presidents; Dr. George M. Sternberg, Washington, D. C., treasurer; Dr. Henry Barton Jacobs, Baltimore, secretary. The board of directors, in addition to the officers above named, consists of Dr. Norman Bridge, California; Dr. S. E. Solly, Colorado; Dr. John P. C. Foster, Connecticut; Drs. Arnold C. Klebs and Robert H. Babcock, Illinois; Dr. J. N. Hurty, Indiana; Drs. William H. Welch, William Osler and John S. Fulton, Maryland; Dr. Henry M. Bracken, Minnesota; Dr. William Porter, Missouri; Drs. Edward O. Otis and Vincent Y. Bowditch, Massachusetts; Dr. Frederick L. Hoffman, New Jersey; Dr. S. A. Knopf and Mr. Edward T. Devine of New York; Dr. Charles L. Minor, North Carolina; Dr. Charles O. Probst, Ohio; Drs. Lawrence F. Flick, Mazyk P. Ravenel, H. S. Anders and Leonard Pearson, Pennsylvania; Dr. M. M. Smith, Texas; Dr. George E. Bushnell, of the United States Army Hospital, and Surgeon General Walter Wyman, of the United States Marine Hospital.

Membership.

Its membership is to consist of three classes: (*a*) Members—Those who are elected by the board of directors and who pay annual membership dues of $5. (*b*) Life Members—Those who pay $200 and are already members. (*c*) Honorary Members—Persons distinguished for original researches relating to tuberculosis, eminent as sanitarians, or as philanthropists who have given material aid in the study and prevention of tuberculosis.

The Management.

The government of the association, the planning of work, the arrangement for meetings and congresses, and everything that appertains to legislation and direction are to be in the hands of the board of directors, and committees are to have the power to execute only what is directed by the board.

The board of directors is empowered, however, to appoint an executive committee of seven members to which is entrusted the executive work of the association. This committee, chosen at the meeting in Atlantic City, consists of Drs. Trudeau, Jacobs, Otis, Ravenel, Klebs, Hurty and Mr. Devine.

The board of directors is empowered to appoint representatives in the International Committee on Tuberculosis. It was decided at the meeting of the organization that this representation was to be headed by Dr. William Osler and his associates will be selected later. The board is authorized also to appoint such committees as may be necessary for scientific and educational work, and for the holding of meetings and congresses.

Drs. Osler, Trudeau, Biggs, Devine, Barrier, Huber, Knopf and others made addresses, which were received with enthusiastic applause, and an ovation was given Dr. Trudeau when he appeared on the platform. Dr. J. M. Barrier of Delhi, La., in speaking of the fearful mortality from tuberculosis among the negroes, urged the new society to take up the work of prevention of tuberculosis among the negroes of the United States.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION.

Annual Meeting, held at Atlantic City, June 6 and 7, 1904.

A symposium on "Gastric Ulcer" was the chief topic of the proceedings. Dr. Harlow Brooks, New York City, discussed the pathologic anatomy, and Dr. W. G. MacCallum, Baltimore, the pathogenesis. Dr. Campbell Howard (from Dr. Osler's clinic) analyzed the postmortem and clinical statistics of many hospitals in the United States and Canada. Symptomatology, course, complication, sequelæ and differential diagnosis were discussed by Drs. M. Einhorn, J. Kaufmann, M. Manges, all of New York City, and H. W. Bettmann, Cincinnati. Medical and surgical treatment were discussed by Drs. S. W. Lambert and J. A. Blake, New York City; the condition of the blood and urine was discussed by Dr. T. Futcher, Baltimore, and the occurrence of gastric ulcer in children by E. G. Cutler, Boston.

The New Officers.

The following officers were elected for the coming year: President, Dr. S. J. Meltzer, New York City; vice-presidents, Drs. F. H. Murdoch, Pittsburg, and H. W. Bettmann, Cincinnati; secretary, Dr. C. D. Aaron, Detroit.

The next meeting will take place in New York during the Easter vacation.

(*To be continued.*)

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Nineteenth Annual Meeting, held in Washington, D. C., June 3-4, 1904.

Report on Disinfectants.

DR. JOHN S. FULTON, Baltimore, submitted the report of the committee appointed to investigate and report as to an approved disinfectant to be used by licensed embalmers when transporting bodies. The reports recommended the use of bichlorid of mercury, 1 to 1,000, and formaldehyd 10 per cent. solution, for use on the exterior of the body and wrappings. The report of the committee was adopted, and the committee continued for a further report at the next annual meeting.

Other Committee Reports.

The committee, which had under consideration the question of affiliation with the American Medical Association, reported adversely, and the report was adopted.

DR. C. E. COOPER, Denver, Colo., introduced a resolution recommending the disinfection of railway cars and their contents by air-pressure. The resolution was freely discussed, then referred to a committee to report at the next annual meeting of the conference.

DR. HOLTON presented the report of the committee which was appointed at the Baltimore meeting to consider the best means of controlling the spread of venereal diseases. The committee prepared a leaflet containing instructions for the patient, which it recommended should be widely distributed. The report of the committee was adopted, and the committee on venereal diseases was continued with the request that everything possible be done to further the work.

New Officers.

The officers elected for the ensuing year are: President, Dr. John S. Fulton, Baltimore; vice-president, Dr. M. K. Foster, San Francisco; treasurer, Dr. J. A. Egan, Springfield; secretary, Dr. Gardner T. Swarts, Providence, R. I.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pneumonia.

Thornton, in *Amer. Med.*, states that pneumonia presents different aspects and problems to be met as it appears in infancy, adolescence, in the aged, the robust, plethoric, anemic, nervous, debilitated and alcoholic; different questions arise at the various stages; the course is modified by climate, altitude and locality. But since the same essential pathologic process is seen in all cases, there must be certain principles of treatmen' applicable to all cases.

HYGIENIC TREATMENT.

The general treatment is to conserve the strength and prevent unnecessary respiratory effort. Thornton advises a firm bed, condemns the use of feather beds, advocates the use of the bedpan, urinal, and feeding cup in order to avoid all possible muscular effort; to further insure quiet for the patient no one is allowed in the room except those in attendance. He thinks some patients have actually been "talked to death."

The temperature of the room should be maintained at from 65 to 70 degrees, and the air must be pure and moist.

LOCAL APPLICATIONS TO THE CHEST.

Poultices are good only in the stage of congestion, when they may relieve pain by the heat and moisture they contain; later, rest is interfered with by the necessary frequent changing, and they can have no effect on the consolidated area. A smart mustard plaster may be applied and left until the surface becomes red and the heat maintained by a hot-water bag or a thin cotton jacket.

MEDICINAL TREATMENT.

Medicinal treatment must be directed to combat toxemia by free elimination; an initial calomel and saline purge, followed by copious drafts of water and salines as required. When rest and quiet are disturbed by cough, delirium, and sleeplessness, drugs must be used to restore rest. For the pain morphin gr. 1/6 (1 cg.) by mouth or hypodermically, repeated if required after several hours. Codein is recommended as a general sedative to the nervous system and the respiratory mucous membrane, is well borne by children, and does not lock up the secretions. It is best given in small doses, gr. 1/12 to 1/6 (5 to 16 mg.), every three hours for adults; in children the dose is gr. 1/60 to 1/12, depending on the age and condition.

Aconitin and veratrin may be given in the early stages of the sthenic cases and the author says they are useful in quieting the circulation, thus saving the heart; reducing the temperature, thereby lessening tissue waste. Medicinal doses do not depress the heart.

Digitalis and strychnia are indicated at the time of and after the crisis, when the right ventricle is dilating and losing ground because of the resistance in the lungs. The author recommends the active principles of the drugs in preference to the uncertain tinctures and fluid extracts. Specific treatment by serotherapy has not been found, but creasote or creasote carbonate have given very satisfactory results; if given before the stage of complete consolidation the temperature falls, and in 48 hours convalescence is begun; when given after the lung is already consolidated the symptoms are ameliorated and the temperature falls gradually. The drug must be continued during convalescence. Creasote is best administered in the form of enteric pills to avoid gastric irritation, the dose is gr. 1 to 2 (.065 gm. to .13 gm.) every three hours. Creasote carbonate is a brown syrupy liquid, and may be given in an emulsion with acacia or cinnamon water; in this form it does not have a bad taste. Dose 10 m. (6 c.c.) every three hours. Care should be taken by the nurse to arrange the medicine and nourishment and other details to come about the same hour so that the patient may be less frequently disturbed.

CALOMEL TREATMENT.

John T. DeMund, in a communication, writes: "I am of the opinion that heretofore more if not all physicians have overlooked the all-important bearing of the "Portal Circulation" in inflammation of the lungs. In active practice for the last forty years, the last ten of which I have been in the habit of using boldly and most successfully calomel in heroic doses, adult dose gr. x every four to six hours, day and night p. r. n. The microbic bed of morbidity and mortality is freed from its pulmonic environment, and as seven-tenths of the disease is eliminated in twenty-four to forty-eight hours, the remaining three-tenths is treated better by careful nursing than by over zealous doctoring. I write from experience."

POTASSIUM IODID TREATMENT.

Altshul, in the *Med. Rec.*, reports 250 cases of lobar pneumonia treated with potassium iodid with a mortality of only 1 per cent. The drug is given in doses of gr. x-xv (.6-1 gm.) and repeated every two or three hours, increasing the dose by five or ten grains each time according to the severity of the case. He states that 1,000 to 3,000 grs. (66 to 200 gm.) may be administered without unpleasant results, the condition of the heart's action being the index as to toleration. The disease is not shortened but always runs a mild course and terminates by lysis.

N. S. Davis recommends the following to insure rest and elimination:

R.	Pulv. opii et ipecacuhanæ ..... gr. v	30
	Pulv. camphoræ ..... gr. ii	12
	Hydrarg. chloridi mitis ..... gr. i	06

M. Ft. chart. No. i. Sig.: Give at night to favor sleep, followed by a rectal enema each morning.

If the cough is frequent and the expectoration difficult the following combination gives almost uniformly good results:

℞. Ammon. hydrochloratis 3iv 15
Antimonii et potassii tartratis ..... gr. ii 12
Morphin. sulphatis ..... gr. iii 20
Glycyrrhizæ syrupi ..... ʒiv 120
M. Sig.: One teaspoonful every three or four hours.

If during the second stage the expectoration becomes more purulent and the systole of the heart weaker carbonate of ammonium and pulverized gum camphor may be substituted for the above mixture.

Bronchopneumonia.

Northrup, in the *Medical News*, thus summarizes how to cure the baby of bronchopneumonia: 1. Castor oil to clear the field of operation. It is the first aid to the injured. 2. Fresh air, cool and flowing. The red blood stimulates the heart, improves the digestion, quiets restlessness, aids against toxemia. Regulate the temperature of the air of the room inversely to that of the child. The patient's feet must always be warm, and the head cool. 3. Water plenty, inside and outside, temperature indicated by the child's temperature. 4. Quiet and rest, tranquillizing influences about the patient, undisturbed sleep. 5. Correct feeding to avoid fermentation of gas in the abdomen. If there is need, high hot salines. 6. Antipyretics; use water, no coal-tar products. 7. Heart stimulants, fresh air, hot foot baths. Relieve tympanites. Hot foot baths and hot salines can be given in a cold room; both can be given under the bedclothes. Drugs: whiskey and strychnin. These are the first drugs mentioned in the paper.

Chilblains.

The *Jour. de Méd. de Paris* recommends the following:

℞. Salol
Ether, āā 3i 4
Flexible collodion ..... ʒi 30
M. Sig.: Apply as required.

Infantile Convulsions.

Jacobi recommends the following prescription for infantile convulsions:

℞. Chloral hydratis ..... gr. iv 25
Potassii bromidi ..... gr. viii 50
Syrupi simplici
Aquæ destil., āā 3i 4
M. Sig.: One dose for child two years old.

Hemoptysis.

Pepper recommends the following formula:

℞. Acidi gallici 3ii 8
Acidi sulph. arom. 3i 4
Glycerinæ ..... ʒi 30
Aquæ destil., q. s. ad ..... ʒvi 180

Gingivitis.

In inflammation of the gums Bjorkmann, in *Merck's Archives*, recommends the following combinations:

℞. Tinct. catechu
Tinct. myrrhæ
Tinct. arom., āā ..... gtt. lxxv 5
Olei menth. pip.
Olei anisi, āā ..... gtt. viii 50
Spts. diluti ..... ʒiii 90
M. Sig.: One teaspoonful in a glass of water to cleanse the buccal cavity several times a day; or:

℞. Thymol ..... gr. iv 25
Acidi benzoici ..... gr. lxxv 5
Tinct. eucalypti ..... ʒss 15
Olei menth. pip. ..... gtt. xv 1
Elix. simp. q. s. ad ..... ʒiii 90
M. Sig.: One teaspoonful in a glass of water as a mouth cleanser; or:

℞. Tinct. krameriæ
Tinct. myrrhæ
Tinct. gallæ, āā ..... m. lxxv 5
M. Sig.: Apply locally to the affected places several times a day; or:

℞. Salol ..... gr. xxiiss 1 50
Spts. menth. pip. ..... ʒi 30
Tinct. catechu ..... ʒii 60
M. Sig.: One teaspoonful in half a glass of warm water as a mouth wash.

Administration of Antipyrin.

A. Martinet, in *Ther. Gazette*, states that antipyrin should never be given in capsule form, as it is very irritating to the gastric mucous membrane. It is generally so administered because it is cheaper, but in solution it is preferably prescribed. It is recommended given in combination with sodium bicarbonate as follows:

℞. Antipyrini ..... ʒss 2
Sodii bicarb. ..... ʒi 1
Syr. aurantii ..... ʒiii 12
Aq. destil. ..... ʒxii 48
M. Sig.: One tablespoonful as indicated.

Antipyrin should always be administered outside the period of digestion, that is half an hour before meals or one and a half hours after meals.

It is not advisable to administer it hypodermically, as it is liable to cause local disturbances. In epistaxis it is of service locally as a hemostatic applied in the following solution:

℞. Antipyrini ..... ʒii-x 8-40
Aquæ ..... ʒxx 80
M. Sig.: To be applied locally with a swab. As an ointment in anal fissures it is recommended combined in the following proportions:

℞. Cocainæ hydrochlor ..... gr. viiss 50
Antipyrini
Zinci oxidi, āā ..... gr. xxx 2
Lanolini
Liq. petrolati, āā ..... ʒiiss 10
M. Ft. unguentum. Sig.: Apply locally.

Indications and Non-indications for Atropin.

A. Brav, in *Ther. Gaz.*, states that the salts of atropin being easily soluble in water are very suitable for ophthalmic practice. It is used as a mydriatic, antiphlogistic, analgesic, iridoplegic and cycloplegic. Its action is entirely local, as shown by the fact that atropin dropped in one eye will not produce dilatation in the other. For mydriatic purpose one drop of a half per cent. solution of the sulphate or salicylate will suffice. As a mydriatic it is indicated in all conditions where the iris is congested, as it acts directly on the terminal nerves of the iris, also in conditions where adhesions of the iris to the anterior part of the capsule of the lens exist. Its antiphlogistic power depends on the fact that it relieves the congestion of the iris by forcing the blood out of its vessels into the ciliary vessels, and thus relieves the inflammatory condition. It also places the iris at rest by paralyzing its motor function and thus prevents its movements in response to light stimulus, giving it rest, which is the most essential thing in inflammatory conditions. It diminishes pain, not in an anesthetic way, for it has no anesthetic properties, but simply by paralyzing the motor filaments and preventing movements of the iris.

The indications for the use of atropin may be summed up as follows:

1. In correcting errors of refraction.
2. In spasms of accommodation.
3. In hypermetropia producing convergent strabismus.
4. In the various inflammatory conditions.
5. In ulcers of the cornea.
6. In iritis, whether syphilitic, rheumatic or traumatic.
7. In diseases of the sclera, wounds and recent injuries.
8. In diseases of the uveal tract, choroiditis, retinitis, by paralyzing the ciliary musele.
9. In circular iridodialysis.

It is non-indicated in:

1. Glaucoma.
2. In people over forty years of age atropin is not indicated to correct errors of refraction.
3. In cyclitis, atropin will increase the pain.
4. In ulcers of the cornea with impending perforations.
5. In radial iridodialysis.

It must be remembered that atropin sometimes causes toxic symptoms and some individuals show marked intolerance for it. Its poisonous effect from local use takes place by passing through the puncta, canaliculi, lacrimal sac, nasal duct to the mucous membrane, where it is absorbed. Consequently to prevent the poisoning from atropin it must be prevented from running into the nasal canal with the tears. To avoid this the

eyelid should be everted so as to allow any excess to run down the cheek. This is especially necessary when instilling it into the eyes of children. The preparation used should be neutral in character, not too strong. No more than three drops daily should be used, and in children one drop, and should not be used when the patient is past forty years.

Bronchial Asthma.

The following antispasmodic combinations are recommended by "Text-Book of Applied Ther." in the treatment of bronchial asthma:

R.	Morphinæ valerianatis .....gr. i	06
	Elix. ammon. valeren.	
	Spts. chloroformi, āā.....3vi	24
	Syr. tolutani q. s. ad.....℥ii	60

M. Sig.: One teaspoonful every half hour until relief follows: or;

R.	Tinct. belladonnæ 3i	4
	Spts. chloroformi 3vi	24
	Syr. altheæ q. s. ad.....℥ii	60

M. Sig.: One teaspoonful every half hour as required.

Urticaria.

In strophulus infantum, which is a variety of urticaria occurring in infancy, M. Joseph, in *Ther. Review*, states that the treatment depends greatly on the diet as in ordinary urticaria. The proper kind of milk must be prescribed for young infants and older children should be forbidden to eat meat. To relieve the itching the following is recommended:

R.	Liq. carbon. deturgens .....gr. lxxv	5
	Zinci oxidi	
	Amyli, āā.....3v	20
	Glycerini .....℥i	30
	Aquæ destil. .....℥iiiss	100

M. Sig.: Apply to the itching surfaces with a brush three times a day. A warm bath should be given twice weekly. If the foregoing does not relieve the symptoms he employs bromocoll (dibromtannin and calcium) in the form of a 10 or 20 per cent. ointment or euguform (a combination of formaldehyd and creosote) either of which may be substituted for the foregoing tar preparation. Internally he advises the following as an intestinal antiseptic:

R.	Menthol .....gr. xv	1
	Ol. amygdalæ dulcis .....gr. iv	25

M. Ft. cap. No. xxx (gelatin). Sig.: One capsule three times a day.

Brewer's yeast, a teaspoonful in milk once or twice daily, may be substituted.

In prurigo of infants the skin should be kept clean and the diet and digestion regulated. Internally intestinal antiseptics iodin and cod-liver oil or dilute sulphuric acid. Locally he advises emollient ointments or luguform.

Methylene Blue in Malaria.

Moore, in *Therapeutic Gazette*, gives the following conclusions as the result of his study of the use of methylene blue in malaria:

1. Methylene blue will destroy malarial parasites in many cases, but is less certain than quinin.

2. Methylene blue is probably most valuable in chronic cases, but has no advantage over quinin.

3. The effects of methylene blue are ordinarily more unpleasant than quinin.

4. It is useful in cases that can not take quinin on account of some idiosyncrasy to it. Its use in cases of pregnancy is undetermined.

5. It is probably valuable in the treatment of hematuric and hemoglobinuric fevers on account of diuretic action. This has yet to be determined. We have had no chance to test its use in such cases.

6. We believe quinin is quicker and much more certain, and would rely on it rather than on the methylene blue. Where there is a known idiosyncrasy to quinin, methylene blue, medicinally pure, should be given in doses of three to five grains every four to six hours in capsules, combined with gr. ½ pure nutmeg. Ordinarily, there will be no unpleasant features, but in some cases there is burning on micturition, and now and then nausea and headache. In neuralgia and neuritis of malarial origin, methylene blue is very valuable.

Medicolegal.

Damages for Loss of Thumb and Finger.—The Supreme Court of Minnesota holds, in the personal injury case of Bernier vs. the St. Paul Gaslight Company, that an award of $3,250 for the loss of the entire thumb of the left hand and the entire index finger of the right hand of a minor 20 years old was not excessive, but only fairly compensatory, the thumb of the left hand having been cut out of the palm.

Compensation for Attending Indigent Smallpox Patients.—The Court of Appeals of Kentucky says, in the case of Rutherford vs. Bath County and others, that the party suing, a practicing physician, was employed by the county judge and the county board of health to look after and treat indigent persons afflicted with smallpox in Bath county, and to prevent the spread of the disease. There was no contract fixing the amount of compensation therefor. He treated about 70 persons who were afflicted with the disease, and was engaged in the work for 92 days. He presented to the fiscal court of Bath county an itemized account for his services at the rate of $20 a day, aggregating $1,840. The fiscal court rejected all of this claim except $750, which was allowed, paid and credited thereon. The physician thereon appealed to the Bath Circuit Court, where a trial resulted in a verdict for the defendants. On the trial the physician introduced a number of reputable physicians who thought the charge of $20 a day reasonable, in view of the fact that he had been compelled during this period of time to give his entire attention to his smallpox patients; while, on the other hand, the county judge and a member of the board of health, who had employed him, both testified that $750 was ample compensation for the services which had been rendered. They also introduced several persons who had been treated by him for smallpox, one of whom testified that he did not come into his house at all while he was sick, and only passed his house on one occasion. Another testified that he came to see his family (five members of which had been afflicted with the smallpox) four times. The Court of Appeals holds that the testimony for the defendants was sufficient, if credited by the jury, to sustain a verdict, and that it (the Court of Appeals) had no power to control the judgment of the jury and say that they should have believed the testimony for the physician and rejected that for the defendants, or to set aside such a verdict because of a mere numerical superiority of witnesses on the side of the physician.

Hospital Records—Cross-Examination—Privilege.—In the case of Kemp vs. the Metropolitan Street Railway Co., brought by John Kemp, administrator of the estate of Annie Kemp, deceased, the First Appellate Division of the Supreme Court of New York says that a junior assistant surgeon connected with a hospital, and who had charge of an ambulance, testified that in answer to a call he took the said Annie Kemp to the hospital; that on his return to the hospital he entered in a book, which he produced, the name and address of the woman that he carried to the hospital; that he had no recollection of the occurrences apart from the entries in the book; that some of the other entries as to ambulance calls on that day were made by him and some by another physician who was not examined on the trial. The physician also testified that his diagnosis as contained in this entry was his opinion at the time, and that it was his opinion when he was examined as a witness; that he remembered such a name as that of Annie Kemp, but could not say positively that it was Annie Kemp. The court holds that the record of this book was clearly incompetent. It says that it was not a public record kept by a public officer in the discharge of his duties, but was the record of the fact that at a specified time the physician removed a person to the hospital, whose name and address were en-

tered in the record of the hospital, with a statement of the nature of her injuries. But even assuming that, while these records were incompetent, they could not have injured the street railway company sued, the company certainly was entitled to cross-examine the witness who made the entries in relation to them. This entry in the hospital book, which contained a statement of the accident and the injuries sustained by the woman that he took to the hospital, and which the physician obtained from her, having been introduced as evidence against the company, over the company's protest and exception, it was certainly competent then for the company to prove what it was that the woman said to him from which he made the record which had been admitted in evidence. A party to an action can not call a physician and accept his statement of a fact which he had recorded, knowledge of which he acquired from the party introducing the evidence, and then prevent his opponent from proving just what it was that the party said to the witness from which he made the record which contained the statement. Assuming that the communication of the woman to the witness was privileged—a question which is open to serious doubt since the decision in Green vs. Met. St. Ry Co., 171 N. Y. 203—the plaintiff, by calling the physician and interrogating him as to the condition of the woman after the accident, and introducing in evidence the record that he made in the hospital book of the occurrence, clearly waived the prohibition contained in section 834 of the New York Code of Civil Procedure; and the attorney for the representative of the now deceased woman, having interrogated the witness as to the condition of the woman, and having been allowed to introduce in evidence the record made by the physician of the information that he received from the woman at the time, could not claim that the witness should be prevented from stating to the jury the declarations made by the woman from which the record was made.

Malpractice—Treating Symptoms for Disorder—Damages.—The Supreme Court of Kansas says, in Manser vs. Collins, an action for malpractice brought by the latter, that it is true that a physician is required to possess a reasonable degree of learning and skill only, and the exercise of ordinary care and diligence will exempt him from liability, and that he is not responsible for errors of judgment in matters of reasonable doubt. At the same time it holds that a physician is answerable in damages for a failure to discover a serious dislocation of a patient's shoulder and fracture of an arm, when there was a reasonable opportunity for examination, and the dislocation and fracture could have been ascertained by the exercise of ordinary care. In this case, it says, the physician was one of 18 years' practice, which fact it was presumable that the patient knew when she called him. It was his duty to use reasonable care to ascertain the seat of his patient's trouble. It was to be expected that he would treat the disorder itself, and not the symptoms of it. For neglect to exercise reasonable skill in ascertaining the source of her distress he was held liable. There can be no doubt that physicians and surgeons in such cases must respond in damages if their carelessness results in injury to the patient. Mental suffering naturally attending and incident to physical pain, prolonged by the failure of a physician to discover the seat of a bodily injury, is a proper element of damage in such cases as a failure to discover a serious dislocation of a patient's shoulder and fracture of an arm as above mentioned when the same could have been ascertained by the exercise of ordinary care. It may be said that the failure of the physician to alleviate the patient's suffering was the cause of it, at least to the excess above a minimum, to which it might have been reduced after prompt discovery of the cause and by proper treatment. To that extent he caused her physical harm by a negligent omission to exercise reasonable skill. Where mental suffering is an element of physical pain, or a consequence of it, damages for such mental suffering may be recovered. Mental suffering, however, resulting from the injury, which arises in the mind, but is not a part of the pain naturally attendant on and connected with the injury, can not be regarded as an element of damage.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

June 18.

1 *Some Remarks on the Treatment and After-treatment of Congenital Dislocations of the Hip. Adolf Lorenz.
2 *Surgery of Hydrocephalus. B. M. Ricketts.
3 Concerning the Embryology of Kidney Anomalies. A. G. Pohlman.
4 Two Cases of Fatal Poisoning (Criminal) by Strychnin, with a Report of the Toxicologic Examination of Some of the Organs. J. Morrison.
5 The Antiseptic Treatment of Smallpox. S. M. Wilson.
6 *Strangulated Femoral Hernia Containing the Vermiform Appendix. E. Marvel.

1. **Treatment and After-Treatment of Congenital Dislocations of the Hip.**—Lorenz discusses this subject, detailing at great length his method of after-treatment of congenital dislocations of the hip.

2. **Surgery of Hydrocephalus.**—Ricketts presents a historic review of the various measures instituted for the relief of hydrocephalus since 1744. He arrives at the following conclusions:

1. Excessive secretion of the cerebral meninges may occur in any form of animal life.
2. The various forms of vegetable life are subject to excessive local or general secretion to a fatal degree.
3. Hydrocephalus, ventricular or meningeal, may develop in utero or at any time throughout infant or adult life.
4. The cases of spontaneous recovery are probably numerous, especially in infant life, in which the arachnoid is alone involved.
5. All cavities may unite, with or without external rupture; when so, it is usually fatal, not necessarily instantly so.
6. Spontaneous rupture may occur externally or subcutaneously, with an occasional recovery.
7. The effusion may be into the lateral third or fifth ventricle, or it may be in the arachnoid or subarachnoid cavity, one or all.
8. A clot in the arachnoid cavity may cause a cyst which will enlarge, with all its consequences.
9. Syphilis, tuberculosis and rickets have been assigned as causes of hydrocephalus, but such have never been proved; the cause is yet unknown.
10. Sometimes zones of new osseous material are scattered here and there in the meninges, and sometimes on or in the brain substance.
11. The septum lucidum is invariably thickened, as are the cerebral meninges in general.
12. Probably the greater number of cases of early hydrocephalus, whether of the third, fourth, fifth or lateral ventricle, or of the arachnoid variety, can be cured by some form of drainage.
13. Continuous drainage by seton or the repeated use of the trocar has given the best results in the way of benefit or cure.
14. Spinal drainage has been practiced in a very limited degree, and its value is as yet undetermined.
15. Subcutaneous drainage has not resulted in a cure, but there seem to be many possibilities for this method.
16. Trephining for drainage is only resorted to in cases in which the fontanels have been closed by bony union.
17. Results from drainage are more favorable if done when the presence of fluid is first detected.
18. It is sometimes necessary to drain both hemispheres, together with the right and left cerebellar cavity.
19. The secret of curing arachnoid hydrocephalus by drainage probably lies in obliterating the arachnoid cavity. However, this can be done with hydrocephalus of the third, fourth and fifth ventricular variety.
20. The cardinal principle in this, as in all operations on the brain, is asepsis.

6. **Strangulated Femoral Hernia Containing Vermiform Appendix.**—Marvel reports a case of this kind occurring in a woman, aged 68. She first noticed a mass in the right groin about six years ago. Since then the mass came down frequently, but always could be replaced easily. She suffered considerably from abdominal pain, and on several occasions was obliged to go to bed for a few days. Her last attack was accompanied by great prostration, pain and vomiting. On examination, a mass the size of a hen's egg was found in the right groin, just beneath Poupart's ligament. The abdomen was rigid, and whenever she had the cramp-like pains a circumscribed mass the size of a double fist would form in the abdomen. This would disappear with the cramp to form again with the next cramp in another part of the abdomen. At the operation the hernial sac was found to contain the incarcerated bowel and the vermiform appendix, which was folded on the cecum and constricted at a level with the cecal constriction produced by the incarceration of the ring. The appendix was about seven inches long, enlarged at the tip, and contained a foreign substance. The meso-appendix, as well as the meso-cecum, was elongated and could be brought out

through the femoral canal with ease. The patient made an uneventful recovery.

Medical News, New York.

June 18.

7 *Management of Fever in Childhood. E. W. Murray.
8 *Two Cases of Paralysis of the Ulnar Nerve; One Following a Severe Attack of Typhoid Fever; the Other Caused by Pressure During Occupation. J. H. Lloyd.
9 *Apparatus for Nitrous Oxid-Ether Anesthesia. W. Van Hook.
10 A Brief Report of Four Years of Genitourinary Work in the Second Surgical Division of Mt. Sinai Hospital. H. Lilienthal.
11 *Vesical Retention of Urine. F. C. Valentine and T. M. Townsend.
12 The Danger of the Use of Opium in Infancy. T. D. Crothers.
13 Water Anesthesia in Surgery, and Its Suggestions in Medicine. J. Clements.
14 *A New Instrument; Amputation Shield. W. A. Sedwick.

7. **Management of Fever in Childhood.**—Murray considers the physiology and pathology of fever and insists on the necessity of analyzing the cause before any attempt is made at treatment. Each case is a law unto itself. As to the treatment, he says, that with high fever we should stimulate with alcohol, but with depression strychnin is useful. Phenacetin is preferable to antipyrin or acetanilid, possessing the unfavorable features of the last two to a lesser degree. The coal-tar products should be used only in high fevers of short duration. In young children and infants, where there is not much prostration, rectal irrigation is of value. Where there is great prostration the ice cap or the sheet pack may be employed. His method is as follows: Remove the clothing, dip the sheet in warm water, wrap carefully and smoothly about the child; over this apply a second sheet wrung out of cold water; institute gentle friction with the hands to prevent capillary engorgement. Cold water is applied as needed. Two symptoms should be kept in mind—the character of the breathing and the tendency to cyanosis. If either occur, remove the child from the pack and place between warm blankets. Ordinarily the application is continued from ten to fifteen minutes, at the end of which time the child is to be rubbed until the skin is dry and glowing. Where the fever has been complicated by convulsions, apply cold baths to the head, or use the water-bag for a pillow, after the child has been put to bed. If the temperature is dangerously high, nothing is so effectual or so likely to save life as emersion in a tub of cold water, cooled by the addition of ice. The diet should be regulated carefully and elimination favored. In ordinary fevers the food must be liquid and cool; in vomiting, cold; in respiratory diseases, warm; in collapse, hot. The best feeding time is the remission. When the evening rectal temperature is 100 degrees F., or above, give milk containing 2 per cent. fat, 1 per cent. proteid and 5 per cent. sugar. When the temperature is lower than this full-strength milk may be used. When the temperature is steadily below 100 degrees F., but above normal, give milk, bread and butter with the first, third and fifth meals, broth, dextrin and biscuit with the midday meal. When the evening temperature is steadily normal, give cereals and sterile cream with the first and fifth meals, and if well borne, add to the midday meal gradually, first starchy vegetables, milk puddings, green vegetables, then eggs, white meats and finally red meats. This is the dietary advocated by Dr. Coit for feeding children from 12 months to 2 years of age, who are suffering with fever. It is a very accurate and simple way in which to manage the diet.

8. **Paralysis of the Ulnar Nerve.**—Lloyd reports two cases of paralysis of the ulnar nerve, one following an attack of typhoid fever, marked by hyperpyrexia and extreme prostration with several alarming hemorrhages from the bowels. The lesion which involved the right ulnar nerve did not appear until some weeks after recovery. The second case was one of pressure palsy, due to the habit of leaning on the left forearm while writing. In both cases the findings were typical of this condition.

9. **Apparatus for Nitrous Oxid-Ether Anesthesia.**—Van Hook describes a new device, consisting of an attachment for an ordinary nitrous oxid face piece constructed so that the ether vapor can be substituted for the nitrous oxid gas at will. The article is illustrated with cuts showing the construction of the apparatus.

11. **Vesical Retention of Urine.**—Valentine and Townsend review in full the medical and surgical treatment for this condition, and summarize as follows:

(1) When danger to life is not imminent, the domestic methods ordinarily employed may relieve the vesical retention, provided no mechanical obstacle exists. (2) Diuretics, diluents and antispasmodics are of no use in vesical retention of urine. (3) Opiates and general anesthesia are useful only under certain circumstances. (4) Capital surgical intervention may be necessary to cure the basic condition, but the urgent symptoms can, in most instances, be relieved without life-endangering procedures. (5) Even the youngest general practitioner can carry every case of vesical retention of urine to a successful issue. (6) The cause of the retention must in each case be ascertained. (7) Only most exceptionally does a case present which can not be relieved by minor procedures. (8) No bladder should be suddenly entirely emptied because of danger of hemorrhage *ex vacuo*.

14. **An Amputation Shield.**—Sedwick describes an instrument for the protection of soft tissues when amputating. The shield consists of two concavo-convex blades containing two oval openings about the center for the reception of one or two long bones. The size of these openings can be regulated. The use of this shield obviates the necessity of having an assistant—although it is preferable to have one for other purposes—the use of retractors is done away with, the field of operation is unobstructed by instruments and the operation is hastened. The shield can be sterilized, it is easy of application and protects absolutely the soft tissues or flaps.

Medical Record, New York.

June 18.

15 *Myelopathic Albumosuria. (Kahler's Disease; Multiple Myeloma.) S. J. Meltzer.
16 *The Present Status of the Surgical Treatment of Chronic Bright's Disease. A. A. Berg.
17 A Few Words Concerning Radium. H. G. Piffard.
18 *Hydrocele of the Cord; Report of Cases. A. Jacoby.

15. **Myelopathic Albumosuria.**—The diagnostic points of this disease, says Meltzer, are pain in the bones, especially those of the trunk (because of the myelomatous tumor), the presence of Bence-Jones' albumose in the urine, and a more or less rapid decline, invariably leading to a fatal termination. A case in point is cited. The course of the disease is variable, from one to eight years. Death is caused by exhaustion or by an intercurrent affection. Efforts at treatment have proven unavailing. The albumose in the urine is tested for as follows:

Addition of nitric acid to some of the urine in a test-tube will cause a bulky precipitate, more bulky than a precipitate of albumin. This precipitate redissolves on being heated to the boiling temperature—coagulated albumin is not redissolved again by heat; on the contrary, it becomes more compact. When urine containing the Bence-Jones' albumose is heated up slowly it will be noticed that at a comparatively low temperature of about 130 F. the urine becomes turbid, and coagulates when heated only a little more. However, when the temperature approaches the boiling point the coagulum dissolves again to a great extent, the urine remaining only slightly turbid. When cooled, a heavy precipitate reappears, to disappear again on reheating the urine to the boiling point. It is characteristic for albumose to coagulate at a comparatively low temperature, redissolve at the boiling point, to precipitate when cooled, and dissolve again on heating. As in our routine work we never gauge the temperature, it is practical never to be satisfied with the appearance of a coagulum, but to wait until the urine starts to boil; we will thus never overlook the presence of an albumose. For the differential diagnosis between the Bence-Jones' albumose and the other albumose bodies, we may bear in mind the following points: It differs from the secondary albumoses (deuteroalbumoses) by being precipitated by copper sulphate or copper acetate. It differs from protoalbumose by being precipitated by sodium chlorid even in a neutral solution, which it has in common with heteroalbumose, with which it was, indeed, thought to be identical by many writers. Bence-Jones' albumose, however, differs from the heteroalbumose by not becoming precipitated by dialysis, or, still simpler, by remaining in solution even when considerably diluted with water. However, for practical purposes, it is sufficient to establish by the simple heat-tests that we have to deal with an albumose. The presence of a large quantity of albumose in the urine is, according to the present state of our experience, indicative of a malignant disease of the bone-marrow or of multiple myeloma.

16. **Decapsulation in Chronic Bright's Disease.**—Berg reviews the present status of the surgical treatment of chronic Bright's disease and cites a number of cases. Great stress is laid on the indications for the rational surgical or medical treatment of the disease, which, according to the author, are as follows: First, establish the cause of the nephritis, and so ascertain whether or not the case is fit for operation. Second, institute internal treatment, with restricted dietary and good hygiene, for a reasonable period of time. If improvement follows, continue the treatment; as soon as the patient reaches a stationary stage or gets worse, resort to operative treatment without delay. The author closes with a description of the surgical treatment.

18. **Hydrocele of the Cord.**—Jacoby discusses this condition and reports three cases. He divides the treatment into three classes: First, the use of the trnss; second, removal of the fluid, with or without the injection of an irritant; third, the radical methods, (*a*) incision and drainage, (*b*) excision of the sac, (c) incision of the sac, everting it, and suture. The first is a very questionable procedure, except for infants, and to be used only in the funicular form. The second is sometimes satisfactory when combined with the truss, but there is very much objection to the injection of an irritant, because of the danger of sloughing, the entrance of some of the irritant into the abdominal cavity, or a disastrous effect on the cord. The third methods are the only logical ones in that they embrace removal of the cause. Removal of the sac is preferable to incision and drainage, which means an open wound and the possibility of infection.

New York Medical Journal.

June 18.

19 The Doctor's Duty to the State. J. B. Roberts.
20 The Treatment of Empyema of the Thorax. H. Schiller.
21 The Fever of the Puerperium (Puerperal Infection); a Chronological Review of the Doctrines of Its Etiology and of the Methods of Treatment from Early Times to the Present. (Continued.) J. H. Burtenshaw.
22 *Report of a Case of Splenomyelogenous Leukemia. C. M. Ross.
23 *Labor Complicated by Fibroid and Ruptured Uterus. E. T. Hargrave.
24 *Appendicular Abscess with Fishbone in the Appendix. Operation; Recovery. W. P. McIntosh.

22. **Splenomyelogenous Leukemia.**—Ross gives a detailed report of one case in which the diagnosis was based on the following typical points: (1) the absence of any etiologic factor; (2) the absence of any constitutional symptom until the enormous spleen produced such pressure effects as edema of the feet, gastric disturbance and constipation and dyspnea; (3) the typical picture shown by the blood, the white blood cells, consisting largely of myelocytes numbering almost one-fourth the number of reds, with the comparatively small diminution in red blood cells and hemoglobin, and the absence of malarial organisms.

23. **Fibroid Complicating Labor.**—Hargrave reports a case of fibroid of the uterus complicating labor in a multipara. The tumor was not discovered until after the woman had been in labor for two days, when medical aid was called for. On examination a large tear was found in the right side of the fundus, but before operative procedures could be instituted, and in spite of hypodermic injections of ergot and strychnin and hot saline enemata, the patient died.

24. **Fish Bone in Appendix.**—McIntosh reports a case of appendicular abscess where, on operation, he found in the appendix a fish bone about one and a half inches in length and about the thickness of an ordinary silver probe.

Boston Medical and Surgical Journal.

June 9.

25 Carcinoma Basocellulare. A Group of Superficial Gland-like Tumors of the Skin, of Relatively Slight Malignancy, Including Rodent Ulcer. S. C. Emley.
26 The Relation of the Burn to the Bullet Hole as Evidence of Homicide vs. Suicide; Report of the Nagle Case. Jay Perkins.

June 16.

27 The Casper-Hirschmann Demonstration and Photographic Cystoscope. G. S. Whiteside.
28 *Human Slavery as a Prevention of Pulmonary Consumption. T. J. Mays.

28. **Slavery as a Prevention of Pulmonary Consumption.**—Mays calls attention to the fact that pulmonary consumption was comparatively unknown among the slaves in the South before the war. The death rate among the negroes from consumption in Charleston, S. C., in 1860 was the same as among the whites, 1.75 per thousand. In 1902 the death rate among the whites was 1.43, and among the negroes 5.74. The same condition obtained in other of the southern cities. Why, says Mays, should the death rate from consumption be from 200 to 400 per cent. larger among the negroes than among the whites of the South at the present time, and this in spite of the fact that they were on an even basis in this respect in 1860. The reason is that since they attained their freedom, their entire social, economic and industrial being has been revolutionized, they are thrown on their own resources and are forced into a struggle for existence for which they have neither the wisdom nor the organized constitutional or mental strength necessary for a successful issue. The author believes that the prevention of pulmonary consumption resolves itself into such efforts of education as will impress the masses with the importance of leading a life similar to that (excepting slavery) which made the slave population of the South practically immune from this disease before the Civil War. Such efforts of prevention mean the inculcation of sound principles of hygiene; the eating of wholesome and properly prepared food; the wearing of suitable and seasonable clothing; the avoidance of damp, insanitary and overcrowded dwellings; the abstinence from nerve strain and overwork; the shunning of strong drink and other vices; the teaching of the value of useful labor; training in physical development; encouragement of agricultural and mechanical pursuits; the supervision of proper convalescence from what seems the trivial cold or cough, or from acute illness or injury, etc. He suggests, as a means toward the end, the taking hold of this work among the masses by charitable organizations, as is being done in some of the larger cities at the present time.

Cincinnati Lancet-Clinic.

June 18.

29 Idiopathic Cardiac Dilatation. G. A. Fackler.
30 The Local Clinical Laboratory. Martin L. Stevens.

Bulletin of the Johns Hopkins Hospital, Baltimore.

April.

31 *Vaccine and Vaccination. George Dock.
32 The Sinus Frontales in Man with Observation on Them in Some Other Mammalian Skulls. Adelbert Watts Lee.
33 A Modified Nocht's Stain. T. W. Hastings.
34 Complications Arising from Freeing the Ureters in the More Radical Operations for Carcinoma Cervicis Uteri, with Special Reference to Post-operative Ureteral Necrosis. John A. Sampson.
35 The Silver Bolt as a Means of Fixing Ununited Fractures of Certain Long Bones. Stephen H. Watts.
36 Exhibition of Four Appendices Vermiformes Showing Unusual Pathologic Conditions. C. F. Barnam.

31. **Vaccine and Vaccination.**—Dock reviews the history of vaccination, describing the material used from the earliest time up to the present, the methods of preparation and preservation, pointing out the defects and objections to their use. Speaking of glycerinated vaccine, he quotes the following conclusions drawn by Copeman:

1. Great increase in the quantity can be obtained without any consequent deterioration in quality, the percentage of insertion success following on its use being equal to that obtained with perfectly active fresh lymph. 2. It does not dry up rapidly, thus simplifying the process of vaccination. 3. It does not coagulate, so that it never becomes necessary to discard a tube on this account. 4. It can be produced absolutely free from the various streptococci and staphylococci which are usually to be found in untreated calf lymph, and which are, under certain circumstances, liable to occasion suppuration. 5. The streptococcus of erysipelas is rapidly killed out by the germicidal action of the glycerin. The danger of "late" erysipelas is diminished by reason of there being no necessity to open the mature vesicles for the purpose of obtaining lymph. 6. The bacteriologic purity and clinical activity of large quantities of the lymph can be readily tested prior to distribution.

Rosenau has shown that practically all the vaccine virus sold in this country has an unnecessarily large bacterial contamination, a deplorable state of affairs. Although such contamination need not necessarily indicate dangerous infective possibility, yet this may be the cause of the frequent secondary infections that occur from such virus. In this connection he mentions tetanus. It is possible that sudden calls for large quantities of vaccine compel the makers to put on the market "unripe" vaccine. Systematic vaccination would do away with many of the imperfections now existing. Much of the vaccine manufactured is seriously lacking in specific power, thus nullifying the purpose for which vaccination is performed, and necessitating early and frequent revaccination. Many of these defects may be obviated either by public manufacture of vaccine or by public inspection, as carried out, to some extent, for the last two years by the Public Health and Marine Hospital Service.

Ophthalmic Record, Chicago.

May.

37 Two Cases of Rare Nervous Lesions of the Eye. Oscar Wilkinson.
38 Subconjunctival Dermo-lipomata. Richard H. Johnston.

39 *Iridectomy for Glaucoma and Its Immediate After-treatment. Albert B. Hale.
40 *Papilloma of the Conjunctiva. Richard H. Johnston.
41 Case of Methyl-alcohol Amblyopia. William H. Wilder.
42 *Case of Tubercular Iritis Treated by the Injection of Air Into the Anterior Chamber. Clarence W. Heath.
43 Report of a Case of Congenital Exophthalmos Produced by Orbital Hemorrhage Followed by Metastatic Choroiditis. C. A. Veasey.
44 *Unilateral Exophthalmos in Exophthalmic Goiter, with Report of a Case. Wm. Campbell Posey and Walton C. Swindells.

39. **Glaucoma.**—Hale reviews opinions as to the after-treatment of glaucoma, and the question whether eserin or atropin should be used. He thinks the continuance of eserin after operation might induce an iritis that would be hard to overcome, as well as temporarily obscure symptoms which show whether the operation is a complete success. He thinks it best to use no eserin until the wound has healed. Considering the operation apart from glaucoma, we might be tempted to use atropin at once, as some authorities have advised, but there is a danger. Iridectomy may not be successful in restoring filtration and reducing tension, and the drug might precipitate a fresh attack that would otherwise be escaped. Under the circumstances he does not consider it safe. His conclusion is that no drug should be used until the corneal wound has healed, and the eye is no longer to be considered as a purely surgical matter, when such drugs may be employed as indicated.

40. **Papilloma of the Conjunctiva.**—Johnston calls attention to the fact that in a former paper (*Ann. Ophth.*, July, 1903), after a careful search of the literature for recorded cases of this condition he only had found 30 well-authenticated and 5 doubtful cases. Since then other cases have been reported. He reports a second case that occurred within two years at the Presbyterian Hospital, Baltimore, of typical benign papilloma involving the conjunctiva and a small portion of the cornea.

42. **Iritis.**—The injection of air into the anterior chamber was performed as follows: A hypodermic syringe was used, the piston of which was first pressed home to exclude the air from the barrel and then withdrawn half way, while cotton was held over the needle point to filter the air as it entered. The needle was then introduced into the anterior chamber, through the external limb of the cornea, in a slanting position, so as to go through a considerable thickness of the same, thereby making a more secure closure after the needle was removed. The handle of the hypodermic was lowered and about three-quarters of the aqueous withdrawn. The liquid going to the lower end of the barrel, left the filtered air above, next to the needle. The piston was gently pressed and the air filled the space in the anterior chamber, restoring the normal tension. It was then withdrawn. The next day there was very little reaction and the air introduced was two-thirds absorbed, and on the following day only a small bubble remained. The operation was repeated at weekly intervals until four injections had been made with negative results. The growths continued to increase interruptedly. Heath's conclusion is that in cases of tubercular iritis, where the lesion is well established, air injections will not effect a cure.

44. **Unilateral Exophthalmos.**—Posey and Swindells report a case which improved under treatment and discuss the literature.

Chicago Medical Recorder.

May 15.

45 *Spurious Dysmenorrhea. A Plea for a More Rational Treatment. Henry T. Byford.
46 *Parasyphilitic Disorders. Archibald Church.
47 *Syphilis as a Cause of the Neuroses. L. Harrison Mettler.
48 Syphilis as a Cause of Psychoses. Richard Dewey.
49 *Some of the Difficulties to Be Overcome in the Radical Mastoid Operation for the Cure of Chronic Purulent Otorrhea. Frank Allport.
50 *More Local and Less General Anesthesia in Gynecologic Operations. J. Clarence Webster.
51 Tubercular Spondylitis; Diagnosis and Prognosis. John L. Porter
52 Goiter, with Report of a Case Complicated by Pregnancy, Late Tracheotomy and Death. Frank H. Edwards.

45.—See abstract in THE JOURNAL of January 9, p. 118.

46. **Parasyphilitic Disorders.** Church reviews the various conditions which may arise at a late period after syphilis, and thinks that from a practical standpoint every paretic or tabetic should be looked on as a syphilitic. Nine out of ten of these cases may be attributed to parasyphilitic infection.

47. **Syphilis as a Cause of Neuroses.**—After reviewing the functional troubles which may be due to specific disease, Mettler offers the following conclusions:

1. Syphilitic infection can produce a pure neurosis. Most of the neuroses so produced, however, are but the preliminary indications of gross organic syphilitic disease of the nervous system. 2. Syphilitic neuroses are as much syphilis of the central nervous system as are the organic syphilitic diseases. They call for the same antisyphilitic treatment as the latter do.

49. **Mastoid Operations.**—Allport considers that the dangers of the radical operation for mastoiditis are such that it should not be attempted except by a competent man, and when its urgency is thoroughly manifest. He reviews the various objections and the ways in which dangers such as facial paralysis, opening of the lateral sinus, etc., may be avoided, and concludes that there has been a great and favorable evolution of improved operative technic in the last few years, and that the operation is gradually losing its terrors and disadvantages, and will soon be set up in a position of safety and assurance that its performance can not be avoided by those pretending to do the best and most advanced aural surgery.

50.—See THE JOURNAL, April 23, p. 1061.

Journal of Nervous and Mental Diseases, New York.

June.

53 Neurology in Philadelphia from 1874 to 1904. Charles K. Mills.
54 *Evolution of the Rest Treatment. S. Weir Mitchell.
55 *The Metaphysical Conception of Insanity. James H. Lloyd.
56 *The Surgery of Idiocy and Insanity. J. Chalmers Da Costa.
57 Mystic Medicine. F. X. Dercum.

54. **Evolution of the Rest Treatment.**—Mitchell, the well-known originator of this method, gives the steps which led him to its development, reporting a case where rest in bed seemed at first to do some good, but later brought about the still more unpleasant symptoms of nausea, constipation, etc. That the patient needed rest he saw, and that she required some form of exercise was also clear. He asked himself why rubbing might not do for the muscles and circulation what voluntary exercise would have done, and brought an attendant whom he instructed as to the manipulations, with remarkable results. This case taught him the means of using rest in bed without causing the bad effects of unassisted rest; that it was a tonic, and that with the influence of massage and the combination of seclusion, massage and electricity he could overfeed the patient until he had brought her into a state of perfect health. Shortly after he began to employ a similar method in other cases, being careful in his selection as to their suitability. He first mentioned his treatment in print in 1875, again in 1877, and the same year published his book on the rest treatment. He thinks he made this "rest" too prominent in the title of his book and the method was received with considerable incredulity, but he claims that the later results have shown that it is one of the most scientific remedial methods.

55. **The Metaphysical Conception of Insanity.**—Lloyd combats the idea of the independence of the mind and brain as indicating a spiritual disease in insanity. It is a disease, he says, not of abstract mental qualities, but of the organic brain cells, and a disease process in a nerve cell is not likely to respect scholastic distinctions, for a microbe may be more potent than a philosopher in analyzing a mental state. One should not study insanity as a philosopher, but as a physician.

56. **Surgery of Idiocy and Insanity.**—Da Costa reviews the methods that have been suggested and tried for insanity and the effects of surgical operations. He thinks that shock may sometimes cause insanity and sometimes arrest it, just as an explosion which may stop a clock or sometimes start one which is wound but not running. The cure may be due to fear, to a strong arousing of the will, to an awakening of hope, or to an alteration in the intracerebral pressure. All the influences except the last would be more noticeable when anesthesia is not used than when it is

given. Such sudden cures are not likely to be permanent, and one should not lose sight of the fact that though surgical operation may be followed by an apparent cure, it is a great responsibility to recommend operation with the object of inducing the rare occurrence of cure. There is always considerable doubt as to what part of the operation is brought into play in producing the arrest, and whether the patient might not eventually have become cured if let alone. Insanity may be associated with physical conditions, which, while not actually the cause of the insanity, may predispose to it, and that cure of such a condition by surgery may be followed by improvement by removing certain constantly acting irritants. An examination of the recorded cases of surgical cures of insanity show many defects in observations and deductions. Some of the operators have been extremely optimistic. In discussing the special conditions he notices operations that have been suggested for microcephalic idiocy, but only to condemn them in general. Microcephaly is not the result of premature sutural modification. It is not merely the brain, but the entire organism that is undeveloped. The proper treatment for hydrocephalus is educational, hygienic and disciplinary. In uncomplicated cases operation is never justifiable. The mortality is too high, and while certain complications may arise to make trephining justifiable, they can not be expected to affect the general condition. In traumatic idiocy, or where pressure symptoms arise, operation may be justifiable. As regards the hydrocephalic idiocy and imbecility, he speaks with some commendation of the operation of McArthur of Chicago, who introduces a metal tube into the lateral ventricle and carries it to the margin of the drill opening, suturing the scalp over it. In this way the danger of infection from ventricular drainage is avoided, as the surplus fluid reaches an absorbent region. Operations for epileptic insanity are indicated where they would be indicated in ordinary epilepsy without the insanity, but are less promising in these cases than in the non-insane ones. The advantages of operations for paresis have been overestimated, but he thinks there is a possible value in the operation in retarding the progress of the case, though its value is questionable. He does not speak favorably of operations for ordinary non-traumatic insanity, paresis nor for hypochondriacal delusions. There is no use in operating for obsessions, in his opinion, and he reviews a number of cases. Operations for hallucinations are also considered of little value. For traumatic insanity there may be some possible utility, but as for the accidents where insanity soon follows head injuries, with a scar or bone depression and local symptoms, operation positively should be undertaken. Where insanity is developed later, still with the same evidence, it should also be performed. In any case where there are positive signs of increased pressure, trephining may be considered as a palliative. The value of abdominal and gynecologic operations is recognized for certain cases, but healthy organs should not be disturbed for unaccountable visceral delusions. He thinks Hobbs' statistics are extraordinarily favorable, and he evidently takes them *cum grano*. In spite of the commendatory opinions of authorities, he thinks it should not be the rule to perform operations on the abdomen, genito-urinary organs or nasopharynx, with the hope of curing the insanity, but they should be done when the disease is of sufficient severity to call for interference, and in some cases may be followed by an improvement in the mental condition.

Medicine, Detroit.

June.

58 *Rupture of the Uterus, with a Critical Review of 50 Cases from the Standpoint of Treatment. W. A. Newman Dorland.
59 *Some Factors in the Etiology of Pneumonia. J. M. French.
60 *Visceral Syphilis. John M. Swan.
61 Syphilis of the Nervous System. Charles W. Burr.
62 *The Dose as a Variable Therapeutic Factor. A. M. Fernandez De Ybarra.

58. **Rupture of the Uterus.**—Dorland concludes that incomplete lacerations of the uterine wall, if the hemorrhage be moderate and the diagnosis accurate, may be well treated by careful vaginal and intrauterine tamponade and expectant treatment. Complete lacerations, the peritoneal cavity being opened, should, under favorable circumstances, such as uncleanliness of locality and lack of surgical appliances, be treated temporarily by intrauterine tamponade and the administration of astringents and stimulants. The patient should then, if possible, be conveyed to some hospital and an abdominal operation performed. Under favorable circumstances the cavity should be opened as speedily as possible and the rupture in the uterine wall sutured in suitable cases, or a Porro operation or a total extirpation be performed, according to the nature of the case. He gives a classification of cases reported by various authorities in the conclusion of his paper.

59. **Pneumonia.**—French reviews the etiologic factors in pneumonia, noting that it is most fatal in the extremes of life and its largest mortality between the ages of 3 and 20. That while there are fewer cases in women than in men, accounted for by their generally lessened exposure, their mortality is greater. Race seems also to have an influence, as shown by the statistics in the Johns Hopkins Hospital and in Budapest. Jews show a greater vitality than others. Residents of cities seem to be more liable, and occupation naturally has something to do with the cause. The season of the year exerts a very great influence, and atmospheric vicissitudes, likewise alcoholism, disease or disability and trauma, as Osler believes, especially injuries to the chest. While we may safely accept it as an infectious disease, it does not follow that exposure to infection will be followed by the disease. In most instances a weakened or debilitated condition of the system pre-exists, but a direct or exciting cause, such as exposure and temperature change, must be added to the action of the germ itself. The increased mortality of late years has been variously accounted for, but he does not venture to lay down any positive opinion on the subject.

60.—This article has appeared elsewhere. See THE JOURNAL of May 14, 1904, p. 1321.

62. **The Dose as a Therapeutic Factor.**—The varying effects of medicine, according to the dose, are reviewed by De Ybarra, who gives the various conditions which may modify the action of the medicine. He thinks that the common teachings of materia medica and therapeutics are not sufficiently full on this point, and notes the differences that are made by the process of manufacture, etc.

Albany Medical Annals.

May.

63 *Experimental Pancreatitis Considered in Its Relation to the Acute Forms of Pancreatitis in Man. Richard M. Pearce.

63. **Pancreatitis.**—As compared with experimental pancreatitis, and in relation to the question whether the methods thus employed may operate in man, there are four possibilities, as Pearce remarks: 1, ferments originating in the pancreas; 2, bacteria; 3, gastric juice, and, lastly, bile. There is some evidence that fat necrosis may be caused by ferments produced in the destruction of pancreatic parenchyma. As regards the second point, there has been an increased absorption of fissue or bacteria with hemorrhagic pancreatitis, but there is a lack of uniformity in the findings. Most authorities agree that they represent a secondary infection and are not concerned in the etiology of the lesion. That the gastric juice may enter the pancreatic duct and produce an inflammation of the pancreas, presupposes a powerful anti-peristaltic or other action, forcing the secretion into the duct; of this we have no definite evidence. Experiments on dogs made by the author have given none but negative results. Still he thinks it possible that under certain pathologic conditions intestinal fluids may be forced into the duct, but reports a case which seems conclusive as to the negative action of the natural gastric juice on the pancreas parenchyma. The relation of the bile to acute pancreatitis has been substantially supported by experimental observation, and the not infrequent occurrence of the lesion with cholelithiasis. The reported cases show that cholelithiasis is associated very constantly with hemorrhage and the gangrenous form of the disease, but it does not explain all the cases. A case is reported which would seem to indicate that stone, after obstructing the papilla of the orifice and causing pancreatitis, may escape into the intestine and perhaps be overlooked entirely. The sequence of

histologic changes in hemorrhagic pancreatitis, the addition of gangrenous pancreatitis as secondary to hemorrhage, in the majority of cases, and suppurative pancreatitis, are also noted. Fat necrosis, which is generally an accompaniment of the hemorrhagic and gangrenous forms, has been shown, experimentally, by Langerhans and others, to be due to pancreatic ferments. It bears the same relation to obstruction of the pancreatic ducts as jaundice does to hepatic obstruction. The theory that postmortem digestion of the pancreas may set free the pancreatic secretion and allow the development of fat necrosis has little evidence to support it.

Proceedings of the Philadelphia County Medical Society.

April 30.

64 Infection in the Upper Abdomen: Probably an Abscess of the Liver of Amebic Origin. John H. Musser and De Forest Willard.
65 *The Surgical Relation of the Vermiform Appendix to Perforation in Typhoid Fever. Levi Jay Hammond.
66 *The Antiseptic Treatment of Smallpox. Samuel M. Wilson.
67 Recent Advances in Our Knowledge of Immunity. Joseph McFarland.
68 Consideration of Some of the Methods to Be Pursued in the Diagnosis of the Diseases of the Rectum and Anus. Lewis H. Adler, Jr.
69 Lilliputian Delivered of a Living Child by Cesarean Section. L. H. Bernd.

65.—See THE JOURNAL, April 16, page 998.

66. **The Antiseptic Treatment of Smallpox.**—The antiseptic method of smallpox treatment consists in the daily use of the scrub bath. It is referred to in some recent text-books, but is not advocated generally because of its painful nature after vesiculation has occurred. Thoroughly used before the primary papules develop, it appears to prevent vesiculation. If instituted late, it does away, to a great extent, with the repulsive appearance and foul odor characteristic of cases treated without this means. If the patient is not seen until vesiculation has commenced, the summits of the vesicles must be punctured, compresses of full strength hydrogen peroxid solution applied, and these followed by a mask wet with some antiseptic. A solution of mercury bichlorid—1 part in 1,500 parts of water—gives good results. This need remain in place for a few minutes only. The peroxid, followed by the mask, may be used several times daily, if desired, and seems to comfort the patient as well as promote desquamation. In two unvaccinated young girls, where vesiculation was commenced when the patients were first seen, the scrubbing, combined with puncture of the vesicles, was very successful. Where it was applied thoroughly the vesicles, though large and numerous, left only faint traces, almost imperceptible on close examination. In other parts, not so thoroughly treated, well-marked pitting occurred. Neither child was seriously sick after the seventh day.

Physician and Surgeon, Detroit and Ann Arbor.

April.

70 Cystitis. Frank B. Walker.
71 Refraction and the Use of Mydriatics. Louis J. Goux.
72 *A New Treatment of Tuberculosis. Heneage Gibbes.
73 *Headache and Gynecology. J. H. Carstens.

72. **Tuberculosis.**—Gibbes describes tuberculosis and syphilis in their pathologic action, and refers to his conception of obtaining the action of metallic salts on the different tissues. By experimenting on animals, he obtained some interesting results, and is now working on cancer with the method. After years of work he conceived the idea of introducing something into the circulation that would combine with the toxin causing the disease, forming a combination in itself inert. With this view, Dr. E. L. Shurly and himself originated their method of treating tuberculosis with chlorid of gold and iodin. This was abandoned, however, on account of the inconvenience to the patient, but the results obtained showed that there was some virtue in the treatment. After many experiments he obtained an iodid of calcium with which he found he could introduce the iodin into the system in a painless manner, and he also found that in the double salt of palladium chlorid and sodium he had a substance of much higher oxidizing power. With this solution 10 minims represent 1/15 of a grain of salt; he uses this with an initial dose of 3 minims once a day, gradually increasing it to 25, or even more in some cases, treating each case according to the individual indications. The iodin he gives in doses of 1/3 of a grain three times a day, gradually increasing the dose to 1 grain, according to the patient's condition. The possible complication of a mixed infection, he thinks, is somewhat exaggerated, but he finds that three or four injections of 10 c.c. of streptolytic serum meet the conditions. The cases that are suitable for this treatment are those in which the disease has not progressed too far, and the vitality of the patient not too much reduced. Such a case with a moderate-sized cavity soon shows benefit in the reduction of the fever, cessation of night sweats, reduction in the cough, increased appetite and gain in weight. He has been able to check the disease in a number of cases, and in some cases of tubercular laryngitis to completely free the throat from the lesion. He thinks the cures may be permanent.

73. **Headache.**—Carstens thinks the idea of reflex disturbance has been made too much of by the profession. There are less of them than supposed, and he reports cases of gynecologic postoperative headache in which he found other conditions really responsible. The point he specially wishes to make is the influence of syphilis in these cases. He summarizes as follows:

1. Headaches are often not due to diseases of the pelvic organs.
2. Headaches are often caused by obscure tertiary syphilis.
3. When patients are suffering from more or less headache, especially accompanied by sleeplessness, make careful examination for characteristic syphilitic lesions. If you fail to get a history of marked symptoms, try a little mercury and potassium iodid anyway.

Medical Age, Detroit.

June 10.

74 Asthma and Hay Fever the Hypothesis of Identity. Henry B. Hollen.
75 Chronic Dysentery—A Protest. A. B. Cooke.
76 How We Should Treat Rheumatism. J. W. Palmer.

Northwestern Lancet, Minneapolis.

June 1.

77 Medical Graft. J. H. James.
78 Non-valvular Heart Sounds. J. G. Cross.

American Practitioner and News, Louisville.

May 15.

79 Gallstones. J. Garland Sherrill.
80 Hernia—Report of Cases. Irvin Abell.

June 1.

81 Can Bovine Tuberculosis Be Transmitted to Man? M. K. Allen.

Virginia Medical Semi-Monthly, Richmond.

June 10.

82 A Plea for Exploratory Incision for Diagnostic and Curative Ends in Masked Conditions of the Upper Portions of the Abdomen. Hugh M. Taylor.
83 The Modern Treatment of the Morphin, Whisky and Other Drug Addictions. S. M. Crowell.
84 A Historical Note on the Hypodermic Syringe. George Barksdale.
85 Prevalence and Mortality of Epidemic Pneumonia. Louise Southgate.
86 The Etiology and Sequelæ of Piles. W. L. Peple.
87 The Treatment of Hemorrhoids. Geo. K. Sims.
88 The Cold-Wire Snare as an Aid in the Office Treatment of Hemorrhoids. Charles C. Miller.
89 Report of a Case—Spontaneous Fracture of the Clavicle. Jno. E. Cannaday.
90 Need of Medical Legislation for the Benefit of the Medical Profession and for the Public. G. D. Lind.

Western Medical Review, Lincoln, Neb.

May.

91 Surgical Complications of Pneumonia. Van Buren Knott.
92 Emergency Element in Abdominal Surgery. Byron B. Davis.
93 Obstetrics. A. B. Somers.
94 The Duty of the Patient to the Physician. J. M. Mayhew.
95 Rhinoplasty by the Indian Method—Report of a Case. L. B. Pilsbury.

Journal of the Kansas Medical Society, Topeka.

June.

96 Medical Legislation. George A. Boyd.
97 Acute Otitis Media. J. P. Blunk.
98 Climatic Treatment of Pulmonary Diseases. J. N. Hall.
99 Chemical Examination of the Urine. (Continued.) J. F. Preston.
100 Chronic Nasal Catarrh. A Simple and Effective Treatment. G. A. Gilbert.

Journal of the Association of Military Surgeons, Carlisle, Pa.

June.

101 Army and Navy General Hospital at Hot Springs, Ark. George H. Torney.
102 Pathology of Chronic Specific Dysentery of Tropical Origin. Charles F. Craig.
103 The Japanese as Military Sanitarians. John Van Rensselaer Hoff.

104 *The Medical Profession in the Public and Private Life of America. Charles A. L. Reed.
105 The Prospects of the Young Military Surgeon. William H. Taft.

104.—See THE JOURNAL of May 14, p. 1283.

Vermont Medical Monthly, Burlington.

April 25.

106 Suprapubic Cystopexy. A. Lapthorn Smith.
107 Tetanus. H. S. Carver.
108 Neurasthenia in the Male. H. Edwin Lewis.

Maryland Medical Journal, Baltimore.

June.

109 Prophylaxis of Summer Diarrhea. J. H. Mason Knox, Jr.
110 Sporadic Case of Cerebrospinal Meningitis, with a Description of the Pathologic and Bacteriologic Findings. Robert Reuling.

Washington Medical Annals, Washington, D. C.

May.

111 Headache in Relation to Diseases of the Nose and Nasopharynx. Oscar Wilkinson.
112 Case of Retroperitoneal Sarcoma. Edward A. Balloch.
113 Case of Laminectomy. Edward A. Balloch.
114 Notes on a Case of Abscess of the Lung Due to the Presence of a Rivet One Inch or More in Length. J. W. Chappell.
115 Case of Abscess of Liver. G. W. Cook.
116 The Instructive Visiting Nurses' Society of Washington. Anne A. Wilson.
117 Case of Gastroenterostomy with the Murphy Button. G. Tully Vaughan.
118 Case of Foreign Body in the Lungs. A. R. Shands.
119 Prognosis and Treatment of Urethral Strictures. E. L. Keyes, Jr.

Albany Medical Annals.

June.

120 A Report of the Work of the Special Obstetrical Department of the Albany Guild for the Care of the Sick Poor. H. Judson Lipes.

Denver Medical Times.

June.

121 Some Observations on Chronic Seminal Vesiculitis. Leonard Freeman.
122 Croupous (Lobar) Pneumonia of the Abortive Type. James Rae Arneill.

Los Angeles Medical Journal.

June.

123 Colles' Fracture. Fred C. Shurtleff.
124 Puerperal Infection. J. H. Seymour.
125 Indications for Treatment in Desperate Cases of Lobar Pneumonia. Robert H. Burton.

Colorado Medicine, Denver.

June.

126 The Bulow Method of Drainage in Pyopneumothorax. H. B. Whitney.
127 The First Appendectomy. W. W. Grant.
128 Perforating Ulcer of Stomach; Operation; Recovery. Charles A. Powers.
129 Abortions in General Practice. A. N. Moody.
130 Consumptives in Colorado. W. T. Little.

The Alienist and Neurologist, St. Louis.

May.

131 Multiple Neuritis: A Clinical Lecture. F. W. Langdon.
132 Limiting the Term "Insanity." J. W. Wherry.
133 Outlines of Psychiatry in Clinical Lectures. C. Wernicke.
134 Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-ethics. (To be continued.) James G. Kiernan

Iowa Medical Journal, Des Moines.

June 15.

135 Present-day Treatment of Tuberculosis. J. W. Kime.
136 Abdominal Wound Closure. J. Lynn Crawford.
137 A Country Doctor's Medicine Case. H. C. Eschbach.
138 Report of a Case of Typhoid Fever Complicated by Tetany. E. H. Dwelle.
139 "Ties." L. W. Littig.

Medical and Surgical Monitor, Indianapolis, Ind.

June 15.

140 Address. Central College of Physicians and Surgeons and Medical Education in Indiana. C. R. Sowder.
141 Strangulated Hernia in the Very Old. D. C. Peyton.
142 Appendicitis. Charles C. Miller.
143 Infant Feeding. C. R. Sowder.
144 Apomorphin Hydrochlorid. J. W. Wainwright.
145 Chronic Hematuria. A. T. Stewart.
146 Intra-abdominal Torsion of the Omentum. Thomas B. Noble.

California State Journal of Medicine, San Francisco.

June.

147 The Active Principle of the Adrenal Gland. What Name Shall Be Given to It? Philip Mills Jones.
148 Scurvy in Infants. William Fitch Cheney.
149 Pure Food Law. M. E. Jaffa.
150 The Rat and His Parasites: His Rôle in the Spread of Disease, with Special Reference to Bubonic Plague. (Continued.) B. J. Lloyd.
151 A Case of Gallstones. E. Harbert.

Journal of Cutaneous Diseases, New York.

June.

152 Acute Infectious Pemphigus in a Butcher During an Epizootic of Foot and Mouth Disease, with a Consideration of the Possible Relationship of the Two Affections. John T. Bowen.
153 Preliminary Note Relative to the More Efficient Utilization of the Spark-gap Radiations. Henry G. Piffard.
154 Dermatitis Exfoliativa Neonatorum or Ritter's Disease. Arthur J. Patek.
155 Warfare Against Venereal Diseases in Germany. E. Lesser.

Medical Herald, St. Joseph, Mo.

June.

156 Treatment of Some Forms of Intestinal Obstruction by the Aid of an Artificial Valvular Fistula and Intestinal Exclusion. J. E. Summers, Jr.
157 The Question of the Division of Fees. O. B. Campbell.
158 The Doctor. John D. Seba.
159 Sarcoma of the Brain. F. E. Walker.
160 The "Action" of Drugs. Joseph Clements.
161 The Dynamics of Defervescent Compound and Dosimetric Trinity. P. J. Smith.
162 Pernicious Vomiting of Pregnancy. J. H. Talboy.
163 Gastric Ulcer. J. C. Waterman.

Brooklyn Medical Journal.

June.

164 Care and Treatment of the Alleged Insane at the Kings County Hospital. Sidney D. Wilgus.
165 The Coming Method of Treatment of Salpingitis. S. J. McNamara.
166 Some Clinical Variations of Sarcoma. With Report of a Rapidly Fatal Case. B. B. Mosher.
167 Some Considerations in Relation to Surgical Practice Among Children. C. LeGrand Kerr.

Kansas City Medical Index-Lancet.

June.

168 Pelvic Exudate; with Report of Cases. C. Lester Hall.
169 Modern Views of Locomotor Ataxia. John Punton.
170 The Blood. (Continued.) M. P. Overholser.
171 A Visit to the Texas State Medical Association. John Punton.
172 Case of Amaurotic Family Idiocy. Ernest Sachs.

Medical Examiner and Practitioner, New York.

June.

173 Arteriosclerosis in Its Relation to Life Insurance. Wm. Cuthbertson.
174 Functional Changes in Relation to Hypertrophy and Dilatation of the Heart. S. Eisentaedt.
175 The Medical Examination. Frank S. Grant.
176 Microscopic Examinations in Doubtful Cases. H. Taylor Cronk.
177 The Blood as a Detail in Life Insurance Examinations—a Study in Technic and Interpretation. Woodbridge H. Birchmore.
178 Life Insurance Examination as a Business. J. A. De Armand.

International Journal of Surgery, New York.

June.

179 Notes on Gastro-enterostomy and Report of a Mikulicz-McGraw Operation with Unusual Complications. F. D. Gray.
180 Edematous Encephalitis—a Study of Some Conditions Found in Operating for Cerebral Epilepsy and Allied Affections. W. P. Carr.
181 Plea for Conservative Surgery of the Hand. Paul F. Eve.
182 The Surgical Assistant. (Continued.) Walter M. Brickner.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 4.

1 Arterial Sclerosis and Hypertonus in Their Relations to Diet and to the Digestive System. W. Russell.
2 Essential Similarity of Innocent and Malignant Tumors. C. W. Cathcart.
3 The Obstetric Satchel; the Problem in Asepsis. J. W. Valentine.
4 *The Value of the Imperfectly Descended Testis, the Advisability of Operation, and the Value of the Operations Performed for Its Relief. E. M. Corner.
5 Four Abdominal Cases. D. MacEwan.

June 11.

6 Cancer of the Pancreas. L. Brunton.
7 The Modern Pursuit of Novelties in Medicine. D. Duckworth.
8 Organization of the Home Treatment of Pulmonary Tuberculosis. R. W. Philip.
9 Pregnancy After Removal of Both Ovaries for Dermoid Tumor. W. A. Meredith.
10 *The Relative Efficiency of Some Surgical Dressing Materials. A. N. McGregor and R. Ramsey.
11 *A Bacteriologic Inquiry Into the Sterilization of Hands. J. R. Collins.
12 Therapeutic Value of Radium and Thorium. J. M. H. MacLeod.

4. **Imperfectly Descended Testes.**—Corner discusses the physiologic value of the imperfectly descended testes both before and

after operation. The imperfect descent is only the outward, anatomic and visible sign of an inward and much more extensive physiologic defect. In order to estimate the value of the gland it is necessary to make inquiries along two lines: 1, its functional capacity; 2. its effect on the perfection of the so-called secondary sexual characters of the organism, the more important factor of the two. He believes that the embryologic development of the gland indicates clearly that the cause of the primary sexual characters of the organism are the results of inherent tendencies of the ovum, and are not due to any action of the ovaries or testes. Some of the secondary sexual characters are developed as the result of an internal secretion, while others exist at birth. So that it may be accepted, that these secondary sexual distinctions are independent of the testes and ovaries for their origin. At puberty all sexual differences are exaggerated and some new ones are initiated. All these points must be considered in the treatment of imperfectly descended testes, how to make the best of this factor for the development of manly characters, or how to estimate the value of the internal secretion of the gland. It must be our foremost duty to do all we can to foster this internal secretion. So far as the procreative function of the imperfectly descended gland is concerned, it is *nil*. In view of this fact it is permissible to remove the organ, but because of its internal secretion, and the effect that this secretion has on the developing organism, it is advisable to consider the testes for a year or two, at least. The author considers the various operative procedures practiced for the relief of this condition and sums them up as follows:

1. Orchidopexy is only applicable in mild cases of imperfectly-descended testis, and perhaps even then it may not often be called for.
2. Orchidectomy is only justifiable under special pathologic conditions, for example, torsion, severe neuralgia, extreme atrophy and so forth, and in older cases, that is, after the occurrence of puberty and a possible and problematic period of testicular activity and spermatogenesis has passed, say from 23 upwards.
3. Replacement in the abdomen is indicated in far the majority of cases, and should be always done before puberty and, perhaps, up to the age of 20 or thereabouts. It would appear that the earlier the operation is performed the better should be the result.
4. No operation may be called for in mild cases when the testis is close to the bottom of the scrotum, or when the testes are abdominally retained.
5. Operative interference is demanded in most cases on account of the secondary changes of an inflammatory and sclerotic nature in the testis, which the position of imperfect descent leads to. Again, there is the frequent coexistence of a hernia with this condition. And in cases where it does not often or has never previously come down, the narrow opening or neck of the sac may cause one of the most dangerous varieties of strangulation.

10. **Relative Efficiency of Surgical Dressing Materials.**—McGregor and Ramsey have conducted a series of experiments with the view to determining the efficiency of some dressing materials. They used absorbent wool, plain gauze, Crimean cloth, wood-wool wadding, lint, and gauze impregnated with various medicinal substances. They believe that the variations in the efficiency of the medicated gauzes are due probably to the preparation of the material and not to the medicament used. The influences of temperature, surface evaporation, coagulation of fibrin and drugs will modify the results. They summarize their findings as follows:

1. The most suitable drainage material for the conveyance of fluids with solids in suspension is dry boracic lint; cellulose wadding is almost as efficient, but its friability renders it unsuitable for drainage purposes, unless enclosed in a gauze envelope.
2. The best covering materials for the speedy removal of the discharge from the distal end of the drain are cellulose wadding and gauze.
3. The covering material should be sufficient in amount to continue in action as long as the drain, and prevent saturation of the latter.
4. As the blocking of the drain takes place in four to eight hours, a more frequent dressing than usual is indicated.

11. **Sterilization of Hands.**—Collins has carried out experiments to prove the possibility of sterilizing the hands thoroughly. Cultures were made of hands unwashed and also of hands washed for from one to five minutes in solutions of carbolic acid and bichlorid of mercury, the strength of the former being one in forty, and of the latter one in one thousand to one in five hundred. He summarizes his results as follows:

1. The nail brush used should be either boiled before use, or, better still, kept always in an antiseptic solution.
2. Vigorous scrubbing is required for at least five minutes.
3. The water should be as hot as can be comfortably borne.
4. Chemical antiseptics of efficient strength should be used for cleansing the skin, and it is preferable that they should be used in the primary washing as well as in the final soaking.
5. With sufficient time and care sterilization of the skin is not impossible.

The Lancet, London.

June 4.

13 Intermittent Hydrops of the Joints, and the Influence of Growth on Deformities. H. Marsh.
14 Some Disorders of the Spleen. (To be continued.) F. Taylor.
15 A Case of Acute Hemorrhagic Pancreatitis. E. T. Fison.
16 *Pneumococcus Ulcerative Endocarditis Treated by Antipneumococcus Serum, the Pneumococcus Having Been Cultivated from the Blood. T. J. Horder.
17 Appendicitis. R. Coombe.
18 Some Points in the Diagnosis of Appendicitis. W. B. Bell.
19 Removal of the Semi-circular Canals in a Case of Unilateral Aural Vertigo. R. Lake.
20 *A Case Exhibiting the Adams-Stokes Syndrome. E. E. Laslett.

June 11.

21 Early Diagnosis of Tumors of the Bladder. C. B. Lockwood.
22 *Some Disorders of the Spleen. F. Taylor.
23 A Case of Perforated Gastric Ulcer; Diseased Appendix; Operation; Recovery. W. W. Cheyne.
24 Acute Lobar Pneumonia; Two Hundred Cases. J. Hay.
25 Acute Intestinal Intussusception; Four Cases; Operation; Recovery. F. C. Wallis.
26 Case of Acute Inversion of the Puerperal Uterus; Reduction by Taxis; Recovery. E. S. Croft.
27 Koplik's Spots in the Diagnosis of Measles. J. C. Mulr.
28 Case of Renal Abnormality. R. Butterworth.
29 Unusual Case of Muscular Atrophy. W. L. Brown.

16. **Antipneumococcus Serum in Ulcerative Endocarditis.**—Horder reports a case in which the diagnosis was based on the physical findings and the cultivation of the pneumococcus from the blood of the patient. Although during the use of the serum the temperature was lowered considerably, there is no good reason, says Horder, for thinking that its use was attended with any benefit.

20. **Adams-Stokes Syndrome.**—Laslett reports a case occurring in a woman aged 69. During her youth she had several attacks of hematemesis. She always has been more or less bilious. Otherwise she enjoyed fair health; there was no history of rheumatism. The urinary findings were negative. Her last attack was accompanied by considerable retching and vomiting of small quantities of a clear watery fluid. The pulse was fairly full and slow. She soon recovered, but the following night had three fainting fits and quite a number of attacks in rapid succession early in the morning, lasting about a minute, associated with dilated pupils, gray cyanosis, stertorous breathing, rigidity of the body, and clonic, irregular movements of the arms. The pulse at both wrists was absent. Sneezing heralded the return to consciousness. After the attack the pulse was 60. The attacks increased in frequency, each accompanied by much the same symptoms. The lowest pulse rate was 36; generally it was 40. Examination of the heart showed that its contractions corresponded exactly with the pulse. The sounds were of moderate intensity, and there was a slight cystolic murmur, heard best toward the aortic area. The right side was dilated with a distinct impulse over the lower end of the sternum. The radial artery was thickened and somewhat tortuous. The patient had about thirty seizures in all. Usually they occurred without warning, but sometimes were preceded by faintness or by a feeling as if some one were pressing on her chest and forcing her down. The treatment consisted of rest, quiet and, medicinally, 3 minims of liquor strychnia and 10 grains of potassium bromid three times daily, which the patient still is taking with, apparently, considerable benefit.

22. **Disorders of the Spleen.**—Taylor concludes his lectures on the disorders of the spleen. He considered all of the diseases of this organ etiologically, pathologically and symptomatically, especially with reference to their clinical importance. He believes that the spleen is more sinned against than sinning; that it is rarely responsible for the lesions which it suffers or from the complaints with which it is associated; that in the various infective processes, in splenic anemia and in infantile anemia it probably is poisoned from without; that in the different forms of leukemia it is overcharged with the excess of leucocytes; and that only in splenic anemia is the charge made against it that itself, having been poisoned from the bowel, it subsequently inhibits, by fresh production of poisons, the formation of the blood. It is in these diseases

that good results have sometimes been obtained by splenectomy, though it must be admitted that death has sometimes taken place shortly after operation. In the other cases the primary condition must be treated, and in so far as that can be controlled or will spontaneously recover the enlargement of the spleen may be expected to subside. In splenomedullary leukemia considerable reductions in the size of the spleen have occurred under arsenic, and sometimes under oxygen inhalations, but relapse in this disease appears to be inevitable.

Bulletin de l'Académie de Médecine, Paris.

30 (LXVIII, No. 19.) *Influence of Nascent State on the Properties of Drugs and Its Therapeutic Application. A. Robin.—De l'influence de "l'état naissant" sur les propriétés des médicaments et de ses applications thérapeutiques.
31 (No. 21.) G. Contremoulins' Apparatus for Locating Foreign Bodies by Radioscopy.
32 La sphygmotonométrie clinique. Bouloumié.
33 *Breast Nursing by Workingwomen. P. Budin.—De l'allaitement au sein par les ouvrières d'usines, de fabriques, de manufactures.

30. **The Nascent State as It Affects the Properties of Drugs.**—Robin urges the importance of the recent discoveries in regard to the exaltation of the special properties of certain chemical bodies in the nascent state, citing peroxid of hydrogen as a type. It has been found that certain salts will crystallize in a solution of hydrogen dioxid. The crystals formed by ammonium sulphate dissolved in 30 per cent. solution of hydrogen dioxid, contain one molecule of the latter. These crystals smell of ozone, but gradually yield their peroxid of hydrogen to the air. Sodium sulphate crystallizes with one molecule of water and one of the peroxid of hydrogen. Sodium acetate will combine with the solution of hydrogen dioxid to 22 per cent. of its weight. Since the peroxids take up always the same amount of the solution of hydrogen dioxid, it is thus possible to dose it accurately, and to enhance the action of the salt by superposing on it the action of the nascent oxygen, each magnifying the effect of the other. Robin's experiments have shown that by this reciprocal action astonishing therapeutic results may be realized with minimal doses, as, for instance, by combining with ordinary sodium sulphate some of the drug containing a molecule of the solution of hydrogen dioxid in its composition. This combination empties and disinfects the bowels at the same time. He describes several cases treated on these principles. The peroxids of calcium and of magnesium give up their oxygen in contact with the gastric juice, but when administered in keratin capsules they do not display their antiseptic properties until they reach the intestines. They are particularly useful in diarrhea due to fermentations, their prompt effect being useful to differentiate this form from others of nervous, serous, vasomotor or other origin, on which they have no effect. The peroxids of zinc and sodium have been used to advantage in dermatology. The benefits derived from some of the new synthetic remedies are evidently due to the nascent state into which they enter on contact with the organic fluids and tissues. The doses generally employed are far larger than are actually necessary. Robin has been making extensive therapeutic use of what he calls iodized sulphur, $S_{10}I$, the chemical activity of the elements in the nascent state being so great that 10 to 30 cg. taken during the meal, while free from any inconveniences, have a most excellent effect on all gaseous fermentations in the stomach or intestines. Iodized sulphur may supplant iodoform in surgery as its action is much more energetic than that of the latter, while it is less expensive. He has found the double iodid of bismuth and cinchonidin a remarkably useful combination, as all three elements are given up on contact with the tissues. Atony and putridity of wounds, fermentation in the stomach and intestines (especially butyric fermentation), and fetor are the chief indications for this combination, which he calls "erythrol." Every alkaloid is able to form a double salt with bismuth iodid, as, for instance, the double iodid of bismuth and of morphin—a peculiarly valuable application for atonic, putrid and painful wounds. Whatever the characteristics of the wound, a combination can be formed to meet them and apply the needed drugs in the nascent state, as can also be done in the domain of internal medicine.

33. **Breast Nursing by Workingwomen.**—Budin commends the recent step taken by a manufacturing firm at Elbeuf. A placard has been posted announcing that every facility will be afforded to women employed in the factory to enable them to nurse their infants, and proclaiming the advantages of breast nursing. The women are given leave of absence at certain hours to go to the crèche near-by and give their babes the breast, while $20 is deposited by the firm in the savings bank in the name of the child thus nursed by its mother, and the bank book is given to her. A certain number of the factories in France have organized crèches on the grounds, others set apart a certain room where the babes are brought at certain hours to be nursed. In Italy a room of this kind is obligatory in every establishment employing more than fifty women.

Presse Médicale, Paris.

Last indexed XLII, pages 1189, 1490 and 1665.

34 (I. No. 25.) *Les injections épidurales. Etat actuel de la question en particulier dans l'incontinence d'urine. F. Cathelin.
35 L'evolution de la médication créosotée. F. Bousquet.
36 (No. 26.) L'hospitalisation des tuberculeux à Paris. E. De Lavarenne.
37 L'hydronéphrose. La valeur thérapeutique de son traitement conservateur. T. Tuffier.
38 Les causes d'erreur dans l'étude clinique de la coagulabilité du sang. G. Milian.
39 La pathogénie de la pelade (alopecia areata). Eyraud.
40 *Sea Water an Organic Medium. René Quinton. Abstract.
41 (No. 27.) *Association des médecins du département de la Seine. E. De Lavarenne.
42 La leucémie aigue. Etude clinique et hématologique. E. Rist and L. Ribadeau-Dumas.
43 La question du lait au point de vue de sa composition chimique (the milk question). P. Difloth.
44 Le traitement de l'entéro-colite muco-membraneuse par l'électricité. A. Zimmern.
45 Experimental Sleeping Sickness. Brumpt and Wurtz. From society report.
46 *Sterilization by Brief Passage Through a Flame or with Ignited Alcohol. Claudot and others. Abstract.

34. **Present Status of Epidural Injections.**—It is nearly four years since Cathelin first inaugurated the method of epidural injections for treating incontinence of urine and other urinary psychoses. It has been systematically tested and adopted in various countries, as he shows here by citing the publications on the subject. The two special indications for its use are incontinence of urine and pains in the submammary region. Its harmlessness is fully established by the entire absence of mishaps in the course of more than two thousand applications in his hands. About 75 per cent. of the subjects with incontinence of urine were completely cured; others notably improved, and scarcely ever were the results entirely negative. The general testimony from all sides is to the effect that this treatment is harmless, rapid, effectual, its effects immediate, and free from all inconveniences. The injections act by the traumatism and the compression modifying the character and the quality of the nervous influx. It is possible also that there may be some chemical influence from the salt in the solution employed. The technic now used does not differ materially from that described in THE JOURNAL, 1901, xxxvii, pages 150 and 793, and 1902, xxxviii, page 1282.

40. **Sea Water an Organic Medium.**—Quinton argues to the effect that the first living cells developed in the sea, and hence that all living beings trace their origin to this medium. Animal existence has always tended to maintain the cells, composing each organism, in a marine medium. Every living being is an actual sea-water aquarium, the primal aquatic conditions necessary for cell life being perpetuated indefinitely through the more complicated organisms. Every human being contains nearly a third of his weight in sea water.

41. **French Medical Mutual Aid Society.**—This article is a historical sketch of the Association of Physicians of the Seine department since its foundation seventy-one years ago. It has received various bequests, its endowed capital being now $360,000. The initiation fee is $2.40, and the annual dues $4. This entitles the member to financial aid at need, the maximum thus far paid being $240 a year to physicians and $160 to the widow or children. The association has also several pensions to bestow on physicians who have been members for more than

fifteen years. During the last eighteen years the sums distributed to members in need have amounted to a total of $170,000. The present number of members is about 587, and the association had 400 from its very inception in 1833.

46. **Sterilizing by Singeing.**—Claudot and Niclot relate they were able to obtain cultures after virulent cultures of staphylococci, tetanus and anthrax bacilli had been placed in a bowl and alcohol poured over them and ignited. This has always been supposed to be an efficient mode of sterilizing, but this research shows that it is not inevitably effectual. Bérard found also that even direct singeing with a Bunsen flame did not kill the germs, especially when they were protected by a thin layer of dried blood or pus.

Revue de Gynécologie, Paris.

Last indexed XLII, page 1666.

47 (VIII, No. 2.) La grossesse tubaire bilatérale (tubal pregnancy). F. Jayle.
48 Cas d'hémangiome caverneux du mésentère compliquée d'occlusion intestinale. C. Julliard (Geneva).
49 *Les périgastrites consécutives aux ulcères de l'estomac. Delay and P. Cavaillon (Lyons).
50 Carcinose sous-cutanée et péritonite cancereuse consécutives à un cancer de l'estomac. A. Reverdin and Veyrassat.
51 Contribution à la chirurgie du canal hépatique d'après 3 cas personnels et les travaux les plus récents. H. Delagénière (Mans).

49. **Perigastritis Consecutive to Ulcers of the Stomach.**—This monograph is based on 14 cases observed at Jaboulay's clinic and the data found scattered through the literature. The adhesions that form indicate the activity of the ulcer, and are generally absorbed as the latter heals. Treatment should be addressed to the ulcer. Surgical interference is indicated early in case the signs of perigastritis are superposed on the "epigastric plastron," the index of an ulcer in full activity. Gastrocenterostomy, with excision, affords ideal conditions for the cure of both ulcer and perigastritis. Treatment should consist of drainage without disturbing the adhesions. In case the abscess happens to be in the posterior cavity of the omentum, the latter should be stitched to the wall after it is opened, to marsupialize it like a kangaroo's pouch.

Semaine Médicale, Paris.

52 (XXIV, No. 22.) *Tuberculose musculaire primitive a foyers multiples (with multiple foci). F. Lejars.
53 *Technic and Indications for Oxygen Treatment of Wounds, Furuncles, etc. Thiriar (Brussels). Abstract.
54 Gelatin in Lime Water for Mucomembranous Enterocolitis. Quennec. Abstract.

52. **Primary Tuberculosis in the Muscles.**—Lejars gives illustrations of a case of multiple tumors in the muscles, not adherent to the bone or skin, generally ovoid, some of them measuring 6 by 10 cm. The tumors developed in the course of five months. They were excised and tubercle bacilli found numerous in them. Other tumors developed after the operation, requiring renewed intervention, but there has been no further tumor development since. The patient, a man of 51, had a winter cough for five years, with a little crepitation at the apices, but nothing else to suggest tuberculosis, until these tumors developed. A Leipsic thesis, 1901, by Steinbach, relates a similar case. The "tuberculomas" were all excised in April, but a new growth of four tumors required extirpation in July, three more in October and two in November, after which there was no further tumor formation during the four months the patient was under observation. The patient was a young man, otherwise apparently healthy.

53. **Oxygen Treatment of Wounds and Other Lesions.**—Thiriar reiterates that the direct application of oxygen to wounds and suppurating lesions has a remarkably beneficial action. He uses the solution of hydrogen dioxid, but supplements it by spraying the part with a jet of oxygen gas. The effect is very evident when the jet of oxygen is directed into the crater of a furuncle or carbuncle, as also when used in the peritoneum after evacuation of the ascites in a tuberculous peritonitis. In erysipelas he sprays the lesions every hour or two hours with the jet of oxygen gas. In case of gaseous septicemia, he induces emphysema with oxygen and air. The jet of oxygen gas hastens the healing of fistulas and of intrauterine lesions. Lesions induced by the tubercle bacillus and the gonococcus alone are not modified by the oxygen, but when there is mixed infection, especially in bone lesions, the oxygen will be found extremely useful.

54. **Gelatin and Limewater in Mucomembranous Enterocolitis.**—Quennec reports the cure of 10 cases of this affection by administration of gelatin and limewater. The patient is kept in absolute repose in bed and given every hour, for sole nourishment, a cup of warm milk containing 20 c.c. of a 5 per cent. solution of gelatin and a teaspoonful of limewater. The intestines are evacuated by copious lavage with boiled water. A light diet can be resumed in six to ten days as the symptoms vanish, but it is wise to continue small doses of the gelatin for a while to prevent relapses.

Berliner klinische Wochenschrift.

55 (XLI, No. 21.) *Diagnostic Value of Examination of Cerebrospinal Fluid in Nervous and Mental Affections. E. Siemerling.—Ueber den Werth der Untersuchungen des Liq. cerebrospinalis für die Diagnose der Nerven- und Geisteskrankheiten.
56 Ueber das Vorkommen von Pentosurie als familiäre Anomalie. M. Blal.
57 *Verhalten der faradocutanen Sensibilität nach Anwendung hydriatischer Proceduren. Jansen.
58 Ueber Angina und Stomatitis ulcerosa. Többen.
59 Die Lipomatosis als Degenerations-Zeichen. E. H. Kisch.
60 *Ueber Nephritis heredo-syphilitica bei Säuglingen und unreifen Früchten (in nursiings and fetuses before term). Cassel.
61 *Liver Pulse and Compensation of Valvular Defects. F. Volhard (Riegel's clinic, Giessen).—Ueber Leber-Pulse und über die Compensation der Klappenfehler.
62 *The Medical Institutes and Hospitals in Denmark, Sweden and Norway. Schaper. From society address.

55. **Diagnostic Import of Cerebrospinal Fluid.**—This article was first delivered as an address at the German Congress of Psychiatry in April. Siemerling is convinced that examination of the cells in the fluid, and of its chemical and physical characteristics affords most valuable information. Pronounced lymphocytosis indicates irritation of the meninges. If the fluid becomes turbid on addition of magnesium sulphate, this indicates an increase in albumin content. In case of a fresh hemorrhage, all the blood corpuscles can be centrifuged out, leaving the fluid limpid. This chromodiagnostic may, in certain cases, give a clue as to the source of the hemorrhage. He relates the particulars of 75 cases in which the fluid was examined. The results were positive in 37 out of the 38 cases of progressive paralysis, and he is convinced that the lymphocytosis observed may be regarded as an early symptom of this affection. It was accompanied by cloudiness on addition of magnesium sulphate in all the cases. He also reviews the literature on the subject.

57. **Cutaneous Sensibility to Faradism After Hydriatic Procedures.**—Jansen's researches were conducted at the Hydrotherapeutic Institute connected with the University of Berlin. One of the points noted is that in different persons suffering from the same affection, the same procedure is liable to induce entirely opposite results. This not only emphasizes the importance of individualizing treatment, but it likewise indicates that even in the case of hysterics and neurasthenics, we ought not to charge every anomaly we observe to the account of autosuggestion.

60. **Fetal and Infantile Nephritis as a Manifestation of Inherited Syphilis.**—Cassel discovered albumin in the urine of 6 out of 31 infants exhibiting indications of inherited syphilis. The clinical manifestations of the nephritis were minimal, and macroscopic examination of the kidneys of 5 of these infants, and of 7 others in a similar condition, failed to reveal anything abnormal except in the rarest instances. Histologic examination, on the other hand, revealed interstitial and periadventitial proliferation and cystic degeneration of the glomeruli, with—in the fetus—arrested development of the organ. This latter explains much of the clinical pathology of children with inherited syphilis and their lessened resistance to infections, etc.

61. **"Liver Pulse" and Compensation of Valvular Defects.**—Volhard uses a double manometer for research on the pulsation in the liver, and relates the clinical history and the findings in 2 cases of enlarged liver with marked pulsation in the

neck and liver. In one the pulsation was positive, that is, systolic. The patient had mitral stenosis and organic tricuspid insufficiency with what he regards as a pathognomonic symptom of the latter—a seesaw movement of the front wall of the thorax. The second patient, with very pronounced negative liver pulse, had a chronic pericardial effusion, although apparently in perfect health to a layman's eye.

62. **Hospitals and Other Medical Institutions in Denmark, Sweden and Norway.**—Schaper has returned from a trip to the northland full of admiration for the model medical institutions he found there. Every one of the larger hospitals in Norway and Sweden has one pavilion devoted to all kinds of baths in addition to the ordinary bathing facilities in each ward. Male nurses are very rare. The nurses, after twenty-five years of service, are entitled to a small pension. In case of an infectious disease an ambulance is dispatched on receipt of the telephone message, and the hospital and ward are notified by telephone that the patient is coming, by which means contact with the infected subject can be avoided. He adds that the lack of these precautions was grievously felt in the recent plague case in Berlin. The hospital facilities at Stockholm are so ample that there are 8 beds for each 1,000 inhabitants. The medical course in Sweden requires twenty semesters and in Norway fourteen, but the first two years are devoted more to the accessory sciences. Owing to the ample material, during the last six semesters the students are given special patients in the hospitals to treat, and are compelled to write out in detail the reports, which are then gone over by the professor in the class and criticised. The great Sabbatsberg Hospital at Stockholm has a detached tuberculosis annex and also a most attractive convalescent home. Still another annex is for delirious and noisy patients. Stockholm also has two shelters with 12 beds in each, for persons who become helpless in the street, with separate rooms for delirious subjects. Christiania has a model centralized arrangement for reception of the sick. The physician in charge resides, with his family, in a centrally located building, formerly a hospital. Every morning the different hospitals telephone to him what empty beds are at their disposal in the different wards. He is notified by telephone when a sick person is coming. He can thus distribute to the best advantage the sick as they arrive. He keeps a detailed register of each person, noting where he comes from and other minor details. The city has only 250,000 inhabitants, and this plan was opposed at first by some of the professors, but as time has shown its advantages, all are now enthusiastic over it. In Sweden and Denmark anti-diphtheria serum is given free for prophylactic injections and the dose of 4,000 units costs only about six cents. Schaper describes Finsen's Institute in detail. The state pays $7,000 that the poor can be treated there without charge, but this amount does not pay more than half the expense, the rest being made up by wealthy persons. Finsen has been constantly confined to his room during the last few years, but from his sickbed he has been able to almost eradicate lupus from Denmark. The average duration of the affection in the 1,000 patients treated was eleven years, but 5 have been cured who had been afflicted for fifty years. In 72 per cent. of his total material the mucosæ were involved. Last year he published the detailed report of his first 800 cases, with 51 per cent. apparently cured and 24 per cent. progressing toward a cure; 11 per cent. materially improved; 5 per cent. not satisfactorily influenced, and 9 per cent. who abandoned treatment for personal reasons. Of the total number 33 have died, 21 from general tuberculosis, 4 from heart disease and 4 from cancer. The treatment was more or less successful in 737 out of the 800 cases, that is, in 94 per cent. With improved technic the duration of treatment has been reduced, although he still estimates that from 40 to 200 exposures are necessary. Mild cases can be cured in six weeks; moderately severe in three months; extensive cases in six months, and very extensive in a year. Two sittings a day cause a strong reaction, but the inflammation completely subsides by the end of the week, when the patient is ready for another sitting. Arrangements are made in the Institute for the instruction and amusement of the patients under treatment, and opportunities are given them to be more or less self-supporting.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

63 (XXX, No. 22.) *The Blood Supply and Curability of Tumors. H. Ribbert (Göttingen).—Ueber das Gefässsytem und die Heilbarkeit der Geschwülste.
64 Zur Pharmakologie des Tannins und seiner Anwendungs-Formen. L. Lewin (Berlin).
65 Ueber Veronal. J. Jolowicz. Also Pfeiffer in preceding number.
66 Zur Sero-Diagnostik des Typhus abdominalis mittelst des Fickerschen Diagnosticums. Gramann.
67 Zur Kenntnis der Sensibilisierung (sensitization). Halberstaedter and Neisser.
68 *Ueber eine neue Funktions-Prüfung des Herzens (functional heart test). M. Katzenstein.
69 Ueber Broncho-Stenose. A. Fraenkel (Berlin). (Commenced in No. 21.)
70 Sleeping Sickness in Togo. K. Hintze. (Commenced in No. 21.)
71 Schweninger's Water Treatment of Syphilis. Goldscheider. —Noch einmal die Syphilis-Behandlung im Lichterfelder Kreiskrankenhause.

63. **Blood Supply of Tumors and Their Curability.**—Ribbert emphasizes the defective blood supply in tumors, the lack of true arteries and veins and of normal functional interrelations between the cells and the vessels. The latter are merely tubes, they do not branch and consequently the cells of the tumor are imperfectly nourished. He does not regard the tumor cells as biologically essentially different from normal cells; the chief difference is merely that they are less highly differentiated. Their active proliferation is due to their environment. They possess the normal proliferating capacity, but it proceeds uncontrolled by the inhibiting influences normally at work in the organism. He has scraped away the epidermis on a certain small spot at intervals of three or four days, and found that each time the epidermis grew again rapidly, the regeneration proceeding just as rapidly at the hundredth repetition of the scraping as the first time, fourteen months before. He thinks that this fact demonstrates that no increase in vital energy is necessary to explain the excessive growth in tumors. It is merely the result of special conditions allowing the normal vital energy of the cells comparatively unlimited play. But the tumor cells, on account of their defective blood vessels, are peculiarly non-resistant and hence succumb to influences which affect them unfavorably while displaying no action on normal cells. He refers to influences such as the *x*-rays, radium rays, injection of alcohol, application of arsenious acid, of bacterial toxins, etc.

68. **New Functional Test of the Heart.**—Katzenstein's test is based on the observation that when the arterial circulation is obstructed at some important point, the heart has to work extra hard to compensate it. A vigorous heart can accomplish this without hastening its beat, but a weak heart can do the extra work only by increasing the number of its beats per minute. He has experienced mishaps from inadequate heart action after tests by percussion, auscultation, etc., had apparently demonstrated the integrity of the heart. The functional test he proposes, however, reveals weakness of the organ when all other signs fail, as he has established by observation of 128 clinical cases, with more than 300 single tests. It is merely the compression of both iliac arteries close to Poupart's ligament, for two and a half to five minutes, observing the variations in pulse and blood pressure with the Gaertner tonometer or other similar instrument. The pulse remains unchanged or slightly retarded in a subject with a sound heart, while the blood pressure rises. In subjects with weak hearts the pulse becomes accelerated while the blood pressure is unchanged or drops. The patient reclines quietly for a time before and during the test, which has thus the advantage that it does not disturb him. The arteries are compressed against the bone with the middle finger of each hand. A typical record reads as follows: Pulse—Before, 80; during (2.5 minutes), 76; (5 m.), 72; afterward (5 m.), 76; (15 m.), 80. Blood pressure—Before, 90; during (at same intervals as above), 98, 100; afterward, 95, 90. The conditions are thus seen to return to their previous state by fifteen minutes afterward. He accepts as a standard of normal function that the blood pressure rises from 5 to 15 mm. mercury while the pulse remains unchanged or is slightly retarded. In the 13 cases

of hypertrophy of the left ventricle the blood pressure rose more than 15 mm. mercury, but the pulse did not vary or was slightly retarded in the cases in which the heart was still acting satisfactorily, while in those of cardiac incompetency the pressure did not rise to this extent, but the pulse became accelerated. The article is continued.

Münchener medicinische Wochenschrift.

72 (LI, No. 18.) *Ueber die Einwirkung der Röntgen-Strahlen auf innere Organe. H. Heineke (Leipsic).
73 *Zur Beurteilung der Tuberkulin-Reaktion. H. Smidt.
74 Einwirkung der Wechselstrombäder auf das Herz (action of alternating current electric baths on heart). T. Büdingen and G. Geissler (Constance).
75 Ueber Inhalations-Versuche mit phenyl-propiol-saurem Natron nach Dr. Buling. Elkan and Wiesmuller.
76 Zur Kasulstik der kongenitalen Herzfehler und deren möglichen Folgen (heart defects and possible consequences). H. Ebbinghaus. Ibid., Max Cohn.
77 Tardy Rupture of Uterus After Curetting. E. Honck.—Gebärmutterzerreissung.
78 Ueber medizinisch-artistische Studien. Brissaud.
79 Leonardo da Vinci's and Vesalius' Obstetric-Anatomic Plates. G. Klein. Abstract.

72. **Influence of Roentgen Rays on Internal Organs.**—Heineke has found that even a brief exposure to the Roentgen rays induces a destructive process in the lymph follicles. He experimented with mice, rabbits and dogs. In the latter animals fifteen minutes' exposure of the abdomen to a hard tube at a short distance was enough to induce distinct destruction of the nuclei in the follicles of the spleen, of the mesenteric lymph glands and of the intestinal canal. The exposure was too brief to cause much reaction on the part of the skin. The lesions induced were not permanent, and nothing pathologic could be discovered after a week or two. The lymph glands are affected without the period of latency and cumulative action noted in case of the skin. They are also much more sensitive to the action of the rays than the latter. The results observed indicate that these same processes must occur in man also under the influence of the rays, and he suggests the possibility that they may prove useful as a therapeutic measure in affections involving the lymphatic apparatus. It will not be necessary to induce a reaction on the part of the skin. As the action of the Roentgen rays on adenoid tissue is destructive, it is indicated in cases of pathologically increased growth or hyperfunction of the lymphatic system, as, for example, in the group of pseudo-leukemias, chronic enlargement of the spleen, malignant lymphoma and lymphosarcoma and the various forms of leukemia. These rays might also be tried when there is reason to assume the presence of an abnormally large thymus. Heineke adds a note in correcting the proof of his article that his theoretical assumptions have already received confirmation by the news from America that Senn and Crane have cured cases of leukemia and pseudo-leukemia by Roentgen treatment. Ahrens, in Germany, has also announced the cure under Roentgen treatment of a severe case of splenic leukemia with much enlarged spleen, although the details have not yet been published.

73. **Tuberculin Reaction.**—Smidt reports that Rumpel has been making a practice recently of injecting tuberculin as a diagnostic measure in severe cases liable to come to autopsy, and in which the discovery of a complicating tuberculosis would have great diagnostic and hence therapeutic value. Stintzing has reported 5 such cases from the Jena clinic. No reaction occurred in 4, and no tuberculous foci could be discovered in them. Ten of the numerous patients given the tuberculin test by Rumpel came to autopsy. In 5 the postmortem findings corresponded with the results of the test. In 2 of the others not a trace of tuberculosis could be discovered, although the reaction had been positive. In another case there was no reaction to the tuberculin, although tuberculous lesions were found in the cadaver. The ninth patient was a leper, the disease of long standing, with a suspicion of tuberculosis of the lungs. He reacted to the tuberculin test and a subfebrile temperature persisted for nearly two weeks, then increased and assumed a remittent character with rapidly progressive tuberculous lesions in the lungs. It seemed as if the tuberculin had converted a dormant process into an active one. The result was still more disastrous in the tenth case. The patient was a man of 30 with extensive tuberculous lesions in pleura and peritoneum. Although they must have long existed, they caused such slight symptoms that they had not been diagnosed accurately. He reacted with a chill and fever to the second tuberculin injection; 1 mg. had been injected the first time, with no reaction, and 5 mg. the second time, a week later. As the diagnosis was still uncertain, a third injection of 5 mg. was given. It was followed by a severe febrile reaction, rapid respiration, failing pulse and fatal collapse in a little more than twenty-four hours after the injection. Smidt thinks that the only explanation of this case is the possibility that the bacterial products formed in the extensive tuberculous processes and retained in an attenuated form in the body, must have been completed by the introduction of the tuberculin. This supposition has no analogy in our present knowledge of toxins, but would explain the hypersusceptibility of the organism as induced by auto-immunizing processes in response to the injection of the tuberculin. In still another case a typical reaction to the tuberculin was obtained which could have been only the result of the autosuggestion of hysteria. Fuerst recently observed a case of traumatic hysteria in which a reaction to tuberculin was obtained. The same reaction followed an injection of water, and also the mere introduction of the needle into the skin of the back.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VI. General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, and J. H. Salisbury, M.D., Professor of Medicine, Chicago Clinical School. 1904. Cloth. Pp. 330. Price, $1.00. Chicago: The Year Book Publishers.

MEDICAL DIAGNOSIS. Special Diagnosis of Internal Medicine. A Handbook for Physicians and Students. By Dr. Wilhelm v. Leube, Professor of Medicine and Physician-in-chief to the Julius Hospital, at Würzburg. Authorized Translations from the Sixth German Edition. Edited, with Annotations, by Julius L. Salinger, M.D., Late Assistant Professor of Clinical Medicine in the Jefferson Medical College. With 5 Colored Plates and 74 Illustratioos in the Text. Cloth. Pp. 1,058. Price, $5.00. New York and London: D. Appleton & Co. 1904.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. edited by Hobart Armory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Outpatient Medical Department of the Jefferson Medical College Hospital. June 1, 1904. Paper. Pp. 334. Price, $6.00 per annum. Philadelphia and New York: Lea Brothers & Co.

LECTURES ON CLINICAL PSYCHIATRY. By Dr. Emil Kraepelin, Professor of Psychiatry in the University of Munich. Authorized Translation from the German. Revised and Edited by Thomas Johnstone, M.D. Edin., M.R.C.P. Lond., Member of the Medico Psychological Association of Great Britain and Ireland. Cloth. Pp. 305. Price, $3.50 net. New York: Wm. Wood & Co. 1904.

RAILWAY AND OTHER ACCIDENTS, with Relation to Injury and Disease of the Nervous System. A Book for Court Use. By Allan McLane Hamilton, M.D., F.R.S.E., Late Clinical Professor of Mental Disease in Cornell Medical College. With 15 Plates, 2 Superimposed Charts and 36 Illustrations. Cloth. Pp. 351. Price, $3.50 net. New York: Wm. Wood & Co. 1904.

MODERN OPHTHALMOLOGY. A Practical Treatise on the Anatomy, Physiology and Diseases of the Eye. By James Moores Ball, M.D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. With 417 Illustrations in the Text and Numerous Figures on 21 Colored Plates. Cloth. Pp. 819. Price, $7.00. Philadelphia: F. A. Davis Co. 1904.

FIRST ANNUAL MESSAGE OF JOHN WEAVER, MAYOR OF THE CITY OF PHILADELPHIA, with the Annual Reports of the Director of the Department of Public Health and Charities and Chief of the Bureau of Health for the Year Ending Dec. 31, 1903. Issued by the City of Philadelphia, 1904. Cloth. Pp. 198. Philadelphia: Dunlap Printing Co. 1904.

UNCONSCIOUS THERAPEUTICS, or the Personality of the Physician. By Alfred T. Schofield, M.D., M.R.C.S., etc., Hon. Physician to Friedenheim Hospital. Cloth. Pp. 317. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1904.

ANNUAL REPORT OF THE PRESBYTERIAN MISSION HOSPITAL, MIRAJ, SOUTHERN MAHRATTA COUNTRY. Established 1892. In Connection with the Western India Mission of the Board of Foreign Missions of the Presbyterian Church in the U. S. A. For the Year 1903. Paper. Pp. 32.

THE ELEMENTS OF KELLGREN'S MANUAL TREATMENT. By Edgar F. Cyriax, M.D., Edinburgh. 1901. Cloth. Pp. 506. Price, $4.00 net. New York: Wm. Wood & Co. 1904.

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Addresses.

THE FIELD OF THE SECTION ON PATHOLOGY AND PHYSIOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT ATLANTIC CITY, JUNE 7-10, 1904.

JOSEPH McFARLAND, M.D.

PHILADELPHIA.

In accordance with past precedent and the dictates of our program, it becomes my pleasant duty to address a few words to those who have labored in the Section on Pathology and Physiology, congratulatory of its past successes and anticipatory of its future.

Born in 1900 in this city by the sea, our infant Section has been nurtured amid surroundings most conducive to successful growth and development. Its first anniversary found it on the banks of the Father of Waters in far-away St. Paul, where it learned to stand alone; its second anniversary among the healthful springs of Saratoga; its third among the flowers of New Orleans, and its fourth in the city of its birth. Feeble at the start, its life despaired of even by those most interested in its welfare, it has successfully passed through the dangers of infancy, until we now find it a vigorous and lusty baby, eminently fitted to survive.

We are a small Section, and such we must expect to remain, for the Section exists exclusively for those who labor in technical work, and they are few in number. The formation of this Section was at first opposed, because it seemed to support that unfortunate tendency toward differentiation that has found its way into so many departments of medicine. It was correctly argued that pathology is a department of medicine, without which clinical medicine can not succeed. All papers on pathologic subjects are and must ever be of interest to every physician. But it might equally well be said that pathology is of interest to the surgeon, to the gynecologist, to the ophthalmologist, and that it is of fundamental importance in every department of medicine. It was feared that the papers contributed to the meetings of this Section would benefit no one, and so be lost; at the same time that the other sections would be correspondingly impoverished. But the formation of the Section was not intended to disturb the close relation of pathology to the other branches of medical science, or detract from the success of the other sections. It was formed to be a technical section. It is not expected that papers of general interest shall be confined to this Section, because they happen to be on subjects in pathology. But as the Association is large and includes in its membership many whose interests are in pathology alone, and whose daily problems are purely technical and of interest to others engaged only in similar work, this Section provides an opportunity for their mutual benefit to be derived from the reading and discussing of papers on these limited subjects.

It is only as it fulfills this end and brings together the technical men to discuss the technical problems that the Section properly accomplishes its function and can be a success. Should it withdraw from the larger sections papers of benefit to their members, I should regard it as an evil; and in order that such a misfortune may not occur, an endeavor was made both this year and last to arrange for a number of conjoint meetings, at which the pathologists and physiologists and the medical men, the pathologists and physiologists and the surgeons, and the pathologists and physiologists and hygienists might come together for the discussion of subjects of common interest. It is our conviction that some such plan will best profit the members of our own and the other sections. A paper on some new method of preparing morbid specimens for museum demonstration, or on methods of cultivating the smegma bacillus is best presented before this Section, and of most benefit to its members. One on the mechanical or nervous factors involved in some form of heart disease is likely to be of equal interest to the members of the Section on Practice of Medicine, and more properly finds its place on their program.

The success of the Section is not to be judged by the number of papers read, but by their excellence. Let there be a rigid censorship of papers before and after reading. Whatever of poor quality is published as coming from this Section injures it, and reflects discredit on the great body of which it is a part.

The American Medical Association is the national representative body. Its journal is the most popular and probably the most voluminous in the country, and one of the best known in the world. No paper can be too good for presentation at these meetings, and no paper can be better placed, no matter how technical it is, than in THE JOURNAL of the American Medical Association. Though there are other technical societies before whose meetings technical and scientific papers must be read, and in whose official organs they may be published, none can be looked on as having the breadth of scope, the dignity or the importance of the American Medical Association, and in none of their journals can papers receive the wide publicity they secure through its journal.

The members of this Section must be the particular patrons of the Scientific Exhibit, and should consider it as a duty to contribute to it. The enthusiasm of Dr. Wynn and his indefatigable energy can not be too highly appreciated. Rarely has a man had greater problems to contend with, greater obstacles to overcome, or more firmly rooted prejudices to eradicate than this devoted

student. Let him receive the support of every member of the Section.

The Association contains many whose opportunities for seeing even the most ordinary specimens must be limited, and many whose opportunities are excellent; therefore, it matters little whether the objects exhibited are rare, or whether they are ordinary. There is always somebody who will be pleased and profited. This gives us an almost unlimited scope of activity. The man who has engaged in some special research may find his specimens appreciated by those who understand them, while one who brings with him a series of hearts or kidneys or a dozen microscopic objects forming a demonstration, will be equally appreciated by others.

The titles and the names of distinction on our present program promise much profit and enjoyment from these meetings. The thanks of the Section are certainly owing to our secretary, whose energy and wide acquaintance have enabled him to prepare it. The secretaryship carries with it little of honor compared to the onus of correspondence and responsibility it entails.

Let us ever bring the best products of our labors to the American Medical Association; let us wisely distribute our papers for our own and the general good, and while we remain a unit as a section on experimental medicine, let us also remain a power for progress in those other sections, with whose work we are so closely identified and where our advice and experience may be valuable.

THE DEMANDS OF THE CHILD BY VIRTUE OF RIGHT.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON DISEASES OF CHILDREN, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, JUNE 7-10, 1904.

CHARLES GILMORE KERLEY, M.D.

Professor Diseases of Children New York Polyclinic Medical School and Hospital; Attending Physician New York Infant Asylum; Assistant Attending Physician Babies' Hospital, New York; Attending Physician Out-Patient Department, Babies' Hospital, New York.

NEW YORK CITY.

Among mammals, animals of the higher development, helplessness and dependence characterize the state of the young. The duration of the dependence varies with the different types of animal. Until able to care for itself the young mammal's wants are supplied by those responsible for its existence—a duty which is instinctively assumed. For the growth and development of mammals, of which man is the highest type, there must be means of nutrition, and surroundings suitable to the habits of the animal—conditions ordained by Nature, which, when not followed out, invariably produce inferior growth and physical degeneration.

The man who breeds a horse for the track, a horse to excel in intelligence and speed, one sound in body and of great endurance, the horse which is to win the Suburban, begins during the animal's fetal life to prepare him for the future. The first step is the proper care of the mother. From birth until ready for work the young animal is under constant supervision. He receives food best suited for the utmost development of the qualities desired. Cleanliness in surroundings, protection from inclement weather, and a carefully regulated system of exercise are constantly afforded. In the rearing of cattle, sheep and swine the natural requirements of the growing animal are most carefully supplied; for it has been learned that only by such care can the highest type of adult be produced.

The Department of Agriculture at Washington and the state experimental stations issue for gratuitous distribution pamphlets and books bearing on the rearing of animals. The advantages accorded the lower animals because they have a value in dollars and cents is certainly a reasonable demand of the child.

The child is a young animal, so far as physical characteristics are concerned. In his work on "Education," Herbert Spencer remarks that the first requisite for success in life is to be a good animal; and to be a nation of good animals is the first condition of national prosperity.

In order that a vigorous adult may be produced, suitable nutrition, plenty of fresh air and cleanliness are absolutely necessary for the child. In his daily life there must be an absence of worry and anxiety, an absence, to a great degree, of responsibility, an absence of work of an exhausting nature until the adult period is reached. The child should make its first year's growth and development during the first year, its second year's growth and development during the second year, and the third, fourth and fifth, and later years of growth and development during those years. In order to make the best adult both physically and mentally, every year of the growing period must supply its quota of physical and mental development. The child will never do its first or second year's growing satisfactorily during its fifth or sixth year, nor its fifth or sixth year's growing during its tenth or twelfth year. Protracted faulty nutrition, overwork at school, employment of an arduous nature in mines, stores or factories during the developing period leave their indelible stamp on the adult, as evidenced by stunted growth, lack of endurance, lack of resistance to disease, lack of capacity for work, together with the absence of a high order of mental capacity and moral force, a condition so often found in the weakly.

Assuming that the object of a national existence is the creation and preservation of a fine stock of mankind, a review of the state's methods—of our methods, as we, the people, constitute the state—will make our shortcomings most apparent.

Instinct directs the lower animals as to the proper selection of food, not only for themselves but for their young. Instinct tells the higher animal, Man, very little. Every day of our lives, in private work among the well-to-do, and in children's clinics among the poor, we are brought face to face with the most dense ignorance relating to the most important feature of the management of a child—his nutrition. If man is wanting in the instincts, he possesses reasoning faculties, and is capable of being taught what his offspring has a right to demand. The physician must teach him.

Among the thousands of children which we have treated at the Outpatient Department of the Babies' Hospital, and at the New York Polyclinic Dispensary, but 20 per cent. of those over one year of age are of normal development, and of those under one year of age 35 per cent. are normal. These children are the offspring on the father's side of day laborers, drivers, waiters, and small wage-earners generally. The mother is a young woman of the same class and possesses considerable intelligence. She can read; she can write her name. She is familiar with the current topics of the day. She attended the public schools.

An intimate insight into the daily life of these people, such as the writer has had, will demonstrate that the large percentage of malnutrition among the young is

not due to poverty, not due to the absence of food. The children do not go hungry; the malnutrition is not due to want of food, but to want of proper food. These mothers possess little knowledge, if any, of what constitutes suitable food for a growing child. They are absolutely untaught as regards food values. Nevertheless, our typical mother of this class attended a public school. But she was never taught how her own body, or the bodies of her offspring, should be nourished. The school neglected to teach her that which to her and to the state is of the first importance.

Physicians who are members of school boards, and those who may be connected with educational institutions in any governmental capacity, should exert their influence in having students taught how to live.

To prepare for complete living is the function which education has to discharge.

Herbert Spencer, in "Education," writes:

"Is it not an astonishing fact that, though on our treatment of our offspring depend their lives and deaths and their moral welfare or ruin, yet not one word of instruction is ever given to those who will hereafter be parents?"

During the past few years cooking and home-making have been added to the New York City school curriculum, and, although the hours so employed are comparatively few, the fact that it is done at all marks a distinct advance in the right direction, the benefits of which are not yet apparent from the standpoint of results.

The young wife of the small wage-earner gives birth to a male child who, in the natural order of events, becomes a laborer, a mechanic—a small wage-earner; or he enters the Army or the Navy. In any event, whether in the public service or in private life, he is an important personage. He is in the service of the state. He is a member of the body politic; and whether he is an addition or a tax to the community, whether he stands to the left or to the right of the decimal point, whether he gives and adds his quota to the nation's strength, or whether he becomes an element of weakness, depends on his early management—particularly on his early nutrition.

I have come in contact with a great many young women of the class just referred to. I have learned their methods of living and what constitutes their children's food; and you may be surpised to know how largely ill-cooked cereals, boxed breakfast foods with the energy largely in the name on the label, bakers' bread, grocery or condensed milk, tea, beer and canned vegetables enter into the children's diet. The above foods, supplemented by cheap cake and pastry from the bakery around the corner, are what the average so-called poor child in our large cities is being brought up on. An equal expenditure of money in good milk, wheat or rye flour, dried beans, peas, oatmeal, potatoes, fresh meat, would furnish food of much greater value and produce adults of far better development and intrinsic worth.

We have observed that these mothers are anxious to be taught. They were not taught how to live in the schools. They must be taught by the doctor!

Fortunately for the human race, in small villages and in the country generally the family is better fed; not because of greater knowledge, but because of the distance to the corner grocery and the habit of the country housewife of doing her own cooking and baking.

This same young mother, who has attended the public schools, who can read and write, and who is interested in the current topics of the day, has never been taught and does not know the value of fresh air. Her rooms are close and ill-ventilated. Neither do the great majority of them know the necessity of cleanliness. Their rooms are usually dirty. Take into consideration the unsuitable food, continued absence of fresh air, uncleanliness, the forced outings in unclean streets, together with the wretched dwellings which our impossible city governments allow to exist, and you have the explanation of our 80 per cent. of defectives in children over one year of age, and of our 65 per cent. of defectives in children under one year of age. Heredity unquestionably plays a part in the child's development, but an insignificant part as compared with the nutrition and environment. Faulty nutrition produces lack of resistance to disease; it makes susceptible bodies; the large mortality among infants is due, directly or indirectly, to nutritional errors more than to anything else. Scarlet fever, diphtheria, measles, pneumonia, tuberculosis, the intestinal diseases of summer, claim most of their victims among those who have not sufficient stamina to resist the infection.

The struggle for existence is gradually becoming more acute—a struggle in which the strongest win, the weak are greatly handicapped. Physical examination is now required in many walks of life. Railroad corporations are establishing a physical standard for their employes. Recently in New York City a strike on the elevated railroad was threatened because the management insisted that the motormen should pass a physical examination. Motormen, elevator men, firemen, boat captains, engineers, all are required to be physically sound; and the public has a right to demand that only sound men shall be employed in these positions. Within the past six weeks an engineer of a New York ferryboat, an engineer of a New York & New Haven R. R. train, and a motorman on a Brooklyn trolley car fell dead at their posts—presumably with heart disease—imperilling the lives of many.

An employer in any competitive industry can not afford to employ a man or men who can not work to the standard set by the well and vigorous. Machinery must be manned by men who are equal to the task as estimated by the standard set by the strong. To be admitted into the Army or Navy, or the police service, rigid physical examinations are required.

If success in life, happiness and usefulness depend to so great a degree on a normal body, surely the child has a right to demand sufficient consideration that these may be furnished.

It is known to all that mental and physical degeneracy go hand in hand. The mentally defective who come under my care invariably are found to possess gross physical defects. That a sound mind requires a sound body is a maxim that will be disputed by none who have had to do with children.

That portion of the rising generation who will do the nation's work, fight the nation's battles, do the nation's thinking, are those who are now this day receiving what we all admit the child has a right to demand. They are getting food suited to the development of their bodies, they have the benefit of fresh air and cleanliness, and a life devoid of care. They are having the benefits of secular and religious instruction.

Those who are treated otherwise are to furnish a large portion of the future dependants, criminals and degenerates.

Manufacturers and large employers of men and women in New York City are experiencing difficulty in securing competent help. Early in April an employer of a large number of young women in New York City, wishing to

increase his force, advertised for able-bodied girls between 16 and 22 years of age. He had 250 applicants. Among this number there were 15 whom he thought worth considering; 10 were selected.

Crime among the young exists to an alarming degree in all large cities. In the recently-established Children's Court in New York City 7,647 youthful offenders had judgment passed on them during the year 1903. Of these 4,790 were convicted; 452 were under 7 years of age (the most of these for improper guardianship), 949 were between 7 and 12 years of age, 1,437 were between 12 and 14 years of age, 1,952 were between 14 and 16 years of age. Three hundred and ninety-nine arrests were for burglary; 927 were for larceny of sums under $25; 300 were for larceny of sums over $25.

Recently I spent a morning at our Children's Court of Special Sessions. One after another, male and female, the culprits came before the judge—perhaps 50 in all, in ages from 6 years to 16 years. With but two exceptions they were anemic, sallow, wretchedly-nourished children. They were dirty and insufficiently clad, with the marks of physical and mental degeneration most apparent. Mr. E. R. Coulter, Clerk of the Court, to whom I am indebted for many courtesies, assured me that not 10 per cent. of those who came under the jurisdiction of the court had ever experienced the benefits of decent home care. Ninety per cent. of the 7,647 were, the court records show, born and reared under conditions which must of necessity produce criminals and degenerates.

The mother of a boy who attended a West Side public school complained to the principal that her son had been robbed. Similar complaints had reached him before. At the morning exercises in the assembly room the principal asked all the boys who had been robbed to rise. One hundred and sixty stood up. Of these, forty had been robbed of more than a dollar each.

A boy, 15 years of age, recently sent to the reformatory, was the leader of a gang of fifteen thieving boys from 10 to 15 years of age. The crime with which he and his gang was charged was the "holding up" of a baker's wagon and despoiling it of its goods.

There are several such gangs in New York City. They have a recognized leader who directs the thieving operations. Of these the "Foundry Gang" and the "West Side Terrors" are perhaps the best known.

The state devotes surprisingly little attention to the care of the young child until he becomes a nuisance or a source of danger to the community. When the state takes hold the damage has already been done.

Through neglect of the children in their earliest years we make our criminals, and then we establish courts of law, reformatories and prisons to take care of them when they are a few years older.

Every child under 16 years of age should be known to the state and should be under the supervision of state officials, each for a given district, whose duty it shall be to see to it that the child receives proper instruction, decent food, decent care. When it is shown that this is not possible in the family, then he should become a ward of the state.

Start the boy right, and start the girl right, and they will come out right at the end. Ignorant mothers must be taught by district nurses. The child must be properly cared for in its earliest years and during the entire developmental period. It can be done, and for the investment the state will get returns never dreamed of. Children's courts, reformatories and prisons would in a few generations become a part of the history of the selfish, grasping age in which we now live.

All but three states have laws relating to child labor, which are indifferently enforced. So lax have been our state governments in this respect that on April 15 a National Child Labor Committee was appointed, the chief object of which is to insist that the existing laws be respected.

It may be pertinent to remark in this connection that man, with his boasted intelligence and civilization, is the only animal which requires its young to be self-supporting.

The state erects schools which the young, under a certain age, are required to attend. The strong and the delicate, the intelligent and the dull, are required to do an equal amount of work in an equal number of hours. The hours are too long—the studies, usually, badly selected. The question of whether the child is clothed, or how fed, does not interest the state.

Urging the need of special classes for backward and delicate children, Isabel R. Wallach[1] reported there were 8,500 children in the public schools in New York City who were making no visible progress; also, that the number was being steadily increased. These children, she says, are mentally deficient; but there is not a single idiot or imbecile among them—the mentally diseased being cared for elsewhere. Freed from competition with children of higher mentality, they might do well. Their brains are capable of development under favorable circumstances. Placed from the first in classes suited to their capacity, they might attain normal mental development. Many others of these children are backward because of ill-health or frequent illness, which makes them unable to keep up with the studies of their class. Their mentality is normal, and in special classes, with short sessions, they might do well.

Even the defective laws relating to school attendance are indifferently enforced, if we may judge by the census of 1900, which shows that between the ages of 10 and 14 years there are 579,947 children who are illiterate—children between 10 and 14 years of age who can not read or write.

Legislators, public officials, men high in public office, confine their energies to a very few things. They are intense specialists. They are journalists, jurists, men learned in the sciences, men skilled in statecraft, who have not the time—who are not in a position to appreciate a threatened national peril.

These people must be taught the duties the state owes to the child, and it is the physician who must teach them.

In Great Britain physical degeneracy has reached such an alarming degree that a royal commission was appointed to ascertain the cause. The appointing of the commission was the outcome of a debate in the House of Lords, July 16 last, during which Lord Meath and the Bishop of Ripon drew attention to the terrible conditions prevailing among the poorer classes. The Duke of Devonshire, president of the council, then admitted that Great Britain's military and industrial outlook was seriously threatened, and promised an inquiry into the matter. The subject was also brought up in the House of Commons by Sir William Anson, parliamentary secretary of the Board of Education, who declared that sixty thousand children now attending London's schools were physically unfit for instruction. Sir Frederick Morris stated that 60 per cent. of the men who applied for admission into the army were physically unfit. The re-

1. New York Times, Dec. 28, 1902.

jected men were divided into three classes: First, those who were not worth taking to the medical office; second, those who were rejected as a result of medical examination; third, men who broke down during two years' service. It is estimated that there are sixty thousand men in London who are physically unfit for service.

The causes of the physical and mental deterioration in England exist in this country, but to a lesser degree.

The report of the royal commission, in explaining the causes of the deterioration, deals largely, as it must, with the care and rearing of children. The causes of the physical degeneration, as set forth by the commission, are insufficient and poor quality of food, defective housing, overcrowding, and unsanitary surroundings. The commission found that in London 400,000 people live in single-room tenements, 40,000 live five in a room, 8,000 live seven in a room. In the British Isles, 3,250,000 people live with an average of three persons in one room.

The diet of the children was much the same as in our own large cities—wheaten bread, tea, beer, jam and tinned goods. The commission estimated that 60 per cent. of London children are underfed; they found that children have irregular hours and lack of sleep; that children are on the street until all hours of the night. Increase of the use of alcohol among women is put down as a cause. Children of the alcoholic are found to be neurotic, impulsive, and to lack self-control.

They report that compulsory education has been a benefit morally, but not physically. Long hours of confinement without breaks, in poorly-ventilated, overcrowded schoolrooms, without food suited to nourish their bodies, unwisely clothed, plodding for years over studies that are of no practical use. All of which applies to this country. The principle of exercises in the schools was a detriment in that delicate and robust were treated alike. Degeneration of country children was found to be less; the living quarters were healthier and the food better. The country children have more regular hours, they escape late hours, and they have the benefit of plenty of fresh air.

France, with her diminished birthrate and decreasing population, has realized for several years the cause, and more than any other country she has endeavored to remedy the evils attending the care of the young. England has had the fruits of her neglect of years forced on her. Those of use who have seen much of childlife among those who have the most children in our large American cities can read ahead and see that in a few generations we, too, will be deploring as a nation the inferiority of the quality of the bone and muscle of those who constitute the most valuable national asset—the so-called poor men, the men who produce, the men and the women who work with their hands.

So far as governmental intervention is concerned, but little is to be expected at the present time. By process of evolution we are still too near our aboriginal ancestors for any broad, human sympathy. What we need, what we must teach, and what will eventually come, is "sufficient governmental paternalism to realize that it is the children of to-day who will be the American nation of to-morrow, and that they excel in importance every other national consideration."[2]

The Government can not select a child's parents for him; but it is responsible when the parent has to live in a sunless room in an ill-ventilated, insanitary tenement.

The Government is, of course, unable to provide food for every child; neither is it necessary; but it is responsible when the head of the family, through ignorance, feeds grossly unsuitable foods to his offspring. Insanitary dwellings, poverty, uncleanliness certainly play a part in producing physical degeneration in this country; its chief cause, however, according to my observation, rests on the absence of knowledge among the masses of the most elementary principles of child-feeding.

The infant's weight increases about twenty times before the adult period is reached, and its body is built by the food it assimilates. It requires no great process of reasoning to appreciate that the child which is fed on suitable food will become a more vigorous and better formed adult than one which is fed, beginning at birth and continuing during the entire development period, on food of indifferent tissue-building qualities.

It is my observation that the mother who by accident of birth and environment is a so-called "poor" mother, and an ignorant mother, is almost invariably a good mother according to the light she possesses. She is anxious to learn, and when taught she follows instructions as well as her more fortunate sister. These women need teaching, and it is the duty of the patriotic physicians of this country to teach them. The physician can in no possible way serve the nation better than by teaching the mothers of the nation how to rear the children of the nation. Every family has its physician; and, if he is the right kind of a man, he has their confidence and affection. It is he who comes into intimate contact with the daily family life; he speaks, and they believe. In the position of the family friend and teacher of the community the physician who recognizes his responsibility and accepts the physical guardianship of the rising generation determines the character of the future spiritual, commercial and political life of the nation in that he aids the children of the nation to receive what they have a right to demand.

As a result of his having lived, and lived nobly, there will be happier homes, fewer disappointed lives, less crime, and fewer dependents.

In such a capacity, from the standpoint of national worth, the physician is the most important member of the community in which he resides—a more valuable servant to the state and to the nation than a man in any other calling. He prepares the soil; without sound bodies and normal minds, secular and religious teaching are of little avail. Where the American nation shall stand twenty-five or fifty years hence, and what position it shall occupy among the nations of the earth, depends more on the physicians of to-day than on any other profession or calling whatsoever.

2. Editorial in N. Y. American.

Original Articles.

APPENDICITIS FROM THE STANDPOINT OF THE PHYSICIAN.*

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A sufficient apology for the introduction of so timeworn a subject is found in the startling prevalence of the condition and the unnecessarily high mortality rate. So long as the daily press continues to record frequent deaths from a disease which, at some period of its course,

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is recognized by the medical profession to be distinctly curable, so long will there remain a justification for its most thoughtful and oft-repeated consideration. Although obviously a surgical condition, the discussion of appendicitis in a body of physicians appears particularly appropriate. The position occupied by the physician concerning this affection frequently is equivocal, compromising and most unsatisfactory. Although not directly involved in the later surgical management of the disease, he is compelled, nevertheless, to assume an obligation fraught with infinitely greater responsibilities than can possibly obtain with the surgeon. It so happens that in appendicitis, unlike most surgical conditions, it is the physician, rather than the surgeon, whose professional services are first sought in the majority of cases. This appears inevitable from the very nature of the public and professional relations. It may be explained largely through failure of the patient or friends to properly appreciate the character and possibilities of the ailment and from the abiding confidence reposed in the family physician. Thus it is that during the very time when the condition is invested with its greatest responsibilities, when the hour-to-hour question of management is all vital to the life of the individual, the case is rested solely with the physician, who assumes the trust with a complacency often remarkable, even in the face of a positive diagnosis. The fate of the patient usually depends on the detail and accuracy of observation, the acuteness of diagnosis, definiteness of purpose and the promptness of execution of the physician alone during the first twenty-four to thirty-six hours. According to the degree of medical intelligence and sagacity involved will the time either of surgical counsel or active operative interference be invoked. There can be no greater reflection on the professional attainments and acumen of a physician than failure to recognize at once the precise nature of the disease and to prepare at an important and opportune time for surgical relief. It is no compliment to summon surgical aid after a period of disastrous, fateful and delusory expectancy. It must be apparent that a great measure of the responsibility attending unfortunate results in appendicitis is to be attributed to the lack of exactitude of diagnosis and the delay of decisive action. Is it not, then, eminently fitting that renewed efforts be instituted from time to time to emphasize among physicians the essential features of the disease and its rational management? This paper is offered in the interests of early accurate diagnosis, and as a plea for greater preciseness of conviction among medical men in the various phases of the disease, as opposed to the *laissez faire* policy which is too frequently observed.

In a paper of this kind it is unnecessary to call attention to the variety of pathologic conditions which may exist, or to the several symptoms or signs which afford the classic picture of the disease. These are too well recognized to deserve more than passing attention. Neither does it seem pertinent to enumerate at this time the differing opinions held by surgeons as to the relative merits of early or interval operations. The views of distinguished operators, based on an enormous experience, have been sufficiently promulgated in late years to enable the profession to become more or less familiar with the rationale of their conclusions. There are those who advocate operation whenever the disease is recognized, regardless of time or conditions, and others who invariably discountenance surgical interference until the interval is reached. The distinctive claims of those adhering to each of these radical and somewhat extreme ideas of management are founded on their special opportunities for observation, and reinforced by an array of statistical results which assuredly appear by themselves most formidable and convincing.

It is sufficient for the purposes of this inquiry to call attention—

First, to the supreme importance of early diagnosis, which, if obtained at once, affords a key for the satisfactory solution of the much-disputed problem as to the time of operation.

Second, in cases of longer duration, to the necessity of a most careful and detailed review of the previous manifestations, with a deliberate and well-considered differentiation of the several phases, to the end that a non-vacillating purpose may be evolved, subject only to the influence of such clinical developments as may obtain through intelligent observation.

It is insistently urged that a painstaking physical examination of the abdomen should be made in all cases of abdominal pain, regardless of the possible slight degree of severity of the pain, the presence or absence of chill, fever, nausea or vomiting. Not infrequently is a sharply localized area of resistance and tenderness found over the region of the appendix, without the other oft-associated symptoms of the disease. A diagnosis rendered possible at this time by a careful examination is of transcendent importance.

It is furthermore contended that the absence of definite physical signs in the right iliac fossa in the presence of sudden chill, fever, nausea, vomiting, acute general abdominal pain and prostration offers no reliable assurance of the non-existence of a most serious involvement of the appendix.

The contention is made that there is no constant definate relation between the severity of the symptoms, together with the abdominal signs, and the degree or nature of the actual pathologic change within the abdomen. There is no invariable rule by which to hazard an opinion on the existence of gangrene, perforation, abscess, circumscribing adhesions or localized peritoneal inflammation. The pathologic condition, without opening the abdomen, is at best a mere matter of conjecture even during convalescence or in the apparent absence of unfavorable symptoms.

It is obvious in the course of an acute appendiceal attack that the feeling of security engendered by the absence of distinctly unfavorable or alarming symptoms is often a most unsafe delusion. It goes without saying that no one can see into the abdominal cavity and describe the pathologic process in the neighborhood of the appendix, or estimate with accuracy the imminence of threatening morbid change. One man's dictum is about as authoritative and worthy of credence as another's, other things being equal.

It is conceded that there are certain times and conditions when it is perhaps more conservative to delay operative interference, notably when the case is not seen until after the lapse of over thirty-six hours, and when at the same time there is an apparent remission of the acute symptoms and a more or less amelioration of the physical signs. Reference is here made to the diminution of pain, lowering of pulse and temperature, absence of vomiting or chill, lessening of distension, and perhaps passage of gas or fecal matter. At such a time it is fair to assume, provisionally, that adhesions are forming and that the inflamed area is being effectually walled off from the general peritoneal cavity, or that the inflam-

mation itself has not as yet penetrated the peritoneal covering. In the absence of a return of unfavorable symptoms, it should be recognized that there is perhaps less to gain and more to lose by a meddlesome interference at this particular period. To say the least, however, this time of observation, even at best, is one of anxious responsibility. Pending a recurrence of the previous acute symptoms or the development of other manifestations indicating an extension of the process, it is justifiable to refrain from surgical interference. Immediately, however, on the recurrence of pronounced chill or vomiting, with increased elevation of temperature or renewed abdominal pain, the indications for operation are imperative and brook of no delay.

It is well to remember that in the event of an acute appendicitis, definitely and legitimately demanding an operation on its merits, few complicating conditions should furnish a contraindication. In such an emergency the consideration pertains solely to the choice of the lesser of two evils, and the mere existence of tuberculosis, kidney or heart lesions often affords insufficient grounds for hesitation or delay.

In all cases when operation is advocated it should be made clear, not that the operation is absolutely necessary for recovery, but that the chances for recovery are greater with than without it. The existence of leucocytosis as offering indications for the necessity of operation is of comparatively minor importance.

In doubtful cases it must be emphasized that the dangers of operation *per se* are practically *nil*, and that the dangers of delay are terrible.

The foregoing remarks are in the nature of a brief epitome of my conception of the present status of appendicitis from the standpoint of a physician.

It may, perhaps, be regarded as absurd and presumptuous for any physician to formulate his ideas and base his conclusions as to a general course of action in appendicitis from his own relatively minor opportunities for observation and a slight personal experience with the disease. It must be conceded, however, that no matter how broad his reading and his familiarity with the recorded results of others, it remains for a vivid, active and varied experience of his own to crystallize his views and define his general course of future procedure. The views which are here enunciated are derived, or at last emphasized, from a rather considerable personal experience with appendicitis solely in the capacity of a physician and among widely differing conditions. Recourse will be made to brief mention of selected and illustrative cases. These will be reported in their chronological sequence, with such deductions as may be reasonably suggested.

While, with our present light, errors of judgment and even of diagnosis are here to be observed, these mistakes have not been without their due influence for good. It may be asserted that more of real profit in the way of removing vague doubts and hesitancy, and in affording more clearly defined convictions, has accrued from these mistakes than from any other source.

CASE I.—The patient, a boy 8 years old, after several days of malaise and headache, experienced a severe chill, followed by vomiting. He complained of severe abdominal pain which was referred to the right iliac fossa. The day previous he had been seen by a physician, who had rendered a diagnosis of typhoid fever.

Examination.—The patient was seen by me on the morning of Nov. 22, 1895, a few hours following the onset of acute symptoms. He was found lying on his back, with the right leg flexed on the thigh and the thigh on the abdomen. The countenance was ashen and expression distinctly pinched. The eyes were dull, the right pupil much dilated, the head considerably retracted, the temperature over 104, and the pulse about 140. Examination of the abdomen disclosed tenderness, with slight rigidity in the right lower segment. Careful examination was made of the chest, with negative results. The acute onset, the chill and vomiting, the rigidity and tenderness over the region of the appendix, pointed strongly to the diagnosis of appendicitis. On account of the great prostration, the mental hebetude, with retraction of head and dilatation of one pupil, it was thought best to summon in consultation both a surgeon and a neurologist.

The consultation was held about four hours following my first visit. The temperature had risen to over 105, the pulse was much weaker and more rapid, the prostration more pronounced, the expression decidedly more pinched, and the patient in a condition of semi-coma. There was slight distension of the abdomen. The previous diagnosis of appendicitis was heartily concurred in by both consultants. A second examination of the chest, conducted by myself, disclosed the suspicion of a slight change in the respiratory sounds on the right side between the scapulæ. There was neither dullness on percussion nor bronchial breathing, but a very slight prolongation of the expiration, with just a possible change in quality. I reported this change to the consultants, neither of whom, however, after examination, were willing to accept my statement that there was any deviation from the normal within the chest. My own decision in favor of immediate operation in accord with them was made, not solely because of a lack of courage in my own convictions with reference to the possible pulmonary complication, but rather on the grounds that to my own mind the hypothesis of appendicitis was the more reasonable conclusion. The boy's condition was most desperate. It was apparent that heroic measures must be instituted to save life, and that any material delay in action would result fatally.

Operation.—An unqualified diagnosis of appendicitis was made to the family, and immediate operation was performed. At this time the child's temperature was 106. A normal appendix was found and removed. The child was subjected to most vigorous stimulation during the operation and was very slow to rally subsequently. The family was informed merely that the operation had been successfully performed and that the appendix was removed, and that we must abide the issue. A few hours following the operation the temperature by rectum dropped to about 102, but arose later to 105. On the second day following the operation I was permitted to make another examination of the chest, and found the changes in the pitch and quality of the respiratory sounds to be more readily appreciable than before, and the expiration more distinctly prolonged. The temperature had remained in the neighborhood of 105, and the mental condition was that of great hebetude. It was apparent that there was a condition of most profound toxemia, and the only possible physical sign on which to base a provisional diagnosis was that of a delayed pneumonia with central localization. The day following there was a slight cough, and the physical signs readily showed a beginning consolidation. The entire lung subsequently became involved, and the child went through a two weeks' illness with most severe lobar pneumonia and recovered. The family were informed that possibly the anesthetic may have had something to do with its development.

This case is reported not only as one of perhaps unusual interest, but as an emphasis to the fact that even in the event of such a classic grouping of abdominal symptoms, and with such distinct physical signs as to make the picture almost a typical and conclusive one of appendicitis, yet there resulted a grievous error of diagnosis. Several such cases of pneumonia simulating appendicitis have been reported during the past decade. Under similar circumstances, however, ten years ago it is impossible to see how any conscientious and resourceful physician, with the interests of his patient at heart, could fail to adopt the same course of procedure. It so happened that in this instance the decision was radically

wrong, but there can be no reflection on the honesty of motive, the unhesitating assumption of responsibility, and, with the data at hand, the soundness of the judgment. In the midst of a most trying and desperate situation the course of procedure must be accepted as having been substantially correct, for the patient was given the benefit of the doubt regardless of all other circumstances.

CASE 2.—The patient, a woman, aged 33, with a long-standing quiescent pulmonary tubercular process in both lungs, experienced a sudden acute pain during the night of Feb. 13, 1901. This was followed almost immediately by a chill, and subsequently by vomiting.

Examination.—She was seen by me on the following morning. The temperature was but slightly elevated, the pulse was of good quality and not especially rapid. The pain in the abdomen, which had been general rather than localized, had subsided somewhat under hot applications, but without an opiate. Careful physical examination failed to disclose the slightest tenderness or resistance over the region of the appendix. The patient remained under observation for twenty-four hours without there being any special change in the condition. She was kept on her back with hot moist applications and with practically no nourishment by mouth. During the second night the pain became more severe, followed by renewed vomiting and another slight chill. The next morning the result of physical examination still remained completely negative. The expression, however, was not as good as on the preceding day. After consultation and a continued negative result of abdominal, vaginal and rectal examination, it was determined to move her to the hospital with a view to a possible exploratory incision. The operation was permitted to be delayed another twenty-four hours, however, during which time the temperature arose to 104, the pulse to 136. The abdomen had become considerably distended, and the whole picture was that of septic peritonitis. On opening the abdomen free pus was found throughout the general cavity. The appendix was excessively long, with its tip dipping down over and below the brim of the pelvis, where it had become adherent, thus amply explaining the failure to elicit tenderness or rigidity on early examination. Perforation had taken place, and the appendix was gangrenous in places. The patient's condition was most extreme during the operation, being sustained only through the influence of excessive hypodermic stimulation, subcutaneous salt solution, coffee by the rectum and inhalations of oxygen. She was taken from the operating room in collapse, and it was freely predicted that death would ensue within a few hours at the latest. Under heroic stimulation she rallied slightly, and during the next two or three days the condition remained as desperate as can be imagined. The pulse was exceedingly weak, the temperature considerably elevated and the abdomen extremely distended. Fecal vomiting began on the third day following the operation, and the patient became practically unconscious. In spite of most vigorous efforts, the bowels had not moved, and there had been no passage of gas. It was apparent in the early part of the third night following the operation that death would take place at once. It was my determination to remain with the patient during the night and to make a last effort to save life. It was evident that the stomach must be relieved of the fecal matter and that the gas must be at least partially removed from the intestines. After some thought it was decided to employ washing out of the stomach, which practice, I think, was new in such cases at that time. My thought was, that if the stomach could be kept clean and the gas removed, even by the mouth, that it might afford at least temporary relief, and possibly offer means subsequently to institute a natural peristalsis. While she was in a semi-comatose condition the stomach was washed out at very short intervals during the entire night with a solution of soda. Enormous quantities of gas were removed at each washing, together with considerable fecal matter. The washing was continued in each instance until the water returned perfectly clear. It was remarkable to note the very decided relief of the abdominal distension under the bandages at each time. The improvement in the mental condition soon became marked. Stimulation was continued as vigorously as seemed justified, and the washings were continued at short intervals during the next three days. Renewed efforts to move the bowels were finally successful, and in the course of a week normal peristalsis was restored. The patient continued to a most gratifying recovery for a period of nearly seven weeks, and was meantime up and about her room, when there suddenly developed symptoms of acute intestinal obstruction. Operation disclosed most formidable adhesions, involving a great mass of intestinal coils, which were broken up with great difficulty. The patient, however, failed to survive the operation.

This case is cited as illustrating the statement previously made, that a genuine involvement of the appendix may exist without any early external evidence of its presence being obtained through the medium of an exhaustive physical examination. In this case the general and constitutional symptoms were sufficiently definite to characterize the attack as a most serious abdominal condition of some kind. A reasonable doubt existing as to its actual nature through failure to discover definite physical evidences of appendicitis, there was permitted to take place a most disastrous period of delay, which eventually resulted in the death of the patient. The lesson to be drawn from such an experience is plain to the effect that, in the presence of such an acute onset, severe abdominal pain, with change in pulse and temperature, even despite absence of rigidity and tenderness over the region of the appendix, the only safe and rational course would have been to perform an exploratory laparotomy. It must be apparent that in similar cases the dangers of opening the abdomen for such purposes are comparatively slight, and that the dangers of delay are too terrible to demand enumeration. When in doubt early in the course of such acute abdominal affections, it must be recognized that the best interests of the patient are subserved by exposing him to the relatively slight dangers of abdominal section, in order to secure, first, definiteness of diagnosis, and, secondly, opportunity to invoke life-saving surgical aid. The experience afforded in the present instance has been the direct means of saving a considerable number of very important lives.

CASE 3.—The patient, a man aged 50, was awakened on the night of March 12, 1901, complaining of slight non-localized abdominal pain. There was neither nausea, vomiting nor chill.

Examination.—On account of the persistence of the pain he came under my observation some two hours following its onset. His temperature was normal, pulse good and expression natural. There was complete absence of resistance over the region of the appendix, and but exceedingly slight tenderness on very deep pressure. A provisional diagnosis of appendicitis was made at the time to the patient and family, which diagnosis was promptly ridiculed. Under local applications the pain gradually subsided and the patient fell asleep, not awakening for about five hours. On the following morning there was no change worthy of note either in the symptoms or in the results of physical examination. The patient was kept in bed throughout the day and seen again after a lapse of about five hours. There was absolutely nothing further recognized at this time. The abdominal muscles in the right iliac fossa were perfectly soft and non-resistant, the tenderness on deep pressure was so slight as to be scarcely worthy of mention. The matter of my provisional diagnosis was made the subject of some considerable levity by the patient, family and friends. I insisted, however, on the probable involvement of the appendix and urged strenuously a compliance with my instructions relative to rest and a limited diet. These instructions were scrupulously obeyed. Late on the evening of the same day he experienced a slight chill, followed by vomiting, the temperature rising to 100 and pulse to 90. Immediate consultation with two surgeons was suggested by me, in order that in case of a difference of opinion there might be an opportunity to

abide by the majority vote. The consultation was held at midnight. The temperature at this time was 101, pulse about 96. There was no change in the condition of the abdomen. It was the opinion of the two surgeons that the most probable diagnosis was a slight appendiceal involvement, probably catarrhal in type, with the preponderance of evidence strongly pointing to a speedy convalescence, without operation. Immediate surgical interference was not advised by them. Bearing in mind the lesson derived from the previous case, which had occurred but a short time preceding, it was my privilege to refuse to abide by their decision and to strongly insist on immediate exploratory operation. On opening the abdomen at 2 a. m. it was found that the appendix was already gangrenous, with a little spot at its tip in immediate danger of perforation. The patient made an uninterrupted recovery. It is unnecessary to state that had the operation been delayed many hours the chances for recovery would have been decidedly lessened, to say the least, and this in face of the fact that the condition had been of very short duration, and with almost entire absence of physical signs.

CASE 4.—The patient, a young man, aged 23, with fairly advanced chronic interstitial nephritis, was seized during the early morning hours of May 15, 1902, with severe pain in the region of the appendix. There was a pronounced rigor and distressing vomiting. At the time I saw him in the early forenoon there was marked rigidity of the muscles of the entire right side of the abdomen, with extreme tenderness. The pulse was 120, temperature 103. His expression was exceedingly pinched, countenance ashen, mental condition somewhat dull. The patient and family were informed immediately as to the nature of the condition and immediate operation strongly recommended. This was objected to temporarily on the ground of his kidney involvement, especially in view of a previous severe uremic attack of nearly a week's duration. The case was seen at once by Dr. C. A. Powers, who strongly indorsed my position relative to immediate operation. The patient was operated on without further delay, and a gangrenous appendix removed and convalescence rapidly established.

Many other similar cases in my experience could be cited to further illustrate, despite the relatively short period of duration of the disease before operation, the finding of most extensive pathologic change in the appendix. It is safe to assert that the appendiceal findings were such as to justify the belief in nearly all that, had the operation been delayed after the first twelve or eighteen hours, the chances for recovery would have been infinitely diminished. In each of these cases the patient was hurried to operation without any unnecessary delay.

CASE 5.—The patient, a man of 50, was seen by me in consultation on the evening of Nov. 16, 1902. It was ascertained that for one or two days he had complained of very slight pain in the region of the appendix without presenting other rational evidences of appendicitis. There was no elevation of temperature, the pulse had been 80 or under for the previous twenty-four hours. There was no nausea or vomiting. The attack of pain had followed quite hearty indulgence at a dinner given two nights previous. He presented the history of having had a distinct attack of appendicitis in Paris something over a year ago, and a slighter attack in New York some months ago. The question of recommending immediate operation or of attempting to tide him over by the method of Ochsner to an interval operation was thoroughly discussed by the two medical men in attendance beside myself. My own opinion was strongly in favor of immediate operation, which view, however, was not coincided in by the other medical attendants. The consultation took place at 7 o'clock in the evening, and it was determined to keep him under observation for the time being, to freely evacuate the bowels and feed by rectum, and later, after the lapse of some weeks, to present to him and his family the matter of an interval operation. The next morning at 7 o'clock he was seized with severe pain in the right side of the abdomen, chill and vomiting. His temperature arose immediately to 102, associated with a corresponding change for the worse in the pulse. He was hurried to the hospital and operated on forthwith. The appendix was bound down by adhesions and was found to be distinctly gangrenous in spots and apparently ready for perforation.

While no appreciable harm in this instance followed the adoption of the policy of delay, it is easy to recognize the dangerous position which is assumed in withholding operation in the early stages of appendicitis, despite the comparative benignancy of all the symptoms connected with the case.

The last case to be reported is that of my wife.

CASE 6.—On the evening of Feb. 10, 1904, on returning to my house for dinner, I was informed that Mrs. B. had not been feeling quite well for the past one or two hours. She had attended a luncheon at noon, had been driving subsequently, and had attended a reception in the late afternoon. While in the carriage on her way home she experienced slight abdominal pain sufficient to impel her to recline on reaching home. When seen by me her expression was excellent, temperature 99 and pulse 84. There had been no chill and no vomiting. The pain had entirely disappeared, and she said she felt as well as ever. I insisted, however, on making an examination of the abdomen before permitting her to get up, and found to my surprise slight resistance and tenderness over the region of the appendix. Immediate operation was quickly determined on, and Drs. C. A. Powers, W. S. Bagot and H. T. Pershing were summoned to my aid in consultation, all of whom coincided with me fully in my conception of her needs. She was at once removed to the hospital, and the operation was performed by Dr. Powers with the slightest possible delay. On opening the abdomen a considerable quantity of serous exudate presented itself. The appendix was found to be intensely inflamed, with the finer blood vessels of the surrounding parts much engorged. The wound was completely closed following the operation, and she made an uninterrupted recovery.

The incontrovertible deduction from such an experience as this is to the effect that in this instance such early surgical interference was far superior to an interval operation, even could it be determined definitely that the patient would survive the acute attack and pass on to the time thought appropriate for the subsequent operation. This is true, first, because of the entire absence of adhesions which so frequently render difficult the work of the surgeon at the time of interval operation; secondly, because of the avoidance of the suspense, uncertainty and dangers attending the management of the acute stage of the disease without operation, and, thirdly, because of the opportunity afforded in the early operation to close the wound immediately without drainage, and thus secure not only a more speedy and less painful convalescence, but also to obtain a firm, unyielding scar, devoid of the subsequent danger of hernia. One of the important lessons to be derived from this case is the disproportion between the pathologic condition and the rational symptoms of the disease. The fact that a patient could feel as well as usual following slight abdominal pain, without elevation of temperature or pulse, without vomiting or chill, and still on operation present an appendix with such distinct pathologic changes, presents an insuperable argument in favor of operation in the first few hours following the onset of the affection. To permit of such possibility, it is apparent that the factor of supreme importance in such conditions is found in early diagnosis. Such beneficent accomplishment can only be obtained through the intelligence, skill and sagacity, not of the surgeon, but of the attending physician. It is on him alone that the welfare of countless lives in the next decade will be directly imposed.

I am not aware to what extent the views here enunciated will accord with the opinions of surgeons possessing

vastly more experience, and, therefore, infinitely better qualified to define their conclusions. It does appear, however, that the subject is of sufficient importance to justify before this body the presentation of a relatively slight experience, in the hope that, through a continued and broader discussion, more definite conceptions may be entertained of our attitude and responsibilities in such cases, and to the end that the medical profession will be enabled to cope to better advantage with one of the most serious affections at present engaging our attention.

THE DANGER OF ALLOWING WARTS AND MOLES TO REMAIN LEST THEY BECOME MALIGNANT.

WITH TWENTY-FIVE ILLUSTRATIVE CASES.*

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The title of this paper indicates its purpose. It is chiefly a clinical paper, intended to emphasize the danger of not removing warts and moles, and sometimes nevi, lest they should become malignant, with 25 cases of such malignant degeneration, 12 from my own patients and 13 histories kindly furnished me by friends. Of course, the great majority of such growths never do undergo malignant degeneration, but as one can never tell which will and which will not become malignant, it is of the utmost importance, unless circumstances render it inadvisable, that they should be removed before a malignant change occurs.

Many moles and warts are congenital; others arise later in life, either in childhood or adult life, and still others frequently appear in elderly people. The ordinary warts which are so common on the hands of children, and which, as a rule, disappear as the child grows older, are not considered in this paper. It is those which remain and which involve a permanent possible danger which I shall consider.

All such growths are exposed to traumatism, such as blows, friction of the clothing, scratching on account of the itching, or, in many cases, on account of the presence of a little scab—and who can or does resist the temptation to scratch off these scabs?

In consequence of such injury or repeated and long-continued irritation—or in other cases without any assignable cause—they begin to increase in size. This sudden activity and increase in size usually does not occur for months or more likely years; it may be thirty, forty or fifty years, or even more after the mole or wart was first noticed. The moment they begin to increase in size they are, I believe, almost invariably already malignant growths, and should be treated as such.

The patient has been lulled into fancied security by the insignificance and apparent harmlessness of such a mole or wart which existed, perhaps, as long as the patient can remember. No apparent reason exists for removing it to-day rather than to-morrow, this year rather than next year. Once, however, that it has begun to grow, he begins to worry, and probably will try to cut it away, or not infrequently, women will twist a string or very often a long hair around it. When imperfectly removed by such methods, especially if they have already begun to grow, the glands soon become involved and in a number of cases a general sarcomatosis follows. The danger of waiting until they have manifestly begun to grow and are, therefore, already malignant, is shown by the fact that ever after amputation of a hand or a foot, they will recur in the glands or in the internal organs.

A number of pathologists, following the views of Unna, first enunciated in 1892, are disposed to maintain that many, if not most, of these are epitheliomata rather than sarcomata. Other pathologists, however, regard them as true sarcomata. Those which arise from warts proper, I believe, are generally epithelial carcinomata. In a number of the cases that I report, however, especially those arising from moles, the microscopic examination showed that they were unquestionably sarcomata. Their clinical course and the macroscopic appearances are also decidedly in favor of their sarcomatous nature. In addition to this, not infrequently their sarcomatous nature is emphasized, as already stated, by a general sarcomatosis, a multiple recurrence which I have not observed in the epithelial carcinomata.

The recent paper of Wilson and Kalteyer,[1] in which one case was reported and 50 others collected from recent literature, very strikingly emphasizes the danger of leaving such growths undisturbed until they grow. Of the 51 cases there reported, 69 per cent. had their origin in a mole or a nevus. Of the 45 cases of melano-sarcoma which had occurred in the London Hospital in twenty years, which Eves[2] collected, 33 occurred in the skin, and of the 33, 26 began in pigmented moles. Both in Wilson's and in Eves' collected cases, the malignant changes seem to have been started in a number of cases by trauma. Even so slight but constantly recurring an injury as combing the hair, by which the growth was frequently irritated and made to bleed, in one, or the rubbing of the collar in another of the cases here reported, seems to have been the cause of the malignant degeneration.

The treatment frequently advised both by surgeons and dermatologists seems to me to lack appreciation of the need for total thorough excision before they begin to grow, for when they begin to grow they are already, as a rule, malignant. Hence I desire to emphasize the need for total excision before malignancy begins, i. e., during the quiescent and apparently harmless stage. Especially bad, I think, is the advice of Crocker,[3] that they should "be shaved down with a scalpel and then have carbolic acid applied to them," instead of recommending absolute excision of the entire growth, including the skin from which they arise. Repeatedly, one finds the advice that "a mole which shows signs of activity in an elderly person should be removed at once." Such moles should be removed prior to the least "sign of activity." Even Wilson and Kalteyer speak of the "importance of early radical surgical interference in which tumors spring from pigmented moles." Instead of this, again I would strongly urge that the pigmented mole should have been removed before any tumor sprung from it.

The family physician is the one on whom the responsibility rests for this early removal, and to him especially is my appeal directed. Often when the surgeon is consulted it is too late, and the patient's life is sacrificed.

The 25 cases which I give are sufficient to emphasize

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

1. Amer. Jour. Med. Sci., November, 1903.
2. Practitioner, February, 1903.
3. Diseases of the Skin, 3d ed., 1903, p. 577.

the proper treatment. Only by iteration and reiteration can the bulk of the profession be reached by such warnings. The general practitioner is the one who sees these patients in the pre-malignant stage, when, as a rule, removal would be easy, the resulting scar would be much less of a deformity than the existing wart, mole or nevus, and the danger of malignant degeneration would be entirely eliminated.

The cases reported here have arisen on the wrist, sternum, ankle, scalp, toe, abdomen, scapula, the lumbar and dorsal regions of the back, the nose, vulva, elbow and cheek. Few regions of the body, therefore, are exempt. Many of them exist on parts of the body covered by the clothing, when not even the unsightliness of a scar could be pleaded as a reason for their non-removal; but no matter where they are, and even if a visible scar should be unavoidable, it is the duty of the physician to remove them prior to the onset of any malignant change. The operations for their removal in most cases are so simple that they can be done by the family physician. If, as will rarely be the case, they require a more serious dissection, or if the physician has not at command either the knowledge and skill or the proper facilities for their complete removal, then the aid of a surgeon should be invoked.

In a number of cases reported, the moles or warts were either congenital or had existed as long as the patient could remember (when they probably were congenital); a few of them arose at about 20 years of age; a few later in life. But, as will be seen, malignant degeneration often began after the mole or wart had existed for 30, 40 or even 50 years as a harmless deformity only to become finally a serious menace to life, and in many of the cases they have actually cost the patient his life.[1]

I beg to call attention especially to Case 8 (Fig. 2), which shows that I did not extirpate the entire growth in spite of my desire to do so. Forewarned by my own error in this case, surgeons, I hope, will look more sharply at the tissues in order to be certain that the entire growth was removed. Drs. Ellis and Coplin, it will be observed, also overlooked the error in their ocular examination of the specimen.

CASE 1.—*Birthmark Over the Left Scapula; Extensive Malignant Growth Involving the Scapula and the Axilla; Interscapulo-thoracic Amputation; Death from Anuria 31 Hours After Operation.*

History.—Joseph W., aged 49, Lansdowne, Pa., first consulted me Feb. 12, 1896, at the request of the late Dr. J. M. DaCosta. His father and paternal grandfather died of old age; his mother is still living and healthy. Over the middle of the posterior border of the left scapula he has always had a birthmark. Eighteen months ago it began to grow. Plasters of some kind were applied to it, and it finally "fell out." Soon after that a large tumor began to form over the left scapula.

Examination.—I found a stout, healthy-looking man, weighing 165 pounds. The whole of the spinous portion of the scapula, especially toward the axillary border, was involved in a tumor the size of a large fist. The tissues in the axilla also were involved up to the level of the scapula. I was unable to determine whether the supraclavicular glands were involved. The skin itself did not appear to be involved over any portion of the tumor except at its middle, where it was adherent to the tumor. The skin on his back was studded with 20 or 30 other congenital nevi. I advised amputation of the entire upper extremity as the only possible chance of life.

Operation.—March 19, 1896. After four days of preparation in bed, during which his secretions were regulated, I first removed the middle half of the clavicle, and then, without difficulty ligated the subclavian artery and vein. To facilitate access to the vessels from the first clavicular incision, I made an incision 5 cm. long in the groove between the deltoid and the pectoralis major toward the axilla. Having secured the vessels, I then prolonged the second incision to the anterior border of the axilla and separated the muscles. I then opened the axilla, securing the smaller vessels as they were divided. A number of axillary glands at this point were attached to the vessels, but were all removed later in one mass with the arm. As soon as the scapula was well separated from the trunk, I divided the nerves. This allowed the scapula to fall away from the trunk very widely. My incision was then prolonged down on the arm well toward the elbow, where I made a circular incision around the arm and dissected off the flap from the arm. This gave me a long flap with which to cover the gap caused by removal of the scapula. Dissecting the healthy skin over the scapula backward, I then separated the attachments of the scapula along both its superior and posterior borders, thus severing the entire limb from the trunk. On approximating the flap, I found that I had more than was necessary to close the wound, and cut away some 6 or 7 cm. of the lower portion.

Results.—Until toward the end of the operation he did very well. Then his pulse began to fail and his color became very bad. Drs. T. S. K. Morton and G. G. Davis, who were assisting me, then infused 14 oz. of normal salt solution through the veins of the other arm. This improved his pulse and his color, but he was still in a very feeble condition at the close of the operation. He died 31 hours later, his kidneys not having secreted any urine after the operation. His temperature for the first 24 hours, up to 12 noon of the day succeeding the operation, had only once been above 100. In the next eight hours, up to the time of his death, it rose rapidly till it reached 108.4.

Microscopic Examination.—Dr. D. Braden Kyle, who made the microscopic examination, reported that it was a round-cell sarcoma.

CASE 2.—*Wart Below the Internal Malleolus from Childhood; Sarcomatous Degeneration at about Sixty Years of Age, with Later Involvement of the Saphenous Glands; Removal of Glands; Amputation of Leg; Recurrence in Groin and Internally, Followed by Death.*

History.—Mrs. F., aged about 60, was first seen in consultation with Dr. Rhoads, Feb. 7, 1894. Ever since she can remember she had a wart on the right ankle, just below the inner malleolus. In 1889, five years ago, this began to enlarge, and some time afterward the late Dr. J. E. Garretson, a dentist, transfixed it with a pin and ligated it. It soon returned, and a year later was again pinned and ligated by her son, who was also a dentist. Recurrence again took place, and in July, 1893, the growth was again transfixed and ligated by Dr. Garretson. Ten months before the last operation the saphenous glands were observed to be enlarged. At the time of the last operation the saphenous tumor had grown to the size of a lady apple. A considerable amount of pigmentation also had appeared in the neighborhood of the original tumor, extending toward the toes.

Examination.—When I first saw her the pigmentation of the skin filled up half the space between the malleolus and the heel and extended toward the toes for a distance of over 6 cm. There were a large number of circular areas of black discoloration, many of which were fused together into irregular masses. On the inside of the right thigh, extending from Poupart's ligament downward, was a mass of glands the size of a fist. On the front of the leg, a little above the ankle, also were two nodules in the skin the size of large peas. The mass in the thigh was discolored, traversed by enlarged veins, and was the source of great pain. In addition to this, she had at times a considerable dyspnea and a great deal of pain in the right chest. A careful examination, however, did not disclose any signs of a tumor in the chest.

In view of the pain, I advised that an attempt should be made to remove the glandular mass at the saphenous opening. If I should be able to dissect this off from the vessels, of which I was by no means sure, then as soon as her general condition would allow I advised that the leg should be amputated just below the tubercle of the tibia.

1. In the Brit. Med. Jour. 1904, vol. I, p. 1300, June 4, in an excellent paper on the "Essential Similarity of Innocent and Malignant Tumors," Cathcart reports a number of cases similar to those reported in this paper.

Operation.—Feb. 13, 1894. I made an elliptical incision over the saphenous glands so as to remove all the diseased portion of the skin. The glands were very adherent to the femoral artery and vein, but with great difficulty I finally was able to remove them without injury to the vessels. The glands extended up to, and, in fact, bulged into the femoral ring. The fascia lata was removed from an area nearly as large as the hand. Prompt recovery followed, the stitches all being out in a week. The pain almost entirely ceased after removal of the glands, and the foot and the chest were no longer sources of irritation.

In view of her bettered general condition, I proceeded to the amputation.

Second Operation.—Amputation, February 23. The leg was amputated by antero-posterior flaps of skin, with a circular flap of the muscles about 3 cm. below the tubercle of the tibia. The patient made a steady recovery from the second operation, with the exception of sleeplessness, which was very marked. For this bromid was given up to 90 grs. a day, but after three or four days this produced undue somnolence and with it considerable mental aberration, both of which ceased on stopping the remedy.

She left the hospital well fifteen days after the operation. I learned that recurrence took place a few months later both in the groin and internally—just where, I did not learn. She died Nov. 16, 1894.

CASE 3.—*Wart Above the Left Ear for Many Years; Removal After It Had Attained Considerable Size; Two Recurrences, Followed by Death.*

W. H. B., aged 43, was first seen Jan. 5, 1895, at the Reading Hospital, in consultation with Dr. Samuel L. Kurtz. For many years he had had a little wart above his left ear, which from time to time he irritated by picking. Nearly a year ago it began to enlarge.

Examination.—When I saw him there was a sarcomatous mass, about 7.5 cm., vertically and also transversely, the lower border nearly touching the external ear. No enlarged glands were perceptible.

Operation.—After careful disinfection, I removed the entire mass. The bone underneath was quite free from any involvement. By lifting two large flaps, one extending as far as the border of the hair on the forehead and the other well back on the occipital bone, and by loosening the scalp in front and behind these two flaps and sliding the tissues, I was able to close the entire wound, excepting two small gaps about a finger's breadth, one anteriorly and the other posteriorly. He made an excellent recovery and left the hospital thirteen days after the operation. The gaps were cicatrizing very nicely.

Results.—By a letter from Dr. Kurtz, dated March 3, 1904, I learn that in the latter part of 1895 (nearly a year after the operation) there was a recurrence of the growth on the left side of the neck, about 5 cm. below the ear. This was removed by Dr. Kurtz on March 30, 1896. Within a year after this, however, there was a second recurrence in the neck. He refused further operation and died during 1897. No microscopic examination of the tumor was obtained, but clinically I should consider it a sarcoma.

CASE 4.—*Wart on Dorsum of Hand for Six Months, Becoming Malignant; Removal of the Growth; Recurrence; Death Five Years Later Without Recurrence.*

History.—Fred H. S., aged 64, New Albany, Pa., was first seen Feb. 20, 1894. His family and personal history were of no importance. Six months ago he first noticed a small wart on the dorsum of the right hand. He irritated this by using a knife in attempting to remove it. Soon afterward it started growing slowly.

Examination.—At present it is about 4.5 cm. in diameter. It is slightly painful at times; not painful on pressure, except around the margins. There is no discharge, but it bleeds very easily. There is no apparent enlargement of the axillary glands. Heart enlarged, sounds rather feeble, apex beat displaced somewhat to the left. The arcus senilis is marked, and he probably has a fatty heart. Urine normal.

Operation.—Feb. 22, 1894. The tumor was removed by an incision a considerable distance beyond the diseased tissue. It was found not to penetrate more deeply than the skin. So much was removed that it was impossible to get the edges together. Skin grafting was done one week later.

A letter from his brother-in-law, dated March 4, 1904, tells me he died in 1899, five years after the operation, and that no recurrence ever took place in the hand, nor did the axillary glands ever enlarge.

CASE 5.—*Congenital Pigmented Mole on the Inner Side of the Left Second Toe; Began Growing After Forty Years; Operation; Recurrence in Situ; Second Operation; Recurrence in the Saphenous and Pelvic Glands; Third Operation; Recovery; Death from General Sarcomatosis.*

History.—Jesse W. P., of Philadelphia, aged 40, first consulted me Sept. 22, 1900, at the request of Dr. E. W. Tulley. As long as he can remember he has had a little discolored mole on the inner side of the left second toe, about the junction of the second and third phalanges. In May or June of 1900, when he was 40 years of age, it began to enlarge, and a month before he saw me it was removed. It is stated that an examination was made which showed that it was a small, round-celled sarcoma.

Examination.—When I first saw him there was a beginning recurrence in the scar. I immediately amputated the entire toe, together with the head of the metatarsal bone. He made a perfectly smooth recovery and went home in a few days. This specimen was given to Professor Coplin and was examined by him and Dr. R. C. Rosenberger. They reported "that histologic examination shows the specimen to be covered on one surface with stratified squamous epithelial cells, the upper layers of which are distinctly cornified. A large number of what appear to be transverse and longitudinal sections of sweat glands are seen, together with a certain quantity of muscular and adipose tissue. In the subcutaneous connective tissue a small number of lymphoid cells are present. In other areas there is a beginning proliferation of the lower layers of the squamous epithelial cells, but these do not project into the connective tissue.

Diagnosis.—The only change demonstrable in the material at hand is evidently inflammatory in nature."

I saw him again on July 30, 1903, nearly three years after the amputation of the toe. He stated that about a year ago he first noticed a little lump in the scar of my operation of 1900, but that it did not give him any pain until within a few days. On examination, I found a small bluish tumor situated at a point corresponding to the amputated head of the metatarsal bone, which suggested at once a pigmented sarcoma. I, therefore, examined the saphenous glands and found distinct glandular enlargement there, and also, on examination of the abdomen, involvement of the iliac glands. He himself was not aware of the glandular enlargement. Had the glands not been involved, I should have advised an amputation of the leg, but in view of the glandular involvement, this would evidently be of no use. I therefore advised the extirpation of the local tumor in the foot and of the saphenous and iliac glands, although, as I explained to him, it was quite a forlorn hope. He immediately accepted my advice.

Operation.—Aug. 3, 1903. I first removed the tumor, with the remaining portion of the metatarsal bone. I was able, though with some mechanical difficulty, to make a very satisfactory operation, for the tumor seemed to be well encapsulated. Next, through a vertical incision over the saphenous glands, I dissected them out, but with much difficulty. They lay on both sides of the femoral vessels and were quite adherent to them. From the glands downward there were two or three small cords about as thick as thick catgut, presumably lymphatic vessels, which at certain spots showed black oval nodules, producing slight swelling in the cords. This I presumed to be melanotic sarcomatous material. All of these cords were removed as far as any visible disease extended. I then made an incision parallel with Poupart's ligament, and stripped up the peritoneum with ease. This disclosed a number of glands which lay in immediate contact with the external iliac artery, and especially the vein. One was found as high as the common iliac vessels, and another lay in the obturator foramen. The last one was quite as large as a chestnut, and was very difficult of removal. I finally succeeded in removing all of the glands, which were all dark mottled in color, evidently melanotic sarcoma.

Not long after his recovery from the operation a general sarcomatosis set in, and he died Sept. 25, 1903, with tumors throughout the entire body.

MICROSCOPIC EXAMINATION.

The specimens were examined by Professor Coplin and Dr. Rosenberger. They reported as follows: The tumor from the foot is 2 cm. in diameter; some areas are brownish-black while others are pinkish in color. It is apparently encapsulated by fibrous connective tissue. On histologic examination the tumor from the foot shows a number of nodules made up almost entirely of deeply pigmented cells. In some nodules there is a faint suggestion of an internal alveolar arrangement, while the nodules forming the larger mass are outlined by fusiform cells resembling fibroblasts; at other points cross sections of blood sinuses passing through closely packed masses of cells are recognized; the coats of the blood vessels are infiltrated and in some of them, where the coats are still intact, fragmented cells can be seen in the lumina. The cells are for the most part irregularly round, due no doubt to the influence of reciprocal pressure.

The glands from the groin are of a brownish-black color throughout excepting for a few bands of grayish-white connective tissue. From the saphenous gland there is a thread-like structure, partly black and partly reddish in color. Nearest the gland it is black and suggests an infiltrated lymph channel. Some of the glands still contain more or less unaltered lymphoid tissue. The trabeculæ are infiltrated by foreign cells clearly identical with those seen in the primary neoplasm of the foot. Many of the cells are loaded with pigment and for the most part were mononuclear, though some contain two and others three nuclei. Here and there are small blood vessels, the coats of which are infiltrated by cells identical with those comprising the original neoplasm. Small areas of coagulation necrosis are also distributed throughout the specimen.

Examination of the thread-like structure attached to the saphenous glands shows it to consist mostly of embryonic tissue containing, in some sections, numerous pigmented cells similar to those noticed in the tumor proper. A distinct lumen could not be made out, but in some sections the appearance observed was such as might result from occlusion of a lymph vessel and subsequent cellular infiltration of its wall. Where this appearance is most marked, resembling a section of the vessel, the opening corresponding to a lumen is surrounded or lined by pigmented cells.

Diagnosis.—Alveolar, mixed cell, melanotic sarcoma of the corium or subcutaneous tissue of the foot, with metastasis of the lymph glands.

CASE 6.—*Mole at the Level of the Umbilicus on the Left Side; Removed by Tying a Thread Around It; Enlarged Glands in the Armpit and at the Border of the Left Breast; Operation Declined.*

History.—Mrs. R. H., aged 47, first consulted me Sept. 18, 1893. Her best weight three years ago was 150 pounds, her present weight about 109 pounds. She was married at 18, has had twelve children and one miscarriage. She was born with a mole on the left side of the abdomen, on a level with the umbilicus. A year ago, as it had been enlarging and had reached the size of a walnut and began to bleed, she tied a thread around it. The mole fell off, leaving a scar about 1 cm. in diameter. The application of the thread caused pain in the left breast, armpit and shoulder-blade. A month after it was detached she noticed a lump in the left armpit, which had grown slowly of late and had become painful. Her appearance would indicate a woman of 60 rather than 47. In the left armpit, at the pectoral border, was a gland as large as a small egg, movable and slightly painful. At the outer border of the left breast also was a second small lump, about 5 mm. in diameter.

She declined operation, and I have lost sight of her.

CASE 7.—*Wart on the Back of Hand Becoming Malignant; Amputation at the Junction of the Middle and Lower Thirds of the Forearm; Malignant Growth in the Armpit; Death from Erysipelas Four Months After a Second Operation.*

History.—Mr. J. P. M., aged 62, Shamokin, Pa., was kindly referred to me Feb. 25, 1896, by Dr. D. S. Hollenbeck. The family history is unimportant. In 1892 a small wart appeared on the back of his right hand without any known cause. It gradually increased in size until it covered nearly the whole dorsum. In May, 1894, the arm was amputated at the junction of the lower and middle thirds of the forearm. In January, 1896, he noticed a tumor in the right armpit. This has continued to grow, but gives him no pain, although the tumor is nearly the size of a fist. Urine normal.

Operation.—Feb. 26, 1896. I cleaned out the entire axilla, not only the enlarged glands noted above, but all the rest. As the tumor lay between the anterior and posterior muscular boundaries of the axilla, I did not remove the muscles. He made an uneventful recovery. On March 15, 1896, he returned to the hospital with a recurrence in the armpit. This tumor was removed by Dr. W. Joseph Hearn, and was again followed by an uneventful recovery. On July 27, 1896, he died of erysipelas.

CASE 8.—*Pigmented Mole on the Back of the Wrist Since Childhood; Malignant Degeneration at 38 Years of Age, with Involvement of the Axillary Glands; Operation; Recurrence at the Wrist and in the Arm.*

History.—Robert X., aged 38, first consulted me Feb. 9, 1904. His father's father died instantly of supposed heart disease at about 70; his father's mother at 83 of paralysis; mother's father, cause of death and age are uncertain; mother's mother died at 60 from an accident. His father is living at 75, in excellent health, and his mother, at 66, in her usual health, though not very strong. His parents are first cousins. One sister died of consumption. As long as he remembers he has had a little mole just above the left wrist on the back of the forearm. It was not raised above the surface, and there were no hairs growing from it. In July, 1903, it began to grow and

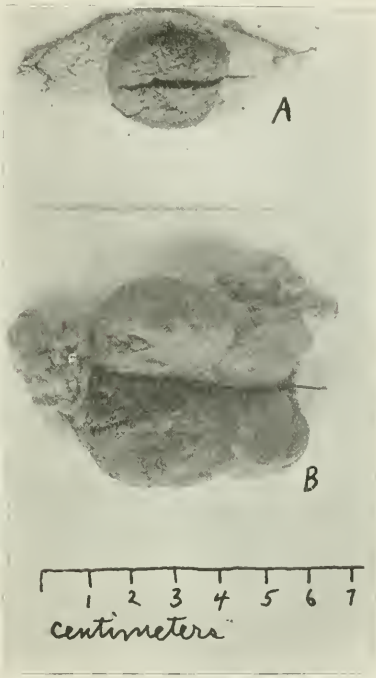

Fig. 1.—A Sarcomatous growth from a long-existing pigmented mole on the wrist. B—Infected and enlarged gland from the corresponding axilla.

has steadily increased in size until now it is a pedunculated ulcerated growth, about 3 cm. by 2 cm. It is very black. This may be partially due to some iodin which he recently applied to it. About the end of November or beginning of December he accidentally observed a lump in the left axilla. This is about the size of an English walnut. Between the tumor at the wrist and the axilla no evidence whatever of any disease exists. The supratrochlear gland could not be discovered. I am not quite sure whether in the supraclavicular space there are any enlarged glands or not. I advised instant removal both of the growth on the arm and also that in the axilla.

Operation.—February 12. I first excised the growth on the wrist (Fig. 1, A). I found, happily, that it did not go through the superficial fascia, but was limited to the skin. I then dissected out two large glands forming the palpable tumor in the

axilla (Fig. 1, B) and found a number of smaller glands which were more or less enlarged. I therefore removed the fatty tissue and all the glands in the axilla.

Section of the original tumor on the wrist showed that it was a melanotic sarcoma. Section of the two glands, however, showed no pigmented portion, excepting one spot in each. In one of these it was a rather long, black streak, in the other a small spot. One of the small glands, however, looked very much more suspiciously like a melanotic sarcoma. The full microscopic examination of the tumors by Drs. Ellis and Coplin is appended to demonstrate their sarcomatous character.

It was impossible, of course, to disinfect the growth on the wrist, which he facetiously called his "chocolate caramel," and this wound became infected. In addition to this, a second cause of infection was found in the very great tension of the stitches in the attempt to bring the margins together, which produced a little slough around each stitch. I removed three of the stitches on the second day and two more on the fourth day after operation, which allowed a certain amount of gaping, but prevented any sloughing of the flap other than immediately around the stitch openings. In a week all the stitches were removed and adhesive plaster only was used. Two stitch abscesses formed in the wound in the axilla, though there was scarcely any tension. The infection was entirely limited to the lower part of the wound, where these stitches were; otherwise healing by primary union occurred. He went home twelve days after the operation with the wound almost healed, and a few days later it was entirely cicatrized.

March 12, 1904. Under local anesthesia I removed to-day two small tumors, about the size of peas, which had appeared alongside of the median cephalic vein. The microscopic examination again is appended.

Fig. 2.—Diagrammatic view of tumor in profile showing relation to parts of skin. A—Tumor. B—Epiderm, the thickness of which is somewhat exaggerated for the purpose of making the diagram clear. C—Corium. D—Portion of tumor not removed at operation.

April 14, 1904. He returned to-day with another tumor, about the size of a small cherry, alongside of the median basilic vein. The scar at the wrist where I removed the primary growth is ulcerated and has a considerable area of apparent pigmented granulation tissue. There is no growth perceptible in the axilla. He declined further operation. Since that date he has passed from under my care.

When Professor Coplin and Dr. Ellis examined the mole from the back of the wrist, from which originated the whole trouble, they found that evidently a portion of the base of the tumor had been left behind. Figure 2 shows, in a diagrammatic way, the tumor (a), and the shaded portion (d) the portion which presumably was not removed at operation. I particularly wish to emphasize this, because, so far as I was able to observe by the naked eye at the time of operation every portion of the tumor had been removed. Evidently I did not go deep enough, and my only excuse is that the tissues showed no visible disease, either to my eye or to Drs. Ellis and Coplin. Such a case, however, is a very distinct warning to the operator that he must remove the growth as far beyond the visible evidences of disease as possible. Fortunately, in this case I do not believe that the error did any harm, inasmuch as there was already glandular involvement, and, as seen by the speedy development of melanotic sarcomata in the arm, general infection had already taken place.

MICROSCOPIC EXAMINATION OF THE SPECIMENS FROM THE FIRST OPERATION.

BY DRS. ELLIS AND COPLIN.

Specimen.—A tumor from wrist and two others from the axilla. The specimen, already fixed in 10 per cent. formalin, consists of three parts.

Part 1 is an elliptical piece of skin 4 cm. long by 2 cm. in maximum width. It bears on the external surface a new growth, nearly circular in outline, that is 2 cm. in diameter and has an elevation of 0.8 cm. This growth is attached to the skin by a pedicle 1 cm. in diameter and so short as to render the overlying mass almost sessile in type. The tumor is dark in color with the exception of certain areas on the margin, where the skin appears to extend for some little distance over its surface; at isolated points the color is entirely black. This is particularly trne of one margin which is the site of superficial erosion over an area 0.5 by 1 cm. in size. An incision which has divided the tumor into two nearly equal parts shows the cut surfaces to be alternately gray and brownish-black in color. The tumor appears to extend no deeper than the subcutaneous tissue which forms the inner surface of this part of the specimen.

Part 2 is made up of what appear to be two closely attached axillary lymph nodes and adherent fat, the nodes having been divided by a mesial longitudinal incision. They are 3.5 cm. long by 2 cm. thick. The cut surfaces are slightly lobulated and grayish in color. At one point near the middle of the incised surface is a depressed area 1 mm. wide and 4 mm. long that is black in color.

Part 3 is a very irregular mass of axillary fat and fascia containing numerous hard nodules varying from 0.2 to 0.8 cm. in diameter.

The smaller part of the tumor proper and portions of parts 2 and 3 were prepared for microscopic study. The remainder was fixed in Kaiserling's fluid. The former was properly prepared, embedded in paraffin and sectioned. Sections were stained with hematoxylin plus eosin or Van Gieson, toluidin blue, thionin, Mallory's reticulum stain, and Weigert's stain for elastic tissue.

Sections from part 1, cut in such manner as to include skin on either margin of the tumor, show the following: At either end is skin and subcutaneous tissue that presents no evident departure from the normal. These areas of subcutaneous tissue extend toward each other to form the margin of the section corresponding to the internal surface of the gross specimen, but do not quite meet. This leaves a small area formed by the new growth, through which the incision made in removing the tumor appears to have passed. Extending from this point through the section and rising to a considerable distance above the level of the skin surface the new growth makes up by far the greater part of the sections. It is composed largely of cells, but has a certain amount of supporting connective tissue that in some areas is quite prominent. The usual arrangement of the cells is that of variously sized masses separated by connective tissue fibrils, but in some areas this fibrous tissue is present in sufficient amount to form a conspicuous stroma. At a few points are quite large fibrous masses, slightly or not at all infiltrated by tumor cells, which have undergone partial myxomatous transformation. Sections stained by Mallory's reticulum stain deliver in many of the cell masses a delicate pericellular fibrous reticulum, the fibrils of which are continuous with those of the enclosing stroma.

The cells of the tumor are round or slightly oval in shape and contain single nuclei that react well to nuclear stains. The cellular protoplasm stains indifferently and the external borders are illy defined. The cells vary in size, but on the whole are fairly constant, the vast majority measuring 15 to 20 microns. Many of these cells contain numerous granules of brownish or almost black pigment; this substance is also present between the cells and even in the fibrous stroma. In some areas this pigmentation is a very conspicuous feature of the section. Though the pigment is plentiful in and around areas of old or more recent hemorrhage, it is just as conspicuous in localities where no hemorrhage is found.

Blood vessels are few in number; though situated in the fibrous stroma they are usually thin-walled. The large part of the external surface of the tumor is formed of necrotic tissue densely infiltrated with polynuclear leucocytes, areas of coagulation necrosis being numerous. This part of the section corresponds to the areas of erosion noted in the gross specimen. Near the center of this margin is a small patch of excessively flattended, faintly staining epithelial cells, presumably a remnant of the epidermis carried outward by the advancing tumor. At the junction of the tumor with the skin the latter is seen to extend for some distance over the surface of the growth, gradually becoming thinner until it entirely disappears; at no place is there evidence of proliferative changes in the epithelial layer of the skin thus situated.

Sections from Part 2 present much the same picture as those just described, the principal points of difference being a less distinct alveolar arrangement and a slightly more fusiform type of cell. Pigment-bearing cells are also absent. It is extremely difficult to show conclusively that these sections are from lymph nodes, owing to the fact that they are so largely occupied by the new growth. However, as one margin is a segment of a circle and is formed by a thick band of fibrous tissue containing numerous areas rich in lymphoid cells, it is probably safe to assume that this is the thickened capsule of a lymph node enclosing the new growth.

Sections from Part 3 are from lymph nodes that show hyperplastic changes but no clearly demonstrable new growth.

Diagnosis.—Melanotic alveolar sarcoma of skin with metastasis to axillary lymph nodes.

MICROSCOPIC EXAMINATION OF THE SPECIMEN FROM THE SECOND OPERATION.

BY DRS. ELLIS AND COPLIN.

Specimen.—Tumors from arm.

The specimen consists of two tiny, hard, rounded nodules to which are adhering small masses of adipose tissue. The larger is 0.6 cm. in length and 0.4 cm. in diameter. The smaller is globular in outline and 0.4 cm. in diameter. They are grayish in color. Both were fixed in Heidenhain's solution, dehydrated, cleared and embedded in paraffin. Sections properly stained exhibit the following characteristics:

They consist of oval or circular masses of tissue enclosed by a distinct fibrous capsule; attached to the external surface of the capsule are fragments of fibrous and adipose tissues. Thus far they correspond to the usual appearance of lymph nodes. Further examination shows, however, that the capsule does not enclose lymphadenoid tissue; the entire mass consists of a scanty fibrous stroma and masses of round or fusiform cells ranging from 15 to 20 microns in diameter. In some areas there is a tendency toward alveolar arrangement of the stroma and cells, but this is not a

conspicuous feature. A few of the cells contain granules of dark brown pigment.

Diagnosis and Remarks.—Melanotic alveolar sarcoma, the same diagnosis as that in a previous specimen from the same patient is given for the reason that the present sections are identical in structure with those from Part 2, the metastatic growth in that case.

CASE 9.—*Pigmented Mole on Right Temple Appearing at 42 Years of Age; Began to Grow Larger and to Become Much More Pigmented at 65 Years of Age; At 69 Years of Age a Carcinoma Developed in the Right Neck; Operation; Ligation of Carotid and Internal Jugular; Death in 48 Hours from Hemiplegia.*

History.—Mr. J. C., aged 70, was admitted to the Jefferson Hospital Feb. 29, 1904, at the request of Dr. West. His father died suddenly at 68 of an unknown cause; his mother at 49 of pneumonia. He had five brothers and sisters; all but one sister are dead of acute illnesses. He left Scotland in 1854, since which time he has seen none of his relatives and knows little about them. There is no family history of tuberculosis or malignant disease, but one brother had a large pigmented mole on the calf of his left leg, which, so far as he knows, never caused any trouble.

Fig. 3.—Large pigmented mole on right temple. Carcinoma of neck.

He had smallpox when a boy and cholera in 1849, but does not know whether he had any of the diseases of childhood. During the last fourteen years he has had six or seven attacks of gallstone colic, the last attack being ten months ago. In 1876, at the age of 42, he first noticed a brown mole on the right side of his head, nearly 2 cm. in diameter. It did not protrude above the surrounding skin. It very slowly increased in size and became somewhat elevated above the surrounding surface, so that in 1899, about 23 years after he first observed it, it had grown to about its present size (Fig. 3). At that time the growth was removed by the cautery. In two months after this operation the reddish scar began again to turn brown, and finally became black. The growth reappeared distinctly, and at the present time is raised fully 4 mm. above the surrounding skin and is about 3 cm. in diameter. Since the operation four years ago he has noticed two additional moles on the left side of his head (Fig. 4). These are scabby and brown in color, as was the original mole at first. About the end of November, 1903, he first noticed a small lump under the lower jaw on the right side of his neck. This has grown rapidly, so that at the present time there is a tumor on the right side of the neck as large as a moderate-sized fist, which is somewhat movable, but is evidently firmly attached to the deep structures in the neck. The mole never gave him any pain. The tumor has given him but little pain, except when it is handled, saving that during the week before his entrance he noticed at night a rather severe pain. This has never occurred in the day time.

Examination.—His general physical condition is good for a man of his age. In the right temple is a large, hairy pigmented mole of the above diameter, and on the left side the two already alluded to. Over his limbs and body there are a number of small wart-like brown moles. On the right side of the neck is a hard irregular mass, to which the skin is firmly attached, except at the borders. The inner border begins at about the middle line; the outer border reaches almost to the middle line of the neck posteriorly. The horizontal diameter is about 12 cm. and the vertical diameter 6.5 cm. Urine turbid, straw color, 1.016 acid, sugar 2½ grs. to the ounce, urea 0.6 per cent.; amorpheus urates and phosphates, squamous and columnar epithelial cells, a few leucocytes.

Operation.—March 2. I first removed the pigmented mole on the right temple and the small brown mole on the left temple. This did not involve anything more than the skin, and their removal was very simple. I then attacked the carcinoma of the neck by making an elliptical incision, beginning a little to the left of the middle line and extending nearly to the middle line posteriorly. After a long and tedious dissection, I finally removed the entire tumor. In doing so, I was obliged to tie the common carotid both above and below the tumor, and the jugular vein in two places likewise, but I was able to dissect out the pneumogastric and the sympathetic nerves, both of which lay posterior to the tumor, but in much less intimate connection with it than were the blood vessels. The phrenic nerve and also the cervical nerves were exposed by the dissection, but not injured. I was not able to bring together the margins of the wound, though I had made large skin flaps over the upper chest and held the head in right lateral flexion by means of a bandage around the forehead and a strip of bandage extending from this circular bandage down to a band around the chest.

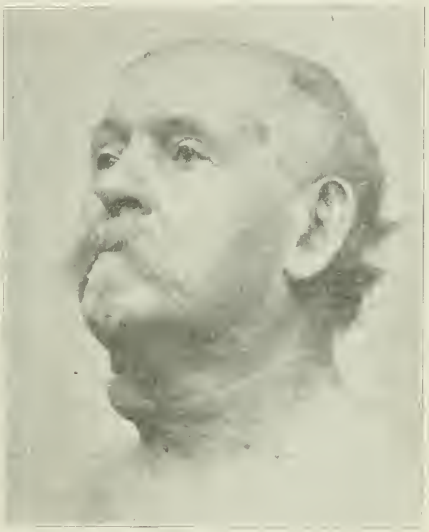

Fig. 4.—Small pigmented moles on left temple. Carcinoma on right side of neck.

Result.—The oozing from the wound was slight, but by the day after the operation he was distinctly paralyzed on the left side, due, undoubtedly, to the cutting off of the blood supply

to his brain. His breathing became stertorous, the right pupil widely dilated, the left contracted, and he died at 1:30 p. m. the next day, about forty-eight hours after the operation. Meantime, his temperature remained normal for the first twenty-four hours; after that it steadily rose till it reached 104.8; his pulse also increased from normal to 120, and his respiration to 32.

PATHOLOGIC REPORT.

BY DRS. COPLIN AND ELLIS.

Sections from the Tumor from the Neck.—These are composed largely of a new growth made up of cell masses and a fibrous stroma. The cells are rounded, polyhedral or fusiform in outline and are so placed as to form the enveloping wall of irregular spaces that are empty or contain a few degenerating cells. These walls are very thick, including dozens or scores of layers of cells that have evidently been derived from the proliferation of the cells originally forming the boundary of the spaces, which are undoubtedly dilated lymph sinuses. The fibrous stroma of the tumor varies in amount and texture. Usually it is quite abundant and in some areas is dense in type; for the most part it is loose and cellular and at certain points shows a tendency toward myxomatous transformation.

Sections that include the artery and vein show the former to be attached to the tumor-bearing mass by fibrous adhesions; its wall is not penetrated by the new growth. The artery is the seat of pronounced atheroma, this lesion involving much more prominently one-half of the circumference of the vessel. The vein wall has been partially destroyed by the tumor which projects into and nearly obliterates the lumen.

Sections from the glandular mass of tissue are from a salivary gland that contains no demonstrable new growth. Perivascular accumulations of small round cells are present and a moderate degree of intralobular fatty infiltration is also a feature.

Sections from the large mole from the right side of the head show that the elevated area is made up mainly of an enormously thickened epidermis, though the papillæ of the corium are also prolonged upward as loose, cellular extensions. At many points the epithelial cells have undergone disintegrative changes with the resulting formation of variously sized cavities. Many of the cells, particularly those in the near vicinity of papillæ, contain a large quantity of dark brown pigment. This material is also present, mainly intercellular in location, in the extremities of the papillæ. There is no evidence whatever of any abnormal extension of epithelium into the underlying tissue or of the presence of malignant growth.

Sections from the small mole from the left side of the head present an appearance very like that of the larger one. The overgrowth of the papillæ is more pronounced and cysts in the epithelium are larger and more numerous.

Diagnosis.—Lymphangio-endothelioma of the neck; pigmented cystic papillomas of the head. We are not inclined to believe that there is any connection between the growths removed from the skin and the tumor from the neck.

I have included this case with the others chiefly because possibly it may be an exception to the rule which seems to exist, that as soon as a mole begins to enlarge it is already malignant. The pigmented mole of the right temple, which made its appearance when he was 42 years of age and began to grow and deepen in color when he was 65, would, probably, have caused a carcinoma or a sarcoma at a later period. The microscopic examination of this mole, however, shows no carcinomatous change. Yet, on the other hand, the patient at 69 years of age, four years after the mole began to grow, did develop apparently a glandular tumor under the lower jaw on the same side of the neck. Whether there was any nexus between these two growths is, of course, an open question. It is at least both curious and significant that after the growth of the mole the carcinoma developed on the same side of the neck. Whether, if this mole had been thoroughly extirpated before it began to enlarge, the carcinoma in the neck would not have appeared, of course one can not definitely determine. One thing, however, is certain, that if the mole had been removed before its growth began, it could not by any possibility have been responsible for the carcinoma in the neck. No other apparent cause for the up-springing of the carcinoma in the neck was discoverable.

CASE 10.—*A Presternal Wart Appearing at 20 Years of Age, Becoming Malignant 36 Years Later; Removal; No Recurrence After 7 Years.*

History.—John Y. E., aged 56, Royersford, Pa., first consulted me April 3, 1897, at the instance of Dr. Brower. When he was 20 years of age he first noticed a small wart in front of the sternum. This underwent no change until a few months ago. It then began to grow, at first slowly, but within the last few weeks quite rapidly. He has suffered no pain until recently. On examination I found a tumor 3x5 cm. in diameter just to the left of the middle line over the sternum, between the level of the second and third ribs. It was a very dark blue or purple color and was ulcerated over a large part of its surface. It was not attached to the sternum and there was no dissemination through the neighboring skin. No enlarged glands were perceptible. I removed it the same day without removing anything but the tumor and the tissues underneath it down to the sternum. He made an uneventful recovery and went home in a few days.

Dr. Kyle, who made the microscopic examination, reported as follows:

MICROSCOPIC EXAMINATION.

On section it was dark and granular in appearance, somewhat resembling an engorged spleen. From the cut surface a dark, thick fluid could be pressed out. Perpendicular sections directly through the center of the tumor showed embryonic connective tissue cells closely packed together, uniformly distributed, and held together by a homogeneous albuminous substance. The blood vessels were open channels without distinct walls. The cells varied in size and shape, some being round, others spindle-shaped, with here and there areas of pigmentation. Near the borders there was normal connective tissue.

Diagnosis.—Mixed cell sarcoma.

A letter from the patient dated March 15, 1904, reports him in excellent health, without any evidence of recurrence.

CASE 11.—*Callosity at the Ankle, Caused by a Shoe, Becoming Carcinomatous; Excision; No Recurrence After Seven and a Half Years.*

History.—Mrs. B. R. S., aged 23, of Shenandoah, Pa., was first seen Nov. 19, 1896, at the request of Dr. J. B. Davis. Her family history is excellent. She was married a year ago, but has not been pregnant. About a year and a half ago she first noticed a small lump on the front of the ankle, where the shoe produced some pressure, which had caused a callosity of the skin. This began to grow, until at the present time it is as large as a large chestnut. It is sessile. Apparently it has no connection with the parts underneath the skin; it is quite dense to the touch, but is not painful. No glands are perceptible in the groin or in the saphenous region. Urine normal.

Operation.—Nov. 20, 1896. I excised the growth, which I found did not involve any of the tissues below the superficial fascia. The subcutaneous tissues were removed along with the skin down to the tendons, but without opening their sheaths. She made an uneventful recovery and went home in a few days.

The tumor was examined by Dr. D. Braden Kyle, who reported as follows:

MICROSCOPIC EXAMINATION.

Sections perpendicular to the surface of the skin showed an infiltration of epithelial cells downward into the tissue beneath, with distinct nestings of cells loosely adherent to the fibrous stroma. The fibrous stroma contained blood vessels with thickened walls and irregular lumen.

Diagnosis.—Carcinoma.

I was rather surprised at the microscopic diagnosis, for clinically it had none of the external appearances of such a growth. On section it showed a mottled dark brownish yellow.

Her physician, Dr. J. Pearce Roberts, reported, on Dec. 5, 1896, that there was a small nodule the size of a split pea situated at the base of the first metatarsal, which was quite painful to touch. On March 5, 1904, he reports that the little nodule on the dorsum of the foot still remains without any change.

While this case is not strictly one of either wart or mole, yet the character of the growth, as shown by microscopic examination and the absence of recurrence for so long, in spite of the appearance of the little nodule at the base of the first metatarsal, which is entirely independent of the growth which I removed, seems to me to make it worth while to add it to the present list of cases.

CASE 12.—*Congenital Mole of Umbilicus; Sarcomatous Degeneration After 45 Years; Immediate Excision; Recurrence in the Wall of the Abdomen; General Sarcomatosis.*

History.—Mrs. Dr. X., aged about 45, was first seen, with her husband, Dec. 12, 1902. As long as she can remember she has had a little mole just within the depression of the navel. In June, 1902, in consequence of its showing a tendency to grow, it was cauterized with nitrate of silver, and later a doctor attempted to remove it by electrolysis, transfixing it with needles. After rather prolonged treatment with the needles the mass dropped out, but soon recurred. When I saw her it was about the size of a pea, was ulcerated and discharging a small amount of pus. In addition to this, she had a fatty tumor the size of two fists in the left axilla.

Operation.—On Dec. 18, 1902, I removed the fatty tumor and excised widely the entire umbilicus and the surrounding tissues with the wart down to the peritoneum, without opening the abdominal cavity. She recovered in a few days. The umbilical tumor was given to Professor Coplin in the laboratory of the Jefferson. He reported that the little wart "was composed largely of nests of cells enclosed in a scanty fibrous stroma. The cells are chiefly of the small, round variety, though in a few areas they are somewhat spindle-shaped. Infiltration of these cells extends nearly half the length of the section, immediately beneath the skin margin. No distinct vessels are noted in the cell areas described. In other portions of the sections the vessels are practically normal. A small amount of pigment is present. Diagnosis: Alveola sarcoma, showing slight melanosis."

After the operation I saw her repeatedly and there has never been the slightest tendency to recurrence at the navel; but about the end of April, 1904, she noticed a small lump under the skin 5 cm. above and 3 cm. to the left of the former situation of the navel. From the age of 18 she has had some pelvic trouble, for which she has had various kinds of treatment, including a prolonged treatment by Apostoli in Paris. During the first week in May, 1904, her pelvic trouble seemed to be aggravated, and she had much pain in the right iliac fossa, together with some slight fever. For this Dr. James C. Wilson, the famliy physician, was called in. Her temperature rose to about 101, and examination of the blood at intervals of a few days showed a slowly increasing leucocytosis, beginning at 15,000, and on May 23 reached 19,000. There were no symptoms of appendicitis.

I was called in consultation on May 25, and concurred in Dr. Wilson's opinion that there was no evidence of an appendicitis or other suppurative process which we could discover. Examination of the uterus showed it to be enlarged to the level of the umbilicus and very adherent on the right side, and the seat of a number of myomata. She had marked and increasing pain on the outside of the right leg, especially above the external malleolus. No local reason for this could be discovered, and we were inclined to think that it was the result of pressure from the pelvic conditions. Meantime, however, bearing in mind the sarcomatous nature of the former umbilical tumor, we feared greatly a sarcomatous change either in the uterus or possibly in the iliac glands. Beside this, she manifested a distinctly cachectic appearance, which was very painfully evident to me when I saw her on May 25, after an interval of some weeks.

After a conference with her husband and Dr. J. M. Fisher it was decided that an abdominal section should be done, followed by such operation, including, if necessary, total hysterectomy, as the pelvic conditions indicated, and also that the tumor of the abdominal wall should be removed.

Second Operation.—On May 30, 1904, I did a hysterectomy. The uterus had a large number of myomata, with very dense adhesions on the right side. Other than the mechanical difficulty of the hysterectomy, there was nothing worthy of note. The tumor above and to the left of the umbilicus was removed. It was limited to the fatty tissue, which was rather abundant, and was about the size of a cherry. It had no adhesions either to the skin or the muscles. On section, the tumor was clearly a sarcoma.

In view of the fact that no lymphatic gland exists at the point where this tumor arose, and, therefore, that it was not a direct lymphatic infection from the umbilical tumor, it naturally gives rise to great apprehension lest it prove to be the beginning of a general sarcomatosis.[1]

Dr. Charles A. Powers of Denver has kindly furnished me with the following cases to reinforce the lesson of this paper:

CASE 13.—*Mole Over the First Lumbar Vertebra from Earliest Recollection; at 35 Years of Age It Began to Grow; Very Wide Extirpation; Axillary Recurrence After Two Years and a Half; Second Operation; Death Three Months Later from General Sarcomatosis.*

Eight or nine years ago Dr. S. G. Bonney brought to me a man of 35 years, who had a growing lump about the size of a filbert in the mid-line of the back over the first lumbar vertebra. He said that since his earliest recollection there had been a mole at this place; that about two months before a little fluid had gathered in it. He had shown it to a physician in a small New England town, who had simply opened it. When I saw the man the little lump presented the appearance of sarcoma. I removed it in rather wide limits under ether, and a frozen section was made on the spot by Dr. H. C. Crouch, then professor of pathology in the University of Colorado. Dr. Crouch pronounced it melanosarcoma, whereon I removed tissue over an area 6 inches long by 4 inches wide down to the vertebræ. I saw the man frequently for two years, during which time nothing happened. He then disappeared for six months, when Dr. Bonney again brought him to me with an axillary mass the size of a small orange. This was removed as widely as possible and found to be melanosarcoma. Three months later the man died of general sarcomatosis. There was no recurrence in or about the original scar.

CASE 14.—*A Mole Over the Last Dorsal Vertebra; Sarcomatous Development; Removal; Recurrence; Second Operation 18 Months Later; Death Soon After.*

About two years ago I saw, in consultation with Dr. J. M. Walker and the late Dr. Clayton Parkhill of Denver, a middle-aged woman who had enormous, rapidly-growing tumors of both axillæ. In examining her, I noticed a small scar over the last dorsal vertebra and was told that a mole had been removed under cocain 18 months before, and that the physician had put it in a bottle of alcohol and given it to her husband. It was found and examined by Dr. J. A. Wilder, professor of pathology in the University of Denver, who reported it to be alveolar sarcoma. Parkhill had removed a sarcomatous mass. The woman died six weeks after I saw her.

CASE 15.—*Mole Over Second Lumbar Vertebra; Sarcomatous Degeneration in Middle Life; Removal; Recurrence in Situ in Three Months; Second Wide Removal; No Recurrence for Three Years.*

About three years ago Col. Henry Lippincott of the United States Army, then chief surgeon of the Department of the Colorado, brought to me a lady in middle life, the wife of an officer, who gave the following history: Three months before the physician at an army post in Arizona had removed a small "growing mole" from over the second lumbar vertebra. He had sent this to Dr. L. J. Conner of the pathological department of the New York Hospital, who had pronounced it myxo-fibro-sarcoma. When I saw the patient there was a return in the scar. The widest excision was made and the tissue sent to Dr. Conner, who pronounced it a "sarcoma." I heard recently from this lady. There is as yet no sign of relapse.

I have seen a number of cases in which epithelioma has followed long-existing warts. I can not give the exact number, but I definitely remember these:

CASE 16.—*Epithelioma of Nose from Wart.*

A year and a half ago I removed (at St. Luke's Hospital) a large epithelioma of the nose which developed from a wart.

CASE 17.—*Epithelioma of the Vulva Developing from Long-Existing Papilloma; No Recurrence After Four Years.*

Some four years ago I removed a fair-sized epithelioma (Dr. J. A. Wilder) of the vulva which developed from a long-existing papilloma. The inguinal glands of both sides were hyperplastic, but not cancerous. The woman was a patient of Dr. E. P. Anderson of Colorado Springs, and remains well.

CASE 18.—*Wart on the Scalp Developing into Epithelioma; Removal.*

While at the New York Cancer Hospital, twelve years ago or more, I removed a very large epithelioma of the scalp following a wart which "often bled when the hair was combed."

CASE 19.—*Wart at the Elbow Developing at the Age of 75 into Epithelioma: Death from Cancer of the Liver Two or Three Years Later.*

Twelve or fourteen years ago I removed, under cocain, a very small epithelioma developing from a wart just above the elbow in an old gentleman of 75 years, the father of my friend, Dr. A. There was no return in the scar, but I think he died of cancer of the liver two or three years later.

Dr. E. Wyllys Andrews also has kindly furnished me with the following cases:

CASE 20.—*Mole on the Cheek from Childhood; Malignant Degeneration at 70 Years of Age; Involvment of Submaxillary Glands.*

A man, aged 72, with hypertrophy of the prostate, sought Dr. Andrews' advice for the proatatic hypertrophy. He had lost weight in the previous few months. A mole on the left cheek, which had existed from childhood, became ulcerated and inflamed two years before Dr. Andrews saw him. A month later the submaxillary lymphatic glands on the same side began to enlarge. At the time when he consulted Dr. Andrews this tumor was about the size of an egg. On the left cheek where the mole had been there was a ragged ulcer 2 cm. in diameter, covered with a bloody crust; the base of the sere was hard and indurated, and the tumor in the neck was firmly attached to the deep structures, evidently a carcinoma. Suprapubic cystotomy by spinal anesthesia was performed in March, 1903, but the patient declined operation on the carcinoma and left the hospital at the end of March much improved in health. In December, 1903, his health was still much improved. The condition of the epithelioma has not changed.

CASE 21.—*Wart on Temple for Over 30 Years; Eight Months After It Began to Enlarge; Section Showed a Carcinomatous Growth; Cure by X-Rays.*

Mrs. McD., aged 67, had for over 30 years, and possibly much longer, a small warty tumor, the size of a small pea, near the outer angle of the right eye above the zygoma. In December, 1901, it began to enlarge. When seen first by Dr. Andrews, in August, 1902, it was 1.5 cm. in diameter, saucer shaped, slightly excavated, with an indurated base. A small section showed a typical epithelioma. The diagnosis made was rodent ulcer. The ulcer was entirely cured by 20 or 25 exposures to the *x*-rays for from five to fifteen minutes at a distance of 10 to 30 cm.

CASE 22.—*Pigmented Mole for Many Years in Front of Ear; Carcinomatous Change Coincident with Growth.*

1. June 25. She has suffered vague pains in the right leg and foot, right arm, shoulder and back. Within a few days there have developed three nodules on the right back, two on the right shoulder and one in the right great toe—all evidently sarcomata, and the earliest indications of a general sarcomatosis, which will soon terminate her life.

Man, aged 52, had a brownish mole 5 by 15 mm. in front of the left ear which had been noticed for many years. In the summer of 1903 it enlarged to a size of 2 cm., with an elevation of above 1 cm., with an indurated base and a sanious discharge. The whole growth and the skin from which it grew was removed. Microscopically, the tumor proved to be an epithelioma.

CASE 23.—*Mole on Back of Neck; Irritation by Collar; Development of Carcinoma.*

Man, aged 45, had a mole on the back of his neck, which was irritated by his collar and developed an epithelial cancer, as was verified by a microscopic diagnosis.

Dr. J. Chalmers DaCosta has given me the following brief history of a case of melanotic sarcoma:

CASE 24.—*Pigmented Mole on the Back of the Hand; After a Number of Years Malignant Degeneration and Axillary Involvement; Removal of the Mole and Cleaning Out of the Axilla; Recurrence in a Few Weeks, Followed by General Sarcomatosis; Death in Three Months.*

The patient was a man nearly 50 years of age. For a number of years he had had on the back of his hand a pigmented mole. Some time before I saw him this began to enlarge. When I saw him the glands in the corresponding axilla also were enlarged. The mole was removed and the axilla cleaned out. The glands removed were filled with pigment. A few weeks after the operation the glandular growth recurred, and associated with its recurrence was the development of sarcomatous nodules containing pigment all over the body, and also of flattened pigmented areas. The man died within three months of the operation with general sarcomatosis.

Dr. F. X. Dercum has kindly given me the notes of the following case:

CASE 25.—*Mid-Scapular Mole Undergoing Malignant Degeneration; Death from Sarcoma of the Brain.*

W. B. S., a man, aged 57, for many years had a mole between the scapulæ. He was admitted to the Jefferson Hospital Nov. 25, 1903, with symptoms of a brain tumor. Some time before his admission this mole had begun to grow and was removed by his fam

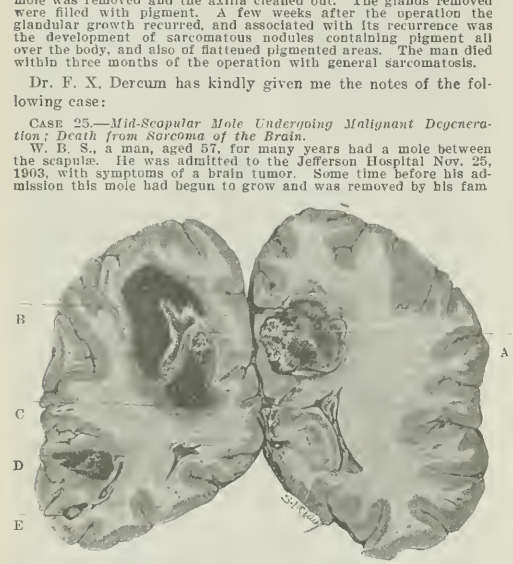

Fig. 5.—Cerebrum, coronal section, anterior aspect; superior parietal lobule and posterior part of temporal lobe. Three-fifths natural size. Jefferson Medical College Hospital laboratories. No. 2538. Melanotic sarcoma of brain, secondary to primary growth in skin of back. A—Secondary nodule showing considerable hemorrhage in the interior of the new growth and a scanty irregularly distributed but narrow band of peripheral hemorrhage. B— Similar mass in opposite hemisphere. The hemorrhage in this area is around the growth which is considerably compressed. C—Blood-stained zone surrounding mass; it will be observed that the peripheral blood-tinging of the white matter is more marked on this side than the other, due to the more abundant hemorrhage and its peripheral distribution. D and E are also areas of hemorrhage containing varying quantities of neoplastic tissue; the latter, which in the absence of extravasated blood, is grayish-brown or nearly black, is further obscured by hemoglobin inhibition.

ily physician. In July, 1903, while driving, he was suddenly seized with an epileptic attack. This was followed by a number of others, and he died Nov. 30, 1903, five days after his admission to the hospital.

The postmortem was made by Dr. W. M. L. Coplin, and Fig. 5 shows the sarcoma of the brain.

DISCUSSION.

DR. WILLIAM L. RODMAN, Philadelphia—My experience is very much like that of Dr. Keen, as I have seen more warts undergo epitheliomatous transformation than I have pigmented moles undergo sarcomatous change. I distinctly remember three well-marked instances of warts undergoing epitheliomatous change late in life. The first case was that of an elderly physician, who had a wart situated on the temple, about the size of a hazelnut, which had been there for many years. He believed it was due to the continual pressure of his hatband. It had ulcerated. I made the diagnosis of epithelioma, removed the wart, cauterized the base and the patient made a good recovery. There has been no recurrence. The second case occurred in a man 60 years of age, who had a wart on the dorsum of the left hand for many years, and when I saw him in 1898 it was about the size of a small walnut. I excised it, feeling sure that it had undergone epitheliomatous change. Parts of the growth were examined microscopically and the clinical diagnosis confirmed. The case is perfectly well at the present time. The third case was a most unfortunate one. The patient, a man, had an ulcer on the back of the hand which began as a wart and had been there for many years. On examination I found well-marked enlargement of the glands in the axilla, and when I cut into the axilla I found a mass almost as large as my fist, to which the axillary vein was adherent. I excised four or five inches of the vein along with the mass. He made a good operative recovery, but died about a year afterward from metastases. I have memory of a case occurring about ten years ago in the practice of Dr. Vance of Louisville and which was reported by him to the Louisville Surgical Society. The patient was a very prominent woman, age about 55, who had a pigmented mole on the inner aspect of the knee, which had undergone sarcomatous change. Dr. Vance operated; recurrence took place in the groin and pelvis, and death soon followed. It was undoubtedly melanotic sarcoma.

DR. GUSTAV FÜTTERER, Chicago—Dr. Keen has shown that mechanical factors will produce certain changes in warts and moles which will make them malignant, and I have specimens here by which I can demonstrate the sudden occurrence of such changes in epithelial cells of the stomach. These metaplasias I have produced in the stomach of rabbits by experiment. Columnar cells of the glands of the stomach have been completely transformed and perfect pegs of squamous epithelial cells have been formed which have grown down into the deeper tissues. They push everything aside and invade even the muscularis. In a late case that I have observed they even penetrated the wall of the stomach itself and had grown toward the liver. The literature of metaplasia shows a close relation between this and carcinoma. Such metaplasia with malignancy following has occurred in different organs and, as a rule, it does not exist very long before it becomes malignant. Mechanical factors play an important part in this change, but while there are other factors at work, we may in a general way say that the mechanical factors are the principal cause. In animals which have no teeth we find physiologic metaplasia in the stomach, because it is here where the hard food is broken up.

DR. ROBERT F. WEIR, New York—I think we should adopt the rule as to moles which is accepted in connection with tumors, both benign and malignant, which is that they should be removed early. Every mole and wart had better be destroyed at once, but while this is an easy thing to say to patients, it is not so easy to get their permission. They dread the knife, but if you can tell them that there will be only a small scar, and that effected without cutting, you may get their consent. I only wish to mention the fact that for many years and in many cases I have used the glacial monochloracetic acid with good results. I apply it until the mole becomes whitish and this is followed by a slight reaction. In a week the dry scab comes off and in a short time the wound heals. Occasionally one or two repetitions may be required. This is a very thorough way of removing moles and warts, as the scar is small in size, pliable and of a nearly normal color.

DR. ERNEST LAPLACE, Philadelphia—These cases always occur in tissues of diminished resistance. A great many people have warts and moles who never have cancers, but those who are for other causes prone to the development of cancer are very likely to develop cancer in warts and moles and other tissues of diminished resistance. Old age is also a prominent predisposing factor, and while the warning of Dr. Keen should be heeded and all warts and moles should be removed before any malignant tendency has manifested itself, in order to make assurance doubly sure, yet this will often be found to be impossible. As to the production of carcinoma and sarcoma, I

believe various points of pathology have a bearing on this. Warts proper are of a true epitheliomatous type, for they consist of a hypertrophy of the papillary layer of the skin. These become true epitheliomata; there are, however, moles with enlarged and proliferating blood vessels which later become sarcomata. Hence, it is safest to remove all such excrescences when it becomes apparent that they are growing.

DR. A. D. BEVAN, Chicago—A possibility that has impressed itself on me from an experience with a limited number of these cases is the danger of rapid general involvement apparently from infection of the wound in the operation itself. I have removed melanotic sarcoma and the operation has been followed almost immediately by general involvement. Before I remove another of these growths I shall make it absolutely dry with the Pacquelin cautery. Every pigmented mole is histologically a malignant growth, and it takes but a little stimulation to change a clinical benign into a clinical malignant growth. Recently my assistants and myself were discussing this matter, all having decided to have moles removed from our backs. We found that each had a great many to be removed and consequently we changed our minds. Doubtless one-half of this audience have moles and those who have a great many could not think of removing them all. At the earliest possible indication of any irritation a mole should be destroyed with the Pacquelin cautery and then widely extirpated with the knife.

DR. W. W. KEEN—A mole is a match which sets fire to a great conflagration. Dr. Bevan's point is a good one. One can not make any absolute rule, as there are so many exceptions. I remember the case of a man who had from 50 to 100 moles, but one would not think of advising extirpation of all of them, if, indeed, any in such a case. I do not recall any instance of malignant degeneration in a case having so many moles.

PATHOLOGIC IRREGULARITIES.*

M. H. FLETCHER, D.D.S., M.D.
CINCINNATI.

ENUNCIATION.

The terms orthodontia and irregularities of the teeth conventionally carry with them the idea of irregular teeth in children and youth, connected with their treatment for correction. The causes are usually hereditary, but may be acquired. One could quote from writers from Etruscan days down to the present time and give the opinion of more than fifty authors, but their definitions of the etiology would most likely each differ somewhat from the other.

There have been handed down to us such explanations as "She inherited large teeth from one parent and small jaws from the other," or "His baby teeth were not extracted soon enough," or "Were taken out too soon." "Lack of absorption of the roots of the temporary teeth, while the growth of the permanent set is rapid," etc. One author thinks "the development of the hind end of the jaw does not keep pace with the absorption of the front end."

Then there are a lot of platitudes, such as "The teeth are too large for the jaw," "Too many teeth for size of the jaws," "Projecting jaws," "Sleeping with the mouth open," "Enlarged tonsils," "Want of room in the jaws," etc., etc.

In summarizing the above opinions it would seem that symptoms, or results, have been given in place of the real cause. Nevertheless, this is only another opinion.

ETIOLOGY.

Guilford divides the causes into hereditary and acquired, and Colyer into general and local.

"Talbot has shown that irregularities of the teeth were often due to two factors. Those of constitutional origin, which develop with the osseous system, and those of local origin." "The deformity always commences at the sixth year and is completed at the twelfth." "Forward movement of the posterior teeth produce the same result as arrest of development of the maxillæ. It was also shown that the vault is not contracted by mouth breathing. That contracted dental arches are as common among low as in high vaults and that they simply appear high because of the contraction. That mouth breathing due to hypertrophy of the nasal bones and mucous membrane, deformities of the nasal bones, adenoids or any pathologic condition producing stenosis does not cause contracted jaws, but all these conditions are due to neuroses of development."

EFFECTS.

The ill effects of these deformities must be apparent to such an audience as this with a mere suggestion. The degree and extent of the ill effects have not only to do with the unsightliness of the patient, but Talbot has done much to prove the connection of extreme cases with idiocy and crime.

Aside from uncomeliness, irregularities undoubtedly interfere with the proper care of the teeth and gums, and in this manner are a large factor in fostering diseases of the alveolar process, including the surrounding tissues; many times involving other parts of the jaws, the nose, eyes and ears, often inducing chronic disorders of digestion and fostering the causes of zymotic diseases. Neuroses of many varieties may have their origin in diseased alveolar process and teeth.

TREATMENT.

As to treatment, our best men differ in their procedures. Cleft palate and hare lip are of course dealt with from a surgical standpoint. Prognathic cases, showing atavistic tendencies, with diastema behind the canines, are sometimes treated surgically by removal of bone from these spaces, but such treatment is rare. In the treatment of lesser deformities mechanics are almost entirely relied on. Some operators resort to the removal of one or more teeth in order to accomplish the desired end. On the other hand, Dr. Angle says: "The best balance, the best harmony, the best proportions of the mouth in its relation to the other features, require in all cases that there shall be the full complement of teeth, and that each tooth shall be made to occupy its normal position. And if we accomplish this we shall have satisfied the demands of art, so far as they are concerned in the relation of the mouth to the rest of the face."

To restore the features to harmony and the teeth to perfect position and usefulness requires mechanical skill of the highest order, coupled with an esthetic sense and artistic eye.

PATHOLOGIC IRREGULARITIES.

Definition.—In contradistinction to the above, there is a class of irregularities not treated of in works on orthodontia, nor have they been considered under the head of dental orthopedies. In fact these cases seem in a way to be "the stones which the builders disallowed."

They are in many particulars the exact opposite of the others. 1. They do not appear until the age of mature years. 2. They are purely acquired. 3. They are entirely pathologic, in the sense that they are the result of disease, localized in the alveolar process. 4. They are only amenable to mechanical treatment by first removing the causes of the disease producing them.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. E. A. Bogue, Alice M. Steeves and M. L. Rhein.

Name.—In order to distinguish these from the previously described, the writer has called them pathologic irregularities.

Etiology.—To describe all the causes of pathologic irregularities would be to give a treatise on interstitial gingivitis, known also as pyorrhea alveolaris and Rigg's disease.

To make the matter plain from my standpoint it will, however, be necessary to briefly describe the anatomy, the pathology and the causes, with treatment other than mechanical.

Anatomy.—An intimate knowledge of the anatomy is of course necessary in order to comprehend the pathology, or to apply treatment intelligently. It is presumed this is understood.

Now, when we consider that a hard, unyielding substance like a tooth is not only supported and held in place by, but entirely dependent on, the thin, bony walls of the alveolar process, it is a marvel to realize what hard usage it withstands, and what enormous pressure and lateral strain it is continuously subjected to without displacement or injury. Let this bone become diseased, however, and ere long the teeth become tender and unusable, and vast numbers are finally lost without the least defect in the tooth itself.

In the last decade these diseases and their treatment have engaged the attention of the profession to a marked degree, much to its credit.

Terminology.—To Talbot is due the credit of having classified the various phases of this disease and described its different stages. He has given the name "interstitial gingivitis" to inflammation of the gums, alveolar process and peridental membrane. The term Riggs' disease and pyorrhea alveolaris were formerly applied to any or all the stages and conditions.

The term Riggs' disease is indefinite and is to-day obsolete. Pyorrhea alveolaris now indicates a flow of pus from the sockets about the roots of the tooth and is a terminal stage of inflammatory action. It is the result of previous inflammation known as interstitial gingivitis. Inflammatory action may continue, however, and exfoliation of the teeth result without pus infection. One termination of the inflammatory action is the tendency of the teeth to be expelled from their sockets, with the result that they become elongated, tilted to one side or pushed in or out of the normal arch.

To give a plan of arresting this process before it has gone too far and to replace the teeth into their normal position is the object of this paper.

Causes.—In order to arrest or eradicate a disease its causes must first be found and removed. Talbot says: "The local causes which produce interstitial gingivitis are an accumulation of tartar about the necks of the teeth, decayed teeth producing hypertrophy of the gums, unfinished fillings, gold crowns and bridge work, artificial dentures, rapid wedging of the teeth, collections of food and everything that will produce irritation of the gum margin, setting up a chronic inflammation or gingivitis. This in turn extends to the deeper tissues (the peridental membrane and alveolar process), where it becomes interstitial in character. The constitutional causes which act locally, producing interstitial gingivitis, are the toxic effects of mercury, lead, brass, uric and other acids, potassium iodid and other agencies acting in a similar manner, such as scurvy," etc.

He further says: "Autointoxication (meaning self-poisoning due to a faulty metabolism), is the great cause of interstitial gingivitis resulting in pyorrhea alveolaris."

In contradistinction to investigators who hold that the disease is often entirely systemic, the writer's opinion is that the disease must have a local cause, this cause producing a point of least resistance for the localization of systemic disorders, which general disorder or condition of autointoxication increases the local symptoms.

There seems no reason to believe that drug poisoning or other morbid systemic conditions can produce interstitial gingivitis without a lesion of the gum pre-exists. This lesion may be the merest break in the mucous membrane, caused by the smallest deposit of calcareous material, this local mechanical irritation being one requisite of the etiologic moment. On the other hand, there may frequently be found in gingivitis the systemic disorders accompanying cases of sapremia and septicemia.

The continual pressure against the gum tissue of rough, irritating calcareous deposits, which continuously increase in quantity and insinuate themselves deeper and deeper beneath the soft tissues, are accompanied with all the products of repair by granulation or second intention, and may be accompanied by surgical fever. These deposits may be found wherever saliva can penetrate. It has never been my privilege to see deposits of tartar about the necks of teeth that were innoxious, but they are always irritating to some degree, and usually greatly so. This condition may exist in all stages, from that of being imperceptible to the naked eye up to a complete state of pyemia, and may result in death.

On the other hand, there is abundant evidence to show that autointoxication, or a low state of health from any cause, greatly favors the progress of the disease, and with this state of affairs present a chronic pus-forming condition may soon be found about one or more of the teeth where the local exciting cause exists, but that autointoxication or other systemic disorders cause this disease, without local irritation, does not appeal to the writer's reason any more than to say that the same disorders cause inflammation of the pleura or conjunctiva without a local point of least resistance from local cause.

Degeneracy or faulty development may bring the etiologic moment at a very early stage of the local irritation. This might be almost coincident with the initial lesion, whereas in normal and healthy individuals the pyorrheal stage, even in its mildest form, may be deferred indefinitely or never appear even where calcareous deposits are excessive.

The fact that the tissues involved are transitory in nature does not seem an adequate factor in accounting for the disease, as suggested by Talbot, since they are as transitory in cases where the disease does not exist as where it does, and these tissues recover as readily as other structures which are not transitory.

There seems no question but that calcareous deposits about the teeth should be looked on as noxious foreign bodies and that the constant effort on the part of nature to extrude them, results in the progressive death of the surrounding tissues with the malposition of the teeth as one result. We find in this disease zones of granulation tissue with the result of destructive metabolism in the soft tissues and the creation of sequestra in the bone. This condition, however, is changed to constructive metabolism the moment the tartar, sequestra or other local irritants are removed.

The sinus in the pyorrheal stage of this disease is between the root and alveolar process, unless the lesion

be so deep in some place on the outside of the process that a gingival abscess is formed. In either event the alveolar process is continually bathed in pus, which results in its destruction. So long as the tartar is present as a foreign body the irritation is continuous and sequestra are formed which are a second source of irritation until they are removed or absorbed.

All these cases will heal by removal of the deposits and sequestra or by the loss of the affected teeth. The removal of the teeth invariably results in recovery, and a patient without teeth, either young or old, can not have the disease, regardless of transitory structures, degeneracy, heredity, drugs, environment or systemic disease. If lesions of the gums or maxillary bones appear where there are no teeth, it is not interstitial gingivitis, but something else.

Of all the causes mentioned the writer believes that 90 per cent. of cases of interstitial gingivitis are due to hard deposits about the teeth.

Treatment.—As to treatment, I believe that all authorities are agreed that absolute removal of all deposits about the necks and roots of teeth is the first requisite to recovery. In my own hands this requires from three to ten sittings, approximately a week apart, washing out the socket each time with hypodermic syringe, using 50 per cent. alcohol, saturated with boracic acid, painting the gums with iodin or iodid of zinc. They must then have constant care thereafter from one to six times a year in order to preserve a good state of health, or a "healthy stump," as surgeons say. Dr. W. A. Price of Cleveland has had good results by local treatment with *x*-ray after having removed the deposits.

As to instruments, each one capable of doing the work will adopt his own methods and choose his own instruments and remedies for local treatment. If the diagnosis has been correctly made the practitioner will be the judge as to whether systemic interference be necessary. If constitutional treatment is called for, abstinence from excess of nitrogenous and acid foods, with the necessity of ten to twelve glasses of pure water daily and the addition of lithia for a period is usually indicated.

Much can be learned about the condition of the system by examination and analysis of the saliva and urine; neither should be more than slightly acid and both should be normal in other particulars.

Talbot says: "In the severer types of disease, such as tuberculosis, asthma, chronic indigestion, kidney disease, etc., very little curative effect is to be expected from treatment. Constitutional treatment is tentative, since autointoxication will continue in most cases until death. The chief treatment of such cases will be removal of local irritation."

"The system excretes 40 ounces of water daily. If this amount be not taken into the system, or if it be not eliminated every 24 hours, autointoxication will follow. Every drop of water taken into the stomach enters the blood. It is one of the best purifiers which we possess. From five to seven pints of pure water should be taken each day to flush the blood and kidneys and thus cleanse the system."

Mechanical Treatment.—The causes having been determined and treatment carried well along, the malposition of the teeth should begin to have attention. This is usually begun before healing of the tissues is complete. The writer has had the most satisfactory results in these cases by straightening out their defects in the same manner that ordinary irregular teeth are treated. A description of the mechanical devices contrived and used for the purpose of regulating teeth would fill large volumes; yet in addition to all these the inventive powers of the operator are continuously called on in carrying these cases to satisfactory completion. In my own hands cumbersome regulating appliances have largely given way to a most simple plan, namely, that of a simple bow of heavy German silver wire on the outside of the dental arch, so adjusted that the teeth are drawn to it by the use of ligatures of German silver or platinum instead of silk or rubber. Torsion is produced by putting on a band to which a tube is soldered; in this tube is inserted a spring lever, the outer end of which is ligated to the bow. The use of the bow on the outside of the arch is one of the oldest devices known, but the manner of its handling is varied, being susceptible of a great variety of uses.

The resiliency of the heavy bow is such that its steady pull or push moves the teeth out or pushes them into line. Its resiliency can also be utilized to expand or contract the strongest arch. It has nearly done away with jack screws, coffin plates and many other intricate and annoying appliances where they were formerly used, and simplifies the treatment to a very great degree, and has done so in my hands for the past ten or more years.

This bow and its accessory appliances being entirely on the outside of the arch are much less annoying than appliances inside and are very much more effective. It will be found that pathologic irregularities yield to pressure more readily than in younger persons because of the partial loss of alveolar process; then there are no short, partly erupted teeth to be dealt with.

Regarding the imaginary difficulty of changing the shape of bones in mature adults, it may be said that live bone never becomes so old that it will not yield to continuous pressure, and teeth are more easily replaced into a former position than moved into a new one. Nevertheless, two of these cases here presented show where adjoining teeth have been brought together and occupy spaces where a tooth had been extracted or lost from disease, both in patients 50 years of age.

As to changing the shape of bones, Dr. M. H. Cryer says: "After the birth of the child muscular action and various forces have direct influence over the change of the bones, according to the following general laws: The normal application of forces in developing bone results in the normal development of the form of the bone. The abnormal application of forces under the same circumstances results in the development of an abnormal form. Abnormal applications of forces to bone in adult life will also change and modify the shape and character."

These pathologic cases, like the others, must be retained in their new position for a period of months, may be years, or until the bony arch has become thoroughly ossified again. This is usually done by ligating them with platinum ligature. Sometimes a heavier platinum wire is fitted to the lingual surfaces and ligated to the teeth with the light platinum. The German silver and platinum ligature is No. 25 B. & S. gauge.

In November, 1893, I presented one of these cases, giving this plan of treatment, and read a paper on the subject before the Cincinnati Odontological Society. Since that time I have treated several additional cases with most satisfactory results.

DISCUSSION.

DR. EUGENE S. TALBOT, Chicago—I appreciate highly the new term coined by Dr. Fletcher, "pathologic irregularities" of the teeth. It is an important and common condition and classified

under this head defines the pathologic state. The tooth itself is to a great extent a foreign body in its relation to the alveolar process. The teeth, from want of antagonism, constantly move in the alveolar process due to interstitial gingivitis. This is particularly true of the old method of separating teeth by the rapid process for filling. An interstitial gingivitis was set up, because of this the teeth separated, and in later years a space resulted between the teeth. Because of the transitory nature of the alveolar process, an interstitial gingivitis always occurs after the second teeth have obtained their position. There is what may be called an inflammatory process continually going on in the alveolar process. This is the reason why a dental arch which has lost one or two teeth is always more or less out of order. This "inflammatory process" starts an absorption of the alveolar process because of which the teeth move in different directions. How far such an alveolar process can be restored is an open question. Some operations of Dr. Fletcher, beautifully performed, bring the teeth back into place and hold them in position until the alveolar process is restored to partial health. It is never restored to complete health. This last is a physical impossibility. Local treatment is all right, so far as it goes. It is very essential that the deposits should be removed; that the roots of the teeth should be thoroughly cleansed, but beside that there is considerable to be done in regard to draining the system. It is necessary to restore the excretory organs to their function. Auto-intoxication is the great determining factor, no matter what the systemic condition may be. The greatest cause of this is intestinal fermentation.

THE CRISIS AND TREATMENT OF PNEUMONIA.

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I doubt if any disease has occasioned us more anxiety and disappointment in its treatment than pneumonia, which in a measure is due to the conflicting etiologic views, as well as to conflicting lines of treatment. It is not my purpose or intention to discuss the etiologic factors farther than it is necessary to establish my views from a therapeutic standpoint.

No matter what line of treatment is applied, the increasing mortality has unsettled our minds to such an extent that we often wish we had adopted some other course. The unprecedented mortality of the present visitation of pneumonia recorded from so many districts of the United States persuades me to offer a line of treatment that has given me most gratifying results.

It is evident we have become resigned to the expectant line of treatment, anxiously awaiting the discovery of an antitoxin to cure pneumonia, or a serum that will immunize the public. The earlier we accept the situation and settle down to rational medicine, discarding those ridiculous theories of its contagion, transmission, predisposition and its questionable etiology, the better off we will be. We should lend such efforts as conditions will permit in advising our people to observe such prophylactic measures that experience has taught us is the direct cause of pneumonia, and, above all, correct the false impression that is fast becoming a belief—that we are powerless to manage pneumonia. To be sure we can not save all cases of pneumonia, and the same holds good in any disease, but this does not justify us in throwing up our hands and crying out that little can be accomplished, as we have no specific to apply.

The record of the following case will better demonstrate my method of treating pneumonia than any formal introduction. The details and indications as I apply this method of treatment will be found under the head of conclusions.

History.—J. M. aged 21 single; Mexican laborer; was first taken ill Feb. 13, 1904; admitted to hospital February 14 at 11:40 a. m. The alleged cause of disability was exposure; diagnosis pneumonia right side lower lobe.

Examination.—Axillary temperature 104.2, pulse 136, easily compressible; respiration, 38, somewhat labored; profuse prune-juice expectoration, containing an unusual quantity of bright red blood; severe pain in right chest extending to right shoulder posterially; vomited bile and some blood; very nervous with muttering delirium.

Treatment.—Sixty grains of sulphate of quinin was administered at 12:30 noon as an initial dose. Thirty grains more were given at 1:30 p. m. At 3 p. m. fifteen grains more of quinin were given, which combined with 10 minims tincture of chlorid of iron, with instructions to administer ten grains of quinin every four hours and to give 10 minims tincture of iron alternately.

February 15, 7 a. m., temperature, 103; pulse, 100; respiration, 28. Pulse strong; pain continues more severe in region of right shoulder; no vomiting, stomach settled; prune-juice expectoration very much lessened and contains no blood. Quinin discontinued until further orders. Eight p. m., temperature, 102; pulse, 98; respiration, 28. Complains of but little pain; inclined to sleep; iron continued every four hours.

February 16, 8 a. m., temperature, 104; pulse, 92; respiration, 28; sputum nearly clear; pain shifted to region of right nipple; forty-five grains of quinin administered at one dose; iron increased five minims; sputum clear. Eight p. m., temperature, 102.4, with slight muttering delirium; sputum slightly rusty; pulse, 98; respiration, 30.

February 17, 8 a. m., temperature, 104, with invasion of left lung lower lobe; pulse, 112; respiration, 34; increased rusty sputum; pulse good and strong. Forty-five grains of quinin with 10 grains of salol given at one dose, with orders to give him all the drinking water that he desired.

February 18, 8 a. m., temperature, 100; pulse, 96; respiration, 28; slight epistaxis during night; cough annoying; sputum clear and pain in side and shoulder considerably relieved.

February 19, 8 a. m., temperature, 102; pulse, 100; respiration, 30, but of a better character. Thirty-five grains of quinin ordered at one dose, ten grains to be alternated with two grains of guaiacol every four hours. Eight p. m., temperature, 100; pulse, 100; respiration, 30; pain in right side and shoulder disappeared; slight pain in left side just below the nipple.

February 20, 8 a. m., temperature, 100; pulse, 98; respiration, 28; twenty-five grains of quinin administered at 9 a. m.; guaiacol discontinued; iron increased to 20 minims every four hours and 5 grains of quinin alternating.

February 21, 8 a. m., temperature, 100; pulse, 98; respiration, 26; rational; sputum clear; rested fairly well during night; iron and quinin continued.

February 22, 8 a. m., temperature, 99; pulse, 82; respiration 24; quinin and iron continued; slept well; very little sputum, but clear; no pain.

February 23, 8 a. m., temperature subnormal; respiration, 18; pulse, 72, and feels well.

February 24, 8 a. m., temperature subnormal; pulse, 72; respiration, 18; feeling well. Two drachms of the elixir of iron, quinin and strychnia was ordered every four hours. Patient discharged February 30.

The most important feature in the citation of this case, which I have found a frequent, if not an invariable one, is the lack of any evidence whatsoever of that dreaded so-called crisis, which I look on as a misnomer.

The question may be asked if it is advisable to administer quinin in large doses in all cases, which can only be answered that quinin, as other remedies, may have its contraindications; however, up to the present time, I do not recall a case wherein I have hesitated to administer from 40 to 60 grains of quinin as the initial

dose, following this in one or two hours with 25 to 30 grains more, even in those cases where cardiac weakness is threatened by the usual symptoms of dyspnea, high fever, soft and rapid pulse and cyanotic expression, where alcohol, nitroglycerin, digitalis and strychnin, that I formerly employed, and which regularly failed, as it will do in every case of this alarming condition.

The pleasure and astonishment experienced in several cases where I have applied this apparently aggressive course of treatment, can better be understood by those who have had larger experience than I can possibly describe. The depressing influence described in our textbooks that is occasioned by the administration of large doses of quinin has never been noticed in a single instance, nor have I observed the slightest evidence of cinchonism prior to beginning resolution.

The peculiar effects of quinin are well demonstrated in the following case:

O. C., Mexican, age 33, occupation miner, on the fourth day of his convalescing period was taken with a slight rigor, followed by a temperature of 103, with panting respiration, rapid and weak pulse and pain in the affected side. Twenty-five grains of quinin were administered at 6 p. m. of the same evening, and 15 minims of tincture of iron ordered every three hours, with the results of a normal temperature on the following morning. Pulse, 88, good and strong; respiration, 26, and without pain, which condition I consider very satisfactory. I ordered quinin, grs. 5, every four hours as a prophylactic, with the result that at 11:15, one hour and fifteen minutes after the first five-grain dose of quinin had been given, he complained of pronounced symptoms of cinchonism. The peculiarity is that at no time prior to this did he exhibit the slightest signs of cinchonism, although he had taken enormous and repeated doses of quinin during his early pneumonic invasion.

As this is the third or fourth case in a short time that has shown marked symptoms of a relapse, I would advise a continuation of quinin in five grain doses every six hours during the early period of resolution, or until slight evidence of cinchonism is manifested.

I believe if our efforts were directed to the treatment of pneumonia to the same extent that its etiology and bacteriology is studied our efforts, to say the least, would be the means of accomplishing greater good than we have in the past. I am satisfied that our primary efforts in the management of pneumonia should be directed in applying measures that will fortify the right heart for the time of its serious engagement, namely, the crisis.

In reviewing the literature at my command on this subject I have failed to note the slightest suggestion of this, the most important part of our management of the treatment of pneumonia.

That Friedlander's discovery of the pneumococcus in a pneumonia case has been most unfortunate for us, and I firmly believe it has diverted our line of treatment that should be based on clinical facts and rational etiology. The expectant plan of combating disease should never be accepted as rational or logical medicine as long as those conditions are followed by serious lesions. The expectant and symptomatic consideration of functional disturbances is generally successful, as those conditions are seldom followed by serious or pathologic changes. I believe that the earlier we begin our treatment with a view of fortifying the heart and gradually applying those measures that will encourage peripheral circulation the more successful we will be in treating pneumonia.

The bacteriologist is leading us a rapid pace in chasing the special cause of disease as well as advocating the lines that should be pursued in destroying the function and life of the divers germs in order that we may cure our patients.

The theory of germ invasion is interesting and in time will no doubt become a channel that will be the means of practical benefit to us as practitioners of medicine, providing the physician has the faculty to grasp the situation, and differentiate what variety of germs have fastened their grasp on his patient, in order to apply the proper antitoxin.

In view of the fact that we are unable to understand the various organic changes that are produced by so many microbic invasions, I am a little optimistic in accepting the precedent of treating my cases upon those theoretic views that are based on transient principles.

In no infectious fever is the arterial tension so reduced as it is in pneumonia just prior to and during the crisis, due to the mechanical and chemical changes principally in the heart and blood for which cardiac dilatation and septic conditions are responsible.

The responsibility in the management of pneumonia, to my mind, is as great as in any disease we are called on to care for, as the individual suggestions from a symptomatic standpoint has its daily indication for attention that no writer can incorporate in any one article.

The term crisis in pneumonia is objectionable on account of the serious lesions that are responsible for this condition which is so little understood by the average practitioner, and in a general way is responsible for our continued practice of administering stimulants as a last resort in alarming cardio-pneumonic symptoms, that all experienced physicians have time and again witnessed shortly before dissolution.

Pneumonic cardiectasis better describes the condition we have to contend with and attracts our attention more specifically to the over-distended and disabled heart, that is handicapped by pneumonic intoxication of the blood it is to distribute. I am convinced that the above plan of treatment has retarded the pneumonic process and exerted a pronounced influence in lessening those crisis symptoms and of a material aid in resolution.

I consider the use of stimulants, alcohol, nitroglycerin and strychnia during the crisis of pneumonia not only contraindicated, but a most dangerous remedy to apply, as it increases the mechanical conditions that are distressing our patients. Our attempt to base our treatment of pneumonia on the present etiologic findings is as rational as it would be for us to treat the innumerable conditons in which this diplococcus is found as cases of pneumonia. The association of the pneumococcus in so many pathologic conditions is probably due to the same tissue change that is found in pneumonia, and which furnishes a favorable propagating bed for its development.

Hypodermoclysis and general hydrotherapy may be advantageously used in the treatment of pneumonia with the same success they are used in other septic and shock conditions. The success of hydrotherapy will never be appreciated in this, as well as many other inflammatory and exanthematous diseases, on account of its impractical use and the prejudice that is equally shared by the profession and the public in general.

I do not wish to appear dogmatic or to detract from the benefit my colleagues have secured in the use of digitalis, veratrum viride, aconite and a host of other drugs, as I fully appreciate the fact that they all have their periods of usefulness from a symptomologic stand-

point, but by no means have they exerted, in my hands, any satisfactory results.

Complications are very much in evidence in the majority of cases in this vicinity, especially those having an alcoholic origin or where there has been lack of proper food and clothing.

In justice to my remarks, I am frank to admit that my experience leads me to believe that the so-called pneumococcus may be associated with the etiologic factors of pneumonia, but it is not its specific cause.

CONCLUSIONS.

I do not offer this plan of treatment as a specific by any means, but know it has materially reduced my former mortality.

The first attention rendered the ordinary cases that are admitted to the hospital is a warm bath and a saline cathartic. The indications governing the administration of quinin and iron are as follows: When the temperature has reached 105 or over, 60 grains of quinin sulphate, to be administered as the initial dose, followed in one hour by one-half this amount, or 30 grains, and the following hour by one-half the latter dose, or 15 grains, at which time I begin the administration of tincture of iron in doses ranging from 5 to 15 mins., depending on the date of the disease and the condition of the heart. If I see the patient on the first or second day of his attack, I usually begin with about 10 mins. of tincture of iron, increasing it one or two drops, or even more, each day up to the sixth or seventh day unless the pulse remains full and strong.

I do not believe in giving quinin in small and repeated doses during the active stages, but follow the plan as given in the reported case. When the temperature is 104 or over I give 50 grains of sulphate of quinin and follow the same course as above stated. When the temperature is 103 I give from 30 to 40 grains, following the same course as above stated.

During the convalescence I have found that one, or the combination of the following medicines, of value, namely, elixir of iron, quinin and strychnia, guaiacol and cod-liver oil. But what has served me best of all at this time, is thorough ventilation and sunlight, with plenty of milk, eggs and beefsteak.

NOTE (April 26, 1904).—The above paper has been held since March 26 on account of the increasing number of pneumonia cases, which has added material evidence in the success of my treatment, as the last twenty cases that have been treated by my assistants and myself have been followed by twenty successive recoveries.

MESENTERIC EMBOLISM AND THROMBOSIS.

A STUDY OF TWO HUNDRED AND FOURTEEN CASES.

JAMES MARSH JACKSON, M.D.
Out-Patient Physician to the Massachusetts General Hospital.
CHARLES ALLEN PORTER, M.D.
Assistant Surgeon to the Massachusetts General Hospital.
WILLIAM CARTER QUINBY, M.D.
BOSTON.

(*Continued from page 29.*)

OPERATION. DR. F. B. HARRINGTON. ¼ PER CENT. COCAIN.

Six-inch incision along right rectus. Peritoneum dark and free fluid present. Coils of small intestine found flaccid, black and foul smelling. Gangrene found to involve cecum and ascending colon to hepatic flexure, besides all of the ileum. Continuing from gangrenous areas, the intestine changed gradually to almost normal color. At this stage patient became restless and primary ether was given, also for very poor condition. strychnia, 1/20 gr., with no effect. Small perforation found in small intestine, through which much dark venous blood was oozing. Perforation tied with silk. Purse-string stitch of silk put in small intestine and Mixter tube inserted. Small amount of gas escaped, but no intestinal contents. Patient collapsed and died.

AUTOPSY. DR. J. H. WRIGHT.

Sept. 20, 1902. Obturating thrombus of superior mesenteric artery, due to endarteritis. Hemorrhagic infarct of small intestine, and of portion of large intestine. Arteriosclerosis of aorta. Chronic disseminated tuberculosis (possibly syphilis) of the lungs. Chronic interstitial orchitis. Leiomyomata of kidney. Heart, not remarkable. Lungs, disseminated nodules of tuberculosis. Aorta, arch and thoracic portions normal, abdominal portion, intima contains several gray, firm plaques and a few scar-like depressions. Abdominal aorta and common iliacs of small caliber. At beginning of superior mesenteric artery is a 2 cm. red, fleshy thrombus, firmly adherent to intima. The mass is propagated as a rather black, soft, red clot, a short distance into artery and branches. Infarct of intestines from beginning of ileum to hepatic flexure; mucosa, black red.

CASE 19 (Dr. R. B. Greenough).—D. F., man, 56 years, carpenter. Entered Massachusetts General Hospital December 8, 1903.

Family History.—Wife left husband because he was such a heavy drinker, but says that he has not drank to excess for past five years. Has a son and daughter in good health.

Past History.—Always has been rugged and strong. Denies venereal trouble. Wife says he had a paralytic stroke two months ago. He says he has been told by physicians that he had heart and kidney disease.

Present Illness.—Says he has lost 21 pounds since January, 1903, when his weight was 156 pounds; loss has been steady. Also that two months ago began to be constipated, with abdominal pain, not localized, but fairly constant. That two days ago he began to vomit and have acute pain in belly; that vomiting has been constant since then, without any bowel movement at all. Has had no tapelike movements at any time and no signs of gall-bladder trouble. Has never had bloody stools. During last two days has felt badly all over. Son says father was well as usual until yesterday forenoon, when the symptoms above mentioned set in. Patient describes vomitus as being "watery."

Physical Examination.—Fairly well developed, spare old man, in poor mental condition. Rather pale. Tongue very red, suggesting prolonged vomiting of late. Heart negative, except for soft systolic murmur in second left interspace, suggesting roughening of the aortic arch. Lungs not examined posteriorly. Over whole chest anteriorly are heard numerous musical râles, with slight hyperresonance and prolonged expiration. Breathing is labored, but not shallow. Liver and spleen not remarkable by percussion. Abdomen full, tense, tympanitic, except in flanks, where it is dull. Tenderness is general. Rectal examination negative. Pulse 100, temperature 96.4 by rectum, whites 6,000, December 18, 4 p. m.

OPERATION. DR. R. B. GREENOUGH. ETHER.

December 18. Eight-inch median incision. Peritoneum opened, allowing escape of a little bloody serum, and exposing a large amount of gangrenous small gut. Rapid examination failed to show any strangulation, due to hernia or bands, and a diagnosis of mesenteric thrombosis was made. As the gut seemed absolutely dead, it was thought best to resect. Small intestine tied off by plain catgut just above cecum, this being a little below line of demarcation. Gut quickly cut from mesenteric attachment, up to line of demarcation, a distance of 12½ feet and tied and cut as below. Almost no bleeding from mesenteric stump. Mixter tube inserted in upper portion. Cavity loosely packed with gauze. Dry dressing and swathe. Stomach washed, removing considerable foul matter. Infused intravenously with 1½ pints of salt solution. Crile breeches put on. Patient sent to ward in fair condition, with pulse of excellent quality. Patient's pulse remained good, but respiration feeble. Once he recovered consciousness enough to recog-

nize his wife, but soon relapsed, and respiration becoming weaker, he died at 2.50 a. m. No autopsy.

Pathologic Report.—A piece of small intestine, dark blue in color. The veins of the mesentery were filled with recent thrombi. Hemorrhagic infarction. W. F. Whitney.

CASE 20 (Dr. R. B. Greenough).—A. M. S., woman, 37 years, entered the Massachusetts General Hospital Oct. 11, 1902, with the diagnosis of gallstone colic.

Past History.—Six years ago had an attack of acute abdominal pain lasting three or four days and relieved finally by morphia. Vomiting and chill, but no jaundice. No clay-colored stools; no dark urine.

Present Illness.—Three days before entrance, sudden chill and vomiting. The latter has persisted. Pain was present, referred to the epigastrium and back. It was dull, but occasionally spasmodic. Urine smoky. Stools loose, otherwise normal. No jaundice. Vomiting dependent on character of the food taken; contained no blood.

Physical Examination.—Temperature 100.6, pulse 132, respiration 40, leucocytosis 21,000. Some rigidity and dullness in right hypochondrium. No mass nor any tenderness. Heart sounds normal. Vaginal examination negative. Urine dark, acid, specific gravity 1,026, trace of albumin, sugar present, sediment, numerous granular and epithelial casts. Small round cells. Rarely a blood globule, much fat, free and on casts and cells. Was put to bed, but in middle of night woman showed a marked change for the worse. Pulse 140 to 150, respiration 40. Marked distension of the abdomen, with shifting dullness on right. About a quart of blood was passed as the result of an enema.

OPERATION. DR. R. B. GREENOUGH.

Bloody fluid, free in cavity. Small intestine very dark throughout. Several reddish-blue spots on cecum and ascending colon. Nothing else was discovered. The patient died immediately after the operation.

AUTOPSY. DR. J. H. WRIGHT.

Polypous endocarditis of mitral valve. Embolism and thrombosis of superior mesenteric artery, with partial infarction and gangrene of cecum and ascending colon. Incipient infarct of small intestine. Multiple infarcts of spleen and kidney. Early pregnancy. Streptococcus septicemia. In the peritoneal cavity about 100 c.c. of thin dark red fluid. On the serous surface of the cecum is an irregular dirty yellowish necrotic-looking patch apparently representing gangrene of the wall of the gut. This patch is 2 or 3 cm. in diameter. On the serous surface of the ascending colon another larger similar patch of gangrene. The small intestine, throughout a large portion of its length, is generally of a dull reddish-gray color, as from the presence of a reddish fluid within. At one or two points fibrinous shreds are present in the peritoneal cavity. There is no generalized exudate on the surface of the intestines. The aorta was opened from behind and in the superior mesenteric artery a reddish-gray mass 3 or 4 cm. long is found occluding this vessel. Prolongations of this occluding mass extend a short distance into the large branches. There is no hemorrhage into the mesentery of the small intestine. Dissection of the intestines shows considerable amounts of a foul dark-brown opaque fluid contained in them. The mucous membrane of the cecum and the ascending colon, over a large proportion of their extent, is dirty brownish in color, softened, more or less disintegrated and necrotic. The mucous membrane of the greater part of the small intestine, from the ileocecal valve upward, is more or less reddish-brown in color and in places is emphysematous in appearance. Multiple infarcts are found in the spleen and kidney. Thrombus in renal artery. Polypous endocarditis of the mitral valve.

Bacteriologic Report.—Cultures on blood serum from heart, liver and spleen show streptococci.

CASE 21 (Dr. E. A. Codman).—C. S., man, 68 years, jail officer, entered Massachusetts General Hospital June 26, 1901, 11 a. m.

Past History.—Last winter had a loss of power in the limbs and wasting of muscles. Doctor called it poliomyelitis of unknown origin. He recovered from this, except for right thumb.

Present Illness.—Three weeks ago he began to have abdominal pain and an occasional attack of vomiting. Pain was referred to the stomach. Last Saturday the pain became more severe, and he called in his physician who found tenderness about the navel, and pain referred to right inguinal region and hypogastrium. Temperature normal. Very little distension, but some tympanites. No constipation. Vomiting for past ten days has been more frequent. This morning sent to Massachusetts General Hospital for very severe abdominal pain.

Physical Examination.—Rather poorly developed and nourished man. Lungs and heart negative. Arteries thickened. Pulse rapid and of small volume. Abdomen somewhat distended and tender, the greatest tenderness being just to right of umbilicus, along rectus. Some dullness in flanks. Patient looks sick. Urine shows no blood. Temperature 101.5, pulse 110, respiration 40.

OPERATION. DR. E. A. CODMAN.

Median incision, umbilicus to pubes. On reaching the peritoneum, it was seen to be dark, and on opening it a quantity of blood-stained fluid gushed out. Just to the right of the incision a long piece of dark-red, much thickened intestine was seen. This was grasped and drawn out. About five feet of it was discolored, and the mesentery was thickened and hard throughout, showing what was probably obstruction in the superior mesenteric artery. Small intestine pulled out, until healthy gut was met with on each end. Tied off and clamped. On section of mesentery many vessels were found filled with clots. Ends of intestine fastened in lower part of wound. Upper part closed with sutures. In ward, under stimulation, condition improved somewhat.

June 27. Condition grew poorer steadily through the night in spite of stimulation. Did not vomit, but had a great deal of pain. Somewhat relieved by morphia. Died at 11:20 a. m. No autopsy.

Bacteriologic Report.—A few unknown bacilli.

Pathologic Report.—Specimen, about 5½ feet small intestine, center foot of it dark. Hemorrhages scattered through the rest of it. Mesentery very much thickened at gangrenous part. Veins filled with loose clot. Arteries empty.

CASE 21 (Dr. J. G. Mumford).—C. C., 19 years, plumber's boy, entered Massachusetts General Hospital May 16, 1902.

Family History.—All healthy.

Past History.—Pneumonia at 4, otherwise well. Habits, considerable tobacco, no alcohol.

Present Illness.—Eight days ago complained of cold in head and stopping up of nose, also had a little sore throat. Six days ago face began to swell, and region of left malar bone became discolored and tender. The swelling rapidly increased, so that his eye became closed. A few days ago, on blowing nose, had quite a discharge of material, looking something like dark, clotted blood. Discharge continued during yesterday and to-day. It is mucopurulent. Sleeps most of the time. Frontal headache to-day and yesterday. No chills or sweats. This morning complained of cramps in the belly, which are now quite severe. No diarrhea.

Physical Examination.—Temperature 101.2, pulse 10, respiration 30. Well developed and nourished, face slightly flushed and apathetic. Inspissated mucus on lips and teeth. Pupils equal and react. Teeth good. Tongue red and dry, also throat. Right tonsil negative, left mucous membrane is reddened. Inferior turbinate swollen. No swelling of face. Slight tenderness over upper portion of superior maxilla. Very slight tenderness over left mastoid. Lungs negative. Heart, apex, fifth space, three inches from middle line dullness not enlarged. Sounds regular and of good quality. Pulmonic second sound accentuated. Systolic murmur loudest at apex, somewhat transmitted to axilla. Pulse regular, small volume, fair tension. Abdomen full, firm, somewhat more resistant on right than on left, no tenderness; dullness in right flank extending almost as far up as the umbilicus, over an area about four inches wide and six inches long. Slight dullness in extreme left flank, which changes with change of position. Liver dullness from sixth rib in nipple line to costal margin. Spleen negative. No edema of extremities. Blood,

hemoglobin 90 per cent., whites 31,000, iodophilia positive; no Widal reaction. Urine, high, acid, 1,034, albumin a trace, sugar absent, chlorids diminished, sediment, few normal blood globules, some leucocytes and squamous cells, no diazo reaction.

May 17. Pulse of better quality and patient does not look so poorly. Some relief of pain in bowels by stupes. Enema with fair result. Seen by Dr Goodale, who finds a septic condition of mucous membrane of pharynx and left nostril. Abdomen somewhat tender on palpation on left side, in iliac region, much less marked, tenderness on right. Blood, whites 36,000.

May 18. Patient was slightly delirious during the night and did not sleep well on account of abdominal pain. Abdomen this morning is distended and rigid, with diffuse tenderness more marked in the lower portion, but not well defined in any one spot. Bowels moved once during the night, with a little relief. Patient stupid and restless. Murmur at apex less marked. Pulse much better than at entrance, and patient not so typhoidal. Marked restlessness. Vomited early yesterday and again during the afternoon, the vomitus consisting of curdled milk. No vomiting since yesterday afternoon. Whites 44,000. Transferred to surgical service with diagnosis of antrum abscess. Septicemia.

Seen by Dr. J. G. Mumford. Abdomen much distended, tympanitic, very tender to pressure. Temperature rising, general condition growing worse, with increase of abdominal symptoms.

OPERATION. DR. J. G. MUMFORD. ETHER.

Incision in median line. Much free fluid in cavity. Intestines show marked infection and blue color, as if of beginning gangrene. Mesentery light yellow approaching colorless with no vessels seen in area supplying eight feet of intestines which are in the above condition. Areas of fine hemorrhagic spots about the size of one-half dollar on intestines and adjoining mesentery. Small areas in mesentery, suggestive of fat necrosis. Cadaveric odor. Appendix not found, but its region appeared normal. Cheesy gland removed from mesentery. Abdominal cavity washed out with salt solution. Incisions (one in flank for counter opening) wicked. Sent to ward in poor condition.

May 18, 11:30 p. m. Restless, pulse 130, temperature 104, respiration 35. Died at 8:40 a. m. No autopsy.

The following cases are from the Boston City Hospital:

Case 23 (Dr. Withington).—D. L., man, 47 years, entered May 30, 1898; died June 17, 1898. Chronic diffuse nephritis, with ascites and dilated heart. No symptoms referable to abdomen.

AUTOPSY.

General arteriosclerosis. Hypertrophy and dilatation of heart. Chronic diffuse nephritis. Chronic passive congestion of liver and spleen. Edema and atelectasis of lungs. Thrombosis of branches of superior mesenteric artery.

Case 24 (Dr. Henry Jackson).—P. C., man aged 39 years, entered September 28, died October 8. Old myocarditis and endocarditis. Now has broken cardiac compensation. Temperature never over 100. Leucocytosis 20,400. October 8 had sudden, severe pain in epigastrium and slight bloody vomitus. Collapsed and died.

AUTOPSY.

Acute peritonitis. Hydrothorax. Pericarditis. Hypertrophy and dilatation of heart with infarction of heart. Mural thrombus in left ventricle. Thrombus in descending branch of left coronary artery. Emboli in mesenteric, left renal and middle meningeal arteries. Bronchopneumonia. Congestion and edema of lungs. Acute bronchitis. Old infarcts of spleen. Infarct of intestine. Chronic passive congestion of liver. Cholelithiasis. Cyst and softening of cerebellum.

Case 25 (Dr. Ames).—C. A., man, 44 years, entered Boston City Hospital Aug. 6, 1901, died August 14. Story of weakness in legs. Occasional cardiac pain. Sudden dyspnea, then pain in foot, frontal headache. Whites 19,600. Hemoglobin 100 per cent. Subcutaneous hemorrhages of left leg, pinhead to one-fourth inch in size.

August 10. Noisy. Right hemianopsia. No heart murmur.

August 14. Died delirious, with no signs from belly, no tenderness.

AUTOPSY.

Thrombosis of pulmonary artery. Thrombosis of right auricle, with extension into left auricle, through patent foramen ovale. Embolus of left renal artery, both iliacs, superior mesenteric, hepatic, splenic, innominate and left carotid. Infarct of spleen and kidneys. Acute softening of left occipital lobe of cerebrum. Scar of old cyst in right corpus striatum. Cholelithiasis. Infarct of intestine from duodenum to splenic flexure.

Case 26 (Drs. J. C. Munro and E. H. Nichols).—Boy, 17 years, entered Boston City Hospital July 22, 1901.

Family History.—Negative.

Past History.—Whooping-cough and measles. A year ago had severe crampy pains in abdomen, with vomiting, constipation and tenderness; no fever. Attack lasted five days.

Present Illness.—July 18, drank several glasses of ice water and the next morning had sharp abdominal pain, mostly on the right side. He vomited after breakfast, had a few watery movements and attributed symptoms to diarrhea. Food distressed him.

July 20. Chill in evening. Vomited, had much tenderness on right side. That night several watery movements due to salts.

July 21. Had to go to bed; two chills; vomited again, with severe abdominal pain and increased tenderness in right lower quadrant. To-day another chill, with fever, which has been present since July 18.

Physical Examination.—Icterus of scleræ. Heart negative. Lungs, râles at right apex. Some tenderness on deep pressure in hepatic area. Tender under outer edge of right rectus, where small mass could be felt.

OPERATION. DR. NICHOLS.

Appendectomy with drainage.

July 23. Temperature still up. Delirious. Slight tenderness in hepatic area.

July 26. Whites 10,200. Small, offensive, purulent discharge from wound. Daily chill.

July 29. Chill, vomited twice.

OPERATION. DR. MUNRO.

August 5. Drained pus, retroperitoneal, from broken-down gland. Exploratory punctures of liver negative. Died August 15.

AUTOPSY.

Operation wounds. Localized adhesive peritonitis. Pus pockets and softened lymph nodes about cecum. Thrombosis of superior mesenteric vein and branches. Suppurative pylephlebitis, with multiple abscesses of liver. Infarct of spleen. Acute bronchopneumonia. Acute splenic tumor. Hyperplasia of mesenteric lymph nodes. Fatty degeneration of heart. Ulcers of colon. Chronic tuberculosis of retrocecal lymph node. Appendectomy stump.

Case 27 (Dr. Paul Thorndike).—Negro, 21 years, entered Boston City Hospital Sept. 2, 1902.

Family History.—Negative.

Past History.—Healthy. Has had four or five attacks of gonorrhea. Last one about one year ago. Denies lues. Rarely drinks. Smokes to excess. Had acute epigastric pain lasting about twenty-four hours last summer.

Present Illness.—Malaise all last week. Five days ago began to have colicky pains, accompanied with chills and fever. Abdominal pain general, constant, with colicky exacerbations. Chills quite severe. Next day vomited medicine. Pain has continued to grow worse till to-day, when patient was given "tablets" by outside physician. He felt hot and feverish all the time. Bowels only moved with medicine. Stools natural color, soft consistency. Passed some gas. Micturition not frequent, and without pain. No cough. Feels weak.

Physical Examination.—Well developed and nourished. Anxious expression. Tongue thick, brownish, dry coat. Pulse

regular, slightly rapid, fair volume and tension. Heart and lungs negative. Area of liver dullness normal. Spleen not made out. Abdomen, protrusion of umbilicus, with opening, which admits the little finger tip. No hernia. Muscles of abdomen held moderately rigid. Tympanitic, except for an area on the left, beginning on level with umbilicus, extending down to Poupart's ligament, limited internally by the middle line. Percussion note over this area is almost flat. Flatness extends deep into flank, except for a small area, where there is high-pitched tympany. Over flat area muscular spasm is marked, with considerable tenderness, not definitely localized in one spot. On deep palpation, tenderness is also elicited in right lower quadrant, but not so marked as on the left. No mass made out. No herniæ. Rectal examination, slight tenderness high up on left. Extremities negative.

September 3. Enema returned only slightly tinged. No vomiting.

September 4. Increasing severity of abdominal symptoms and white count.

OPERATION. DR. THORNDIKE.

Incision below umbilicus in middle line. Very slight amount of blood-stained serum escaped. Small intestines collapsed. Colon distended. A hard, firm mass could be felt lying beneath the intestines. Luster of small intestine preserved, slightly darker color than normal. Venous network in wall plainly seen as fine, dark lines. Towards the mesentery the larger veins appeared thrombotic. No area of necrosis or sloughing. Mesentery of small intestine enormously thickened in a wedge shape. The thickened portion two to three inches on section. It was reddish brown in color, with occasional hemorrhagic areas. Incision into mesentery revealed dark venous blood. Mesenteric glands enlarged and indurated. Almost whole mesentery was involved, so cavity was closed with drainage.

September 8. After operation, collapse. Better next day. Occasionally vomited dark green fluid. Hiccough and restless. Abdomen distended. Obstipation.

September 10. Moribund for two days. Abdomen distended and tender. Died.

AUTOPSY. DR. SOUTHARD.

Mesentery size of tangerine orange. Enlarged glands give vaguely knotted character to mass. Stomach greatly dilated with gas. Bowels of a dark color throughout. Superior mesenteric artery and branches free. Bowel contains tarry, dark, mashy material.

Anatomic Diagnosis.—Infarction of intestine, with (a) enlargement of mesenteric lymph nodes; (b) suppurative pylephlebitis of superior mesenteric system; (c) abscess of mesentery; (d) acute general peritonitis. Infarction of liver. Subendothelial hemorrhage of hepatic vein. Cloudy swelling of kidney. Celiotomy. Chronic adhesive perityphlitis. Slight chronic fibrous pleuritis.

ETIOLOGY.

All those diseases which lead to the formation of thrombi whence emboli can arise, are of direct etiologic significance for mesenteric occlusion. Endocarditis, atheroma of the aorta and arteriosclerosis, especially of the mesenteric arteries, are of first rank. Sclerosis of the mesenteric arteries has been found, even in cases in which the peripheral vessels or the aorta showed no atheroma, and this process can involve even the finest branches. The results of this are evident, and are well stated by Neutra.[5] He says:

By the calcification, the arterial wall loses its elasticity and becomes narrowed, a condition which hinders the formation of a collateral circulation through the anastomoses. This can be observed clearly in a case of Deckart, where only a small twig was plugged, causing the formation of a ring-shaped ulcer, because the lumen of the neighboring vessels was narrowed by numerous deposits on the intima, so that in common with the loss of elasticity of the arterial wall an adequate collateral circulation was prevented. The calcification may be of such a degree that the plaques, without any thrombus, nearly fill the whole vessel lumen, as is seen in a case of Adénot. A similar if not identical process is described by Litten, which he calls "lattice-work endarteritis," which gives rise to thrombosis of the involved artery. According to the statements of this author, it is characteristic of this disease, that in spots it surrounds, in a ring-like form, the whole circumference of an otherwise healthy vessel.

Lorenz[17] has published a case of closure of the superior mesenteric artery, which followed multiple neuritis, as a terminal process. The process was characterized by a growth of the intima of the finer branches, combined with nodular dilations.

In the case of venous thrombosis, all conditions causing stasis in the portal system play a causative rôle. Here it is a question whether the thrombus is primary in the mesenteric veins, and, therefore, an ascending one, or itself secondary to a process beginning higher up. As a matter of fact, both sorts of cases seem to occur. Of etiologic importance for the primary thrombosis are all intestinal changes which allow penetration of bacteria into the vessels. Such are the severe enteritides, surgical infections, puerperium, milk leg and phlebites of the lower extremities; cachexias, such as that of cancer or malaria, sepsis and typhoid fever. Here also should be mentioned the cases which have followed a suppuration in the region of the appendix, as illustrated by our cases (Nos. 16, 17, 26), and also the case of Welch and Flexner,[18] in which the *Bacillus aerogenes capsulatus* was found. Local disease of the vein wall, such as syphilis, etc., has been found (Borrman,[19] Gull[20]).

Secondary venous thrombosis follows cirrhosis and syphilis of the liver; pylephlebitis and processes at the liver hilum which by pressure or the formation of adhesions cause portal stasis. Koester[21] maintains that slowing of the circulation is, in itself, unable to cause venous thromboses, and gives this only as a predisposing cause. Neutra opposes this view, however, and certainly the weight of evidence of reported cases seems to be in his favor. In several cases also thrombosis of the veins has followed arterial emboli, apparently by the stasis thus brought about.

COURSE OF DISEASE.

The cases can be divided into two groups—acute and chronic. The first group is by far the larger, and is composed of cases of sudden onset of colicky abdominal pain, often at a time when the patient was in apparently full health. This is then followed by nausea and vomiting, often bloody, and diarrhea, also often bloody; or the picture is one of obstinate intestinal obstruction of the paralytic type. Often not even flatus is passed. In many cases the temperature falls below normal. The abdomen rapidly becomes distended with gas, peristalsis is absent, and death occurs often in a few hours or days.

The second and smaller group is formed by cases of insidious onset and chronic, sometimes remitting symptoms; by cases having no symptoms referable to the abdomen during life; and by cases where spontaneous cure resulted.

The tendency is to consider the cases of arterial embolism as forming the acute group, and those of venous thrombosis as making up the bulk of the chronic cases. On analyzing our list of 211 cases we find the following: In only 197 cases is an accurate statement obtainable which can form a basis of separation into arterial

17. Zeitschr. f. klin. Med., 1891, vol. xviii, p. 497.
18. Jour. Exper. Med., 1896, vol. i, p. 35.
19. Deutsch. Archiv f. klin. Med., 1897, vol. lix, p. 281.
20. Guy's Hospital Reports, London, 1883-84, p. 15.
21. Deutsch. med. Woch., 1898, p. 325.

and venous varieties. Of these, 120 cases, or 61 per cent., were of arterial closure, while 77 cases, or 39 per cent., were venous. In 71 of the arterial, and in 50 of the venous group, accurate data as to duration are given. They are tabulated as follows:

VEIN. Duration.	Per cent.	ARTERY. Duration.	Per cent.
24 hours	20	24 hours	20
2 days	18	2 days	22
3 days	8	3 days	10
5 days	12	4 days	6
1 week	16	5 days	3
10 days	2	1 week	17
2 weeks	8	10 days	6
3 weeks	10	2 weeks	10
1 month	4	3 weeks	4
6 weeks	2	1 month	1
		3 weeks	1
	100		100

It thus becomes evident that the course is surprisingly similar in each variety of cases, and that no differentiation can be made on this point.

In each group there were 7 cases of markedly chronic course, that is, over two months. Of these, those due to venous closure were more apt to show gradual and continuous progression, while the arterial often ran a course of various attacks, interrupted by longer or shorter intervals of comparative health. On these latter Neutra lays special stress, and calls them chronic, relapsing cases (c.f. cases of Alexander,[22] Kaufmann,[14] Spiegelberg,[23] Goodheart,[24] Rolleston[25] and others).

These cases are apparently due to a thrombosis which makes more marked progress from time to time, with the establishment of a competent circulation, through collaterals in the meantime.

That partial healing takes place has been inferred from what has already been said in discussing the formation of collateral circulation (c.f. also case of Packard[26]). In a few cases also, 14 in number, recovery has taken place. In 4 of these, the diagnosis was established at operation. In several of the others, however, the diagnosis seems perfectly justified (Anfrecht,[27] Finlayson,[28] Moos,[29] Schlesinger,[30] etc.).

PATHOLOGY.

The pictures found at postmortem examination are most varied, dependent, firstly, on the situation of occlusion, and secondly, on the duration of the process. So the infarcted area may show only simple hyperemia, or there may be gangrene, perforation and peritonitis, either localized or general. In the large majority of cases there is free fluid in the general cavity, often blood-stained, and usually in amount sufficient to be demonstrable during life. In about three-fifths of the cases the infarcted area showed a well-marked line of demarcation. In some cases, however, the boundary between healthy and diseased gut is absent. This occurs, according to Neutra, in two ways. Firstly, in some favorable conditions collateral circulation develops, but not one which is sufficient to care for the whole infarcted area, and so protects only the margins; secondly, it is conceivable (especially in thrombosis) that the occlusion in the terminal branches is irregular, and so the end line becomes hazy. In a considerable number of cases the process involved the whole small intestine, ascending, and part of the transverse colon. Closure of the inferior artery causes changes, most marked in the large intestine. Smaller areas of involvement are most numerous in the ileum. The contents of the intestine are bloody in about two-thirds of the cases in which accurate data as to this point are given.

Ulcerations of the intestinal mucosa, often ring-shaped and surrounding the whole circumference, also are not rare. The mesentery is often thickened and edematous, and in several instances there was found an extravasation of blood between its layers, forming a tumor of varying size, sometimes palpable. The intestine is often found distended by gases of decomposition, and in a few cases its wall has been the seat of air vesicles, shown in the case of Welch and Flexner,[18] to be due to the aerogenes capsulatus. Subserous hemorrhages from finest petechiæ up to 3 or 4 cm. are also found. The mesenteric glands and lymphatic tissue are often swollen. In cases of venous closure, in contradistinction to embolus of the mesenteric arteries, the large intestine is only seldom affected. The probable reason for this is to be found in the more abundant anastomoses, between the inferior mesenteric vein and the inferior cava, with the hemorrhoidal vein.

Here we may also mention the views of Sprengel[31] who, basing his theories on the experimental work of Kader,[32] finds cases which he classes as hemorrhagic infarction on the one hand, and anemic gangrene on the other. The first is the result of plugging of an arterial or venous supply, while the second only occurs when on closure of an arterial supply the return stream is impossible. Corresponding with this, he makes two clinical groups—the one with intestinal hemorrhages or bloody vomiting, the other with simple ileus. This division is worked out very prettily, but is disbelieved by Talke,[33] and we agree with him. He very pertinently quotes cases of simultaneous closure of artery and vein where, instead of the anemic gangrene to be expected from the statements of Sprengel, there was found hemorrhagic infarction (cases of Taylor,[34] Grosskurth[35]). On the other hand, a case of Grawitz[36] was anemic with only arterial closure.

It is also interesting from a comparative pathologic point of view to find that this same process is common in the horse, due to the parasite *Strongylus armatus,* which often is situated in the mesenteric arteries, causing chronic endarteritis and thrombosis, with the formation of a so-called aneurisma verminosum. The sequelæ as regards emboli and infarction are wholly parallel to those found in man.

AGE AND SEX.

Sixty-four per cent. of the cases occurred in men, and 36 per cent. in women. One case occurred at 1 month, another at 5 years, and another at 8 years. The rest are seen as follows:

Per cent.		Per cent.
10 to 19 years	4	60 to 69 years	15
20 to 29 years	12	70 to 79 years	8
30 to 39 years	16	80 to 89 years	3
40 to 49 years	22	90 to 99 years	2
50 to 59 years	18		

It is thus seen that over one-half of the cases occur between 30 and 60 years of life.

(To be continued.)

22. Berliner klin. Woch., 1866, p. 35.
23. Virchow's Archiv, vol. cxlii, 1895.
24. Pathological Transactions, 1890.
25. Trans. Pathological Soc., London, 1892, vol. xliii, p. 49.
26. Proc. Path. Soc., Phila., 1898, n. s. i. p. 288.
27. Deutsch. Archiv f. klin. Med., 1902, vol. lxxii, Nos. 5-6.
28. Glasgow Med. Jour., 1888, p. 414
29. Virchow's Archiv, vol. xli, p. 58.
30. Cited by Neutra.
31. Verhandl. d. Deutsch Gesellsch. f. Chir., Berlin, 1902, vol. xxxi, p. 55.
32. Deutsch. Zeltsch. f. Chir., vol. xxxiii, p. 57.
33. Bruns' Beiträge z. klin. Chir., vol. xxxviii, p. 743.
34. Path. Transactions, 1881, vol. xxxii, p. 61.
35. Inaug. Diss., Clossen, 1895.
36. Virchow's Archiv, vol. cx, p. 434.

THE YELLOW FEVER EPIDEMIC OF 1903 AT LAREDO, TEXAS.*

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In accordance with orders from the Surgeon General, I arrived in Laredo, Texas, September 25, in company with Dr. George R. Tabor, state health officer of Texas, whom I met at San Antonio. Dr. Tabor and I discussed the probable situation at Laredo and the steps to be taken to combat the outbreak of yellow fever at that point.

Among other things we touched on the necessity of a detention camp. In the name of the Government I offered to establish and run such a camp. The offer, however, was courteously refused by Dr. Tabor for the reason that he believed it would appear derogatory to the dignity of the State of Texas so to do.

On our arrival at Laredo we proceeded at once to view the two fatal cases of supposed yellow fever that had occurred during the day, Cortina and Gilkerson. In both the history was that of yellow fever, and the external appearances in connection with the history, left no doubt as to its diagnosis. An autopsy was performed in the case of Gilkerson, and all the characteristic postmortem signs of the disease were found. These cases resided in two widely separated parts of the town. It was impossible to define the source of infection in either case.

As the city and county authorities were without funds to carry out measures for the suppression of the epidemic, Dr. Tabor took charge of the situation, accepting the co-operation of the Public Health and Marine-Hospital Service I offered. It was decided later between Dr. Tabor and myself that the Public Health and Marine-Hospital Service should take charge of the sanitary measures to stamp out the epidemic and keep up the quarantine guard on the frontier which had been previously established by Acting Assistant Surgeon Hamilton. Dr. Tabor was to establish and control a detention camp and look after the protection of the state of Texas against infection. The material for the camp was to be supplied by the Public Health and Marine-Hospital Service.

I regretted not being able to take charge of this camp, but the fact that the distance from Laredo to the nearest point on the Texas frontier within the United States is about 575 miles, the protection of the surrounding territory amounted in fact to the protection of the state of Texas and evidently devolved on the state authorities if they were willing to undertake it.

Dr. Tabor also was to organize and enforce a house-to-house inspection, should such become necessary, as in fact it did within a few days.

The fact that two deaths from yellow fever had occurred at two widely separated points led to the belief that the disease had been present in Laredo for some time and had obtained considerable headway. This was shown to be true when three suspicious cases were reported the following day, September 26, which were promptly confirmed, and six positive cases and one death reported on September 27. From September 25 to 28 thirteen positive cases, three deaths and seven suspects were recorded. No clearly defined connection could be found between these cases, although they seemed grouped around three foci. It was, moreover, very probable that the number of cases was greater than appeared from the official record, inasmuch as with one or two exceptions the Laredo physicians were unacquainted with yellow fever, and at that time, when there were still many persons who denied the existence of the disease, they were lukewarm in reporting cases. In addition, the ignorant class of the population seldom called in a physician, fearful that they might be quarantined or sent to a hospital.

It was, therefore, evident that the disease had obtained a firm foothold and was widely disseminated in a population consisting almost entirely of non-immunes. It was reasonable to suppose that the disease had existed for several weeks and that we were in the period of the third mosquito infection.

Now, turning our attention toward the other side of the Rio Grande, to the Mexican town of Nuevo Laredo, situated directly opposite to Laredo, Texas, and connected therewith by a railroad bridge, a foot bridge, boat ferries and several easily traveled fords, we find that up to September 25 the health authorities there had reported six cases and four deaths from yellow fever. The first officially reported case was a death, that of Dr. Ruiz, on September 14, and immediately thereafter quarantine was declared against Nuevo Laredo. A conference with the health authorities of the town and an inspection of the same showed conclusively that the number of cases was much greater than that reported, and that the disease was widely spread.

ORIGIN OF THE EPIDEMIC.

Yellow fever appeared in Tampico, Mexico, during the spring of 1903, as early as May 4, and spread rapidly. From there the disease was propagated along the line of the Mexican National Railroad, reaching Victoria, Linares and Monterey.

The Mexican sanitary authorities established quarantines to protect these places, but it is well known, and the results clearly show that these quarantines were not effective. The authorities of these towns, moreover, instituted a system of denials of the presence of yellow fever in their midst—the same methods usually practiced among us in the southern states under like circumstances, with the result that a feeling of false security was established, and the disease given every opportunity to spread.

There is good reason to believe that yellow fever existed in Monterey as early as the latter part of June, a death from what would appear to be that disease having occurred on June 24. The deceased, Manuel Porras, was a near relative of Mr. Barker, our clerk in the office of the Public Health and Marine-Hospital Service at Laredo, Texas, and the history of the case was obtained with great care, and is worthy of credence.

The first published report of a case of yellow fever in Monterey was issued August 29. It will be seen, therefore, that if the case of Porras was yellow fever, as I am inclined to believe, two months and over elapsed before any steps were taken to prevent its spread from that city. Under such circumstances it is easy to conceive how the disease extended along the Mexican National Railroad and reached the two Laredos on the Rio Grande.

Careful investigation shows that the infection of Nuevo Laredo may have originated from Victoria, in the state of Tamaulipas, Mexico. This town, which is the capital of the state above mentioned, is situated on the line of the Mexican National Railroad and about one hundred and fifty miles to the north and west of Tampico. I quote from Acting Assistant Surgeon Hamilton's report on this subject, he having been detailed especially to make this investigation:

> A family left Victoria, Mexico, for Nuevo Laredo on August 4, arriving in Nuevo Laredo August 5. One child had come down with fever at Monterey, another took ill on arrival at Nuevo Laredo. This family lived near the principal plaza of Nuevo Laredo, where persons from both sides of the border resort for amusement. Neighbors and visitors of this family began having mild attacks of fever about August 25, many of whom lived about the above-mentioned plaza. In Nuevo Laredo the fever spread rapidly, so that when the first known case died, on September 14, recognized through an autopsy, the town was completely infected, especially the central portion.

From all the information obtainable there is good reason to believe that the disease introduced into Nuevo Laredo from Victoria was yellow fever, and it was noted further that persons attacked did not subsequently contract yellow fever when the epidemic was at its height. Inasmuch as the two Laredos are practically one town, and the plaza above referred to is frequented night and day by Americans from Laredo, Texas, it is evident that but a short time would have elapsed before the disease would have been introduced into Laredo. On the other hand, we have the evidence of Dr. Lowry to the effect that Mr. Clarke, president of the Texas Mexican Railroad, was treated by him at Laredo, Texas, for yellow fever on or about July 25. Mr. Clarke had come directly from Monterey before being taken ill.

* Condensed from the original report to the Surgeon General.

Dr. Lowry is one of the most prominent physicians of Laredo, and had had considerable experience with yellow fever. He states that he was puzzled as to the diagnosis in Mr. Clarke's case at the time, but in the light of after-events he felt so sure that it had been a case of yellow fever that he issued a certificate to that effect.

All the above facts show the impossibility of fixing the exact date or mode of introduction of yellow fever into Laredo, Texas, but they also go to demonstrate the fact that it must have been late in July or the beginning of August, and that the disease was imported from Monterey or Victoria, or perhaps both.

The disease at first must have spread slowly (as was to be expected), for an examination of the mortality reports does not show anything suspicious until the month of September. During the last half of this month the disease evidently gathered rapid headway, and within a few days after our arrival (September 25) it was found to be pretty generally disseminated throughout the two Laredos.

The *Stegomyia fasciata* was also found in enormous numbers and widely distributed, and this, with the existing conditions with regard to the water supply, were such that every facility was being afforded for the active propagation of this mosquito.

GENERAL CONDITIONS.

The two Laredos are situated opposite each other on either side of the Rio Grande, which is at this point about five hundred yards wide, with a small islet over towards the American shore. Two bridges span the river, one for pedestrians and vehicles, the other a railroad bridge. Beside these means of communication there is a boat ferry and the stream itself is easily fordable at several points.

Under normal conditions the population of Laredo, Texas, is estimated at 18,000 and that of Nuevo Laredo at 8,000 souls. During the late summer and fall there is a large influx of the laboring classes, who go to the Texas cotton fields to obtain employment in gathering that crop. The rumors of the existence of yellow fever and the final declaration of its presence in Nuevo Laredo on September 15, and in Laredo on September 25, caused a large exodus, the extent of which is variously estimated.

The general impression is that during the epidemic there remained about 10,000 people in Laredo and 6,000 in Nuevo Laredo. This number was materially increased during the latter stages of the epidemic, that is, during the month of November, by the return of the cotton pickers. This introduction of new material at that time exerted a baneful influence in the suppression of the epidemic.

The population of Nuevo Laredo, of course, consists almost entirely of Mexicans, there being very few Americans. In a measure the same might be said of Laredo, Texas. It is estimated that there are but 3,000 Americans in the place. Moreover, the Mexican population consists almost entirely of Mexicans of the lower class, ignorant and superstitious.

The water supply of both towns is obtained from the same source, the Rio Grande. A private waterworks company, situated on the American side, supplies both towns, although the rates are such that the poorer classes do not, or can not, avail themselves of its advantages, so that the sale of water on the streets by means of water carts is a thriving industry. These carts obtain their water directly from the river. The water supplied by the waterworks company, although filtered, is claimed to be very muddy the greater part of the year. This, and the use of water taken directly from the river, has given rise to the general custom of using barrels for the purpose of allowing the water to settle. Every house is supplied with from one to ten water casks. These are naturally kept in sheds or some dark or shady place around the premises. As breeding places for mosquitos, and especially the *Stegomyia fasciata*, it would be difficult to improve on them.

The habitations of the poorer classes are of the very worst type. Many are simply adobe huts with thatched roofs and consist of but one room, with probably a shed outside utilized as a kitchen. Others are made of lumber, with no attempt at apposition of the planks, while others again are partly or wholly constructed of old pieces of tin or iron, with just enough lumber to attach these thereto. It is no exaggeration to say that in most parts of the States domestic animals are housed better than many of the people of Laredo.

Two railroads enter Laredo from the north and east, the International and Great Northern and the Texas-Mexican, respectively. These connect across the railway bridge already mentioned with the Mexican National on the other side of the Rio Grande.

Such, then, in brief were the surroundings and circumstances which confronted us when the presence of yellow fever was officially declared at Laredo, September 25. Quarantine against Laredo having been declared by the state health officer, all the railroad traffic out of Laredo to points in the United States was at once stopped. Through traffic southward, that is, to points in Mexico, was continued. So far as the Texas-Mexican Railroad running from Laredo to Corpus Christi is concerned this suspension of traffic continued throughout the epidemic, despite the efforts made to re-establish it.

Through passenger travel via the International and Great Northern Railroad to points north of Arkansas, Indian Territory and the Ohio River was resumed on September 28 and continued, with several interruptions, during the epidemic. These interruptions were due in part to the shotgun quarantines instituted along the line, particularly by Encinal and Frio counties, and also to the lack of effort on the part of the railroad.

Freight traffic from Laredo was entirely suspended during the epidemic, working great hardship to the business interests of the town. It seemed a pity to see these interests sacrificed when there were means whereby they could have been conserved without danger of carrying infection.

DETENTION CAMP.

A detention or refugee camp was, of course, necessary. The Public Health and Marine-Hospital Service had made provision for such an emergency when the first rumors of yellow fever on the border were circulated, two or three weeks before the disease was officially announced to be present in Laredo. A complete camp outfit for one hundred persons had been shipped from New Orleans and arrived in the neighborhood of Laredo at the very moment when it was most needed. Owing to this wise provision of the Bureau we were enabled at a critical moment to offer Dr. Tabor the material necessary for a detention camp, of which, for the reasons already stated, he considered it his duty to take charge.

One of the camps was situated at Sanchez, a siding about five miles north of Laredo, on the International and Great Northern Railroad, and Dr. Cook, a capable officer, placed in charge of the same. The camp was opened October 2, with sufficient accommodation for twenty-five refugees. Later on its capacity was increased to forty.

A small camp, known as "Camp Daniel," was established on the Texas-Mexican Railroad, about five miles to the east of the city. This was scarcely utilized for the reason that Duval and Nueces counties, through which the road runs, had instituted a quarantine of absolute non-intercourse.

"Camp Sanchez" had a varied existence. It served a good purpose, although not much patronized, only about seventy persons passing through the camp from October 1 to November 2. It became infected October 14, that is, a case of yellow fever developed among the refugees and remained there seven or eight hours before it was removed, long enough to have infected some mosquitoes if any were present. Another case of yellow fever occurred at the camp during the month of October, that of William Maroncy. The camp was closed November 24 and then reopened about December 14 at the urgent request of citizens. The certificates of Camp Sanchez were in some cases rejected by county authorities.

QUARANTINE AGAINST MEXICO.

To prevent the introduction of further infection, a strict quarantine was kept up against infected points in Mexico. The border, that is, the Rio Grande, was patroled by guards. These consisted of a number of Texas Rangers under the direction of State Health Officer Tabor and about fifty men

employed by the Service, and aided by United States custom inspectors. They worked harmoniously together and did good service, although I do not consider that the patrol was entirely effective. The natural conditions of the river between the two cities and for miles above and below are such that it would take a very large force of well-disciplined men to make it absolutely secure against the possibility of any one crossing who had especial interest in doing so and possessed the necessary courage.

SANITARY WORK OF SERVICE.

We entered into our work with great enthusiasm, and during the first few days we were filled with the hope that our efforts would be crowned with brilliant results, that is, we would be able to wipe out the epidemic in a month or six weeks. In this we were doomed to disappointment. It was soon found that the disease was too widely spread and that the obstacles to be overcome in carrying out the necessary sanitary measures were many and serious, and in some cases insurmountable under existing circumstances. However, while the results of our efforts did not come up to our expectations, they were gratifying and productive of much good, as the sequel will show.

On the 26th of September an office was established in the central part of the city for the transaction of business, and on the following day, September 27, the sanitary corps under my command was given a definite organization. Four mosquito sections had been formed, with an acting assistant surgeon in charge of each, and Passed Assistant Surgeon Von Ezdorf given general supervision over the entire squad. Each section consisted of about eight men, one of whom was a carpenter and another was designated as foreman and had charge of the material. Each section was supplied with a cart containing all the material necessary for the work, to-wit: sulphur and pyrethrum powder in sufficient quantity, twenty-five pots, twenty-five pans, five-gallon can wood alcohol, roll of paper, shears, knives, bucket of paste, brushes, brooms, wall brushes, mosquito netting, a number of strips of laths, nails, hatchet, saw, ready-made screen door and windows, ladder, five-gallon can kerosene oil.

Within a short time the above system was somewhat modified with the object of gaining time and effectiveness. The carpenters were separated from the general disinfecting sections and formed, at first, into two and later into three "screening" sections. These were composed each of two or three carpenters, supplied with a wagon carrying tools, lumber, mosquito bars and mosquito netting. The modus operandi was then as follows: Immediately on a case (whether suspicious or positive) being reported to us by the state board of health or by any one having authority to do so, a screening section was at once sent out and the infected house "screened." This "screening" varied according to circumstances. Unnecessary doors and windows were closed tight. One window and a door of the patient's room were left open for ventilation and to admit those caring for him, and both of these fitted with screens. Often the conditions did not admit of this. The shacks or "jacals" of the poorer classes consisted of but one room with innumerable cracks and openings in the walls and rooms. Screening was impracticable here and the patient was placed under a mosquito bar. Towards the end of the epidemic I had a portable mosquito house built, covered with wire gauze and with double doors, which was applicable to such cases. The patient being thus isolated and rendered as safe as possible against propagating the disease by infecting the mosquito, the disinfecting section would come along and disinfect the premises and surrounding houses to kill the insects already infected. It was the duty also of the disinfecting section to pour oil in all cisterns, barrels or other receptacles of stagnant waters found on the premises disinfected.

PROCESS OF DISINFECTION.

The details of the process were as follows: The room or house was made mosquito-tight. To accomplish this all doors and windows were closed. Paper was then cut into strips and pasted over all cracks or openings through which mosquitoes might escape; the chimney was made secure.

In many cases houses were in such bad condition that they had to be almost completely papered over, both inside and out, and large unprotected openings covered entirely with sheets of paper. In the meantime the pots were being filled with sulphur or pyrethrum, as the case might demand, and placed in position on pans filled with water. These water pans served a double purpose, to prevent danger from fire and for the purpose of collecting mosquitoes, for experience had shown that after disinfection nearly all the dead mosquitoes within the room were found in the pans. The plan used in Havana to facilitate the gathering of the mosquito was employed at first, that is, to place a moist piece of paper in front of a window or wherever light might enter, with the object that after disinfection the majority of the dead or stunned insects would be found on this paper. This plan was based on the supposition that the mosquito sought the light and fell on the moist paper and adhered to it. This method was discontinued when experience showed us that what attracted the mosquito during the process of asphyxiation was the water and not the light, for they were invariably found in the water pans even when these were in dark corners.

The pots and pans being in position, about fifty cubic centimeters of alcohol were poured on the sulphur or pyrethrum, as the case might be, and the contents ignited. Then, without loss of time, the disinfectors would retire, closing the last door of exit and pasting paper over any cracks that might be found in it. When the house admitted of it all rooms except that of the patient were first disinfected, and he was then removed to one of the disinfected rooms duly protected from mosquitoes, so as to permit of the disinfection of the room occupied by him. A great number of the houses or "jacals" consisted of but one apartment, in which case the patient was removed, temporarily, under a tent during the process of disinfection. The latter plan was inapplicable in cold or bad weather, and then it was necessary to wait until circumstances would admit of disinfection, keeping the patient screened in the meantime.

For the purposes of mosquito disinfection sulphur was burned in the proportion of four pounds to the one thousand cubic feet, with four hours' exposure; pyrethrum, six pounds to the one thousand cubic feet and six hours' exposure.

On the termination of the disinfection the house was opened and the floors, walls, furniture, etc., carefully swept for the purpose of collecting all asphyxiated mosquitoes and immediately incinerating them. When pyrethrum was used as a disinfectant this operation was done with scrupulous care; when using sulphur it was not so necessary, as the insects were always found dead. As before stated, the great majority of the insects were found in the water pans beneath the pots.

There is no question that sulphur is the best agent for mosquito disinfection. It is certain in its effects and during the short exposure necessary to kill the mosquito little or no harm is done to fabrics or other articles usually injured in this process, when the exposure is of longer duration. Sulphur was our main reliance, although pyrethrum was used where any possibility of damage was to be apprehended. Of the large number of houses disinfected (2,952) there was not a single case of complaint, well founded, of appreciable injury caused by the process of disinfection.

The above described plan was adhered to until the end of the epidemic, with the modification that the duties of oiling cisterns, barrels and receptacles assumed such proportions, and were of such paramount importance, that they were in great part taken away from the disinfecting sections and turned over to an independent section. The former, however, always carried a supply of oil and were ordered to inspect and oil all standing water not previously oiled.

The importance of destroying all breeding places for mosquitoes was apparent from the beginning of the campaign and the disinfecting sections were duly instructed as to their duties in that respect. But of course these only reached premises and their immediate surroundings that had been reported infected.

It had been arranged that the state and city health authorities would undertake a general sanitary inspection and oiling

of all water containers, but inasmuch as the destruction of breeding places for the mosquito was of the utmost importance and was so closely associated with the work the Service had in hand, I suggested to Health Officer Tabor that I undertake the work. To this he assented very willingly, offering to aid us in every way in his power to carry out our designs. Dr. Tabor's aid was very effective in procuring a large quantity of crude oil and in enforcing a strict quarantine against those who refused to allow us to proceed with our work.

So, October 9, an oiling section was organized and set to work. This section was put in charge of Acting Assistant Surgeon Frick, with a wagon carrying the necessary material. Subsequently it was divided into two sections, one attending to the sprinkling of the streets, pools, ponds and other large bodies of standing water, the other looking after water barrels, cisterns, pails, tin cans and all other water containers found in the neighborhood of houses.

Naturally much opposition arose against the oiling of water barrels, especially among the ignorant classes, who were led to believe that our object was to poison the water. On several occasions this opposition assumed serious and menacing proportions, so much so that the lives of the officers and men engaged in the work were threatened. To obviate this difficulty it was decided to put wooden faucets in the barrels of drinking water, so that the water might be drawn from below, free from oil contamination. The "oiling section" was duly supplied with these faucets, with instructions to apply them to all barrels containing water for drinking purposes. This measure was very effective in allaying irritation and averting trouble with the people. It greatly facilitated the work and made it more effective, although there were always some who objected violently against interference on our part with their water barrels.

Within a short time the "oiling section," under its efficient chief, became so apt in its duties that the entire city could be inspected and oiled in five or six days, so that within that time every water container and other deposits of standing water was inspected and treated, making it impossible for the mosquito larvæ to arrive at maturity. During the first tour of the town 3,500 barrels, without including other containers, were oiled.

I consider this as one of the most important features in the campaign against yellow fever at Laredo, and too much praise can not be given Dr. Frick for the energy and intelligence with which he handled every detail of the work committed to him. The results were so gratifying that when Assistant Surgeon Goldberger arrived in Laredo, November 21, under orders from the Bureau to secure specimens of larvæ of the *Stegomyia fasciata*, he found it impossible to secure a sufficient number for the purposes contemplated. A thorough inspection of the town, on three or four successive days, yielded only about one hundred mosquito larvæ, half of which were anopheles.

The following table gives a synopsis of the immense amount of work done by the oiling brigade from October 9 to November 30, both dates inclusive. The entire town was gone over six times:

SYNOPSIS OF WORK DONE BY OILING BRIGADE.

Containers oiled	22,458
Excavations oiled	2,582
Tanks and cisterns oiled	499
Premises oiled	3,134
Premises inspected	10,640
Faucets applied to water barrels	1,075
City blocks sprinkled with oil	2,134

In addition, about 70,000 square feet of standing water were oiled in neighboring arroyos or creeks, and on the streets after rainstorms.

As the epidemic increased the number of disinfecting sections was increased by the addition of two large ones, composed of ten men each, with an experienced foreman and the necessary outfit. It had become evident that the Havana methods of controlling yellow fever were not quite applicable to Laredo, under existing circumstances, and it was determined to undertake a systematic and complete disinfection of the entire city. These two sections were started at the southeast and southwest extremities of the town, working toward each other and at the same time pushing north. Every house and building was included in this disinfection; schools, public buildings and churches, no matter whether or not they had been previously disinfected. By December 1 two-thirds of the town had been covered by this general disinfection, including its most thickly populated portions. This work was continued after December 1 by Acting Assistant Surgeon Frick and completed under his direction.

From September 26 to November 30, both dates inclusive, 2,952 houses and buildings, containing 10,045 rooms, were disinfected. Repetitions are included in the above figures, a number of houses having been disinfected more than once, a few as many as three or four times.

The following table gives a résumé of the work of disinfection:

Houses or rooms screened	304
Patients screened under mosquito bars	115
Houses disinfected	2,952
Rooms disinfected	10,045

It is estimated that there are 2,963 houses in Laredo. This figure was obtained after careful investigation. Of the above number 580 were infected, or 19.54 per cent.; in other words, one house in five. These figures show that the infection was well generalized. The work of screening and disinfection was under the immediate supervision of Passed Assistant Surgeon Von Ezdorf and was admirably directed by him.

Such, then, in brief, was the plan of campaign adopted to stamp out the epidemic. To recapitulate: (*a*) The isolation of the patient by screening; (*b*) the fumigation of the infected premises for the purpose of killing infected and other mosquitoes; (*c*) to prevent the propagation of the *Stegomyia fasciata* by covering all stagnant water with oil, killing the larvæ and preventing the laying of eggs; (*d*) the general and systematic disinfection of the entire city.

DIFFICULTIES ENCOUNTERED.

It may be well now to discuss the difficulties encountered in the progress of the work and which interfered materially with its effectiveness. These may be done under four heads: 1. Lack of sufficient authority to carry out necessary sanitary measures. 2. Ignorance of the people. 3. The possibility of the introduction of infected mosquitoes from Nuevo Laredo, across the Rio Grande. 4. Unfavorable weather.

The first two items, being closely associated, will be taken up together.

(1) Lack of sufficient authority to carry out sanitary measures, and (2) ignorance of the people.

When yellow fever was declared to be present in Laredo and the town quarantined a large part of the people, particularly the ignorant class, were filled with the idea that the physicians and the authorities were in a conspiracy against them, and that the main object they had in view was the making of money. They went even further, and it was quite generally believed that the physicians poisoned their patients to get rid of them as soon as possible and in this summary manner end the epidemic. Patients not only refused treatment, but resisted, frequently, to permit the use of the clinical thermometer, thinking that this, too, was poisoned. This was certainly an amazing condition of affairs, and it was difficult to believe that such perversion and crass ignorance could exist within the confines of the Republic. These extravagant opinions were supported by one or two irresponsible sheets printed in Laredo.

Under such circumstances it is not to be wondered at, that all possible means were resorted to to hide cases from the physicians and inspectors. It frequently happened that when a physician reached a house where some one had been reported sick no patient was found, the sick one having been removed to other quarters, or else the house would be found empty and closed, the entire family having moved away.

Patients very ill with yellow fever have been known to get out of bed and hide in a privy or other outbuilding when informed that a physician or inspector was approaching. Moreover, they usually had some member of the family on guard to give the required information. A house-to-house inspection was commenced under the direction of the state health officer September 29. This was later on supplemented by vol-

unteer inspectors named by the mayor. The results were not satisfactory. Finally it became so apparent that cases were being hidden, and that this was one of the principal reasons why the epidemic could not be controlled, that I withdrew the four acting assistant surgeons in charge of disinfecting work, and appointing an additional one, started them on house-to-house inspection on November 9. They worked with good results for several days, when the better class of citizens, becoming interested in the matter, offered their services as inspectors. These were put to work under the direction of a committee consisting of the sheriff, the county clerk, the state health officer, the representative of the Public Health and Marine-Hospital Service and several prominent citizens. The results of this intelligent volunteer inspection force, working in conjunction with and under the direction of the sanitary officers, were excellent. In a little over two weeks, with the aid of favorable weather, the epidemic was entirely under control. Too much praise can not be given these citizens for the disinterested and effective work done by them, and it is to be regretted that their services were not offered at an earlier date.

HOSPITAL.

In organizing the plan of campaign against the epidemic, one of the first things that occurred to the writer was the establishment of a hospital. Without one the entire system appeared faulty and ineffective. This was especially the case in a town, such as Laredo has been described to be, with a very large and ignorant proletariat, living in houses which scarcely merited the name, and under hygienic conditions which must be seen to be believed. Here was a large part of the population unable to care for its sick, and among whom the problem of mosquito disinfection was surrounded with difficulties which were at times insurmountable.

How was a miserable "jacal" consisting of but one room eight or ten feet square and about six or eight feet in height, made up of boards loosely thrown together, or tin cans or old sheets of tin or iron and other inconceivable materials, with cracks and open spaces everywhere, to be effectively disinfected? In many cases the patient had to be removed to the shelter of a tent and the house papered inside and out before disinfection could be attempted. But in a structure such as has been described the removal of the patient, and the very process of making it fit for mosquito disinfection defeated in a measure the object in view, for the movements of the men of the disinfecting gang within a space so reduced would be sufficient to drive out the mosquitoes within the inclosure. The attempt to screen a patient under such circumstances was equally difficult, and naturally was not as effective as could have been wished.

A mosquito-proof hospital, in which such patients could have been removed at once, was, therefore, of the greatest importance. But here again we were confronted with the ignorance of the people and the lack of authority to enforce sanitary measures. After consultation with the mayor and other prominent citizens I was dissuaded from carrying out my intentions respecting the establishment of a hospital. It was impressed on me that the very class of cases I wished to remove to a hospital would absolutely refuse to go, and that there was no authority to force them to do so. My experience with the people soon showed me that this was true and the plan to establish a hospital, while ever present to my mind, was finally abandoned. However, I believe it was an error not to have carried out my original intention, and under similar circumstances, and with my experience at Laredo, I would insist on a hospital, well appointed and well managed, hoping in a short time, by a demonstration of its merits, to overcome the prejudice against it.

The lack of authority to carry out sanitary measures was, as may be seen from what has gone before, the most important obstacle to our success in dominating the epidemic. It interfered with the house-to-house inspection, with the oiling of barrels and cisterns, with the screening and disinfection of houses and premises and prevented the establishment of a yellow fever hospital.

The Laredo epidemic has shown conclusively to my mind that results such as were obtained in Havana in the suppression of yellow fever during the American occupation can not be obtained elsewhere, where the disease is widely spread, without the undisputed authority and the means that were at the command of the Government of Intervention in Cuba. These powers in reality amounted to martial law. In Havana, too, there was no tendency to hide cases, and Spanish emigrants, who furnished the majority of cases, were immediately taken by their friends to a "Quinta de Salud" or private hospital connected with beneficial aid societies, of which there are several in Havana, and in this way promptly came under the observation of the authorities, so that proper precaution could be taken. This simplified matters very much.

I believe that under martial law the Laredo epidemic could have been controlled within three or four weeks after the disease had been officially declared, September 25, even though at that time it had already invaded many parts of the town. When one considers what this would have meant to Laredo in the saving of life, the conservation of commercial and railroad interests and, in addition, the benefits to the surrounding districts, it becomes a serious question whether under such circumstances the establishment of martial law, or something equivalent to it, should not be the very first step to be taken in the suppression of an outbreak of yellow fever or in fact of any of the epidemic diseases.

In most epidemics the hardships endured by the people, the loss of life, the interruption of commerce, causing heavy financial losses, all are greater than in the case of riots or other disturbances of the peace for which ordinarily martial law is imposed. Such being the case, it is not clear why this efficient means of combating an epidemic should not be more strongly recommended, nor why so much opposition should be aroused against it, when it is suggested.

Now let us inquire into the third difficulty which presented itself to our efforts to control the epidemic, that is, the proximity of Nuevo Laredo and the possibility of mosquitoes being carried by the winds across the Rio Grande.

In Nuevo Laredo no practical mosquito disinfection was done until late in the epidemic, when something was attempted in that line, so that the number of infected stegomyia must have been very great. During the summer and fall, and until such time as the northers begin to blow with frequency the prevailing wind is from the southeast and south, that is, directly across the river from Nuevo Laredo toward Laredo. The wind at times blows with considerable force. As already stated, the width of the river is about 1,500 feet and there is a long, narrow island, covered in part with thick brush, situated near the American side. The distance from the Mexican bank of the river to this island is about 900 feet, the width of the island 400 feet, and from it to the American side 200 feet.

Under these circumstances I can readily believe that the stegomyia might easily be carried across the river by the wind.

Knowing that the stegomyia is a house mosquito, and therefore, usually, is in a position to obtain shelter against the wind. I do not consider that they would be carried over in any great numbers, but it is very probable that quite a few were introduced into Laredo, Texas, in that way.

The authorities of Nuevo Laredo were urged to take more effective sanitary measures, and in fact a good deal of work was accomplished under the direction of the active and efficient mayor and health officer, Dr. de la Garza; but for lack of funds it was far from being what it should have been. The Mexican authorities, indeed, had the advantage of power, which we lacked. They were not confronted by the good(?) citizen insisting that "his house was his castle" and that he would shoot the first one who attempted an entrance, but on the other hand they lacked the "sinews of war" to make their power effective.

As has been said, the two Laredos are practically one, and the epidemic could have been handled much more effectively had it been possible to so consider them for epidemic purposes. The necessary arrangements should certainly be made

with the countries contiguous to the United States, so that under such circumstances as existed in Laredo, sanitary measures against an epidemic could be taken conjointly by the nations interested.

To the drawbacks already mentioned may be added another—the weather. With the exception of two or three comparatively cool days in the latter half of October the weather was unseasonably warm and wet until late in November. This naturally made our war against the mosquito all the more difficult.

STATISTICS OF EPIDEMIC.

One thousand and fifty cases of yellow fever were reported up to November 30, when the epidemic was declared over and quarantine against Laredo raised. Only a few isolated cases were reported after that date. These 1,050 cases occurred in 580 houses, the patients being screened and the houses disinfected.

Of the above number of cases 103 died, or 9.80 per cent. This mortality is about the same as that in recent epidemics. While I believe that quite a number of the cases reported as such were not yellow fever, there is no doubt that many cases of mild yellow fever escaped the inspectors and were not reported. These two sets of cases probably balance each other, and the figures given may be considered close to the actual truth.

The following table is of interest as showing the difference in mortality among the Americans and Mexicans, and also emphasizes the difficulty we had to contend with in reaching the latter class:

YELLOW FEVER STATISTICS, LAREDO, TEXAS, FROM SEPTEMBER 25 TO NOVEMBER 30:

Number of cases, Mexicans	691
Number of cases, Americans	359
Total	1,050
Number of deaths, Mexicans	95
Number of deaths, Americans	8
Total	103
	Per cent.
Death rate, Mexicans	13.75
Death rate, Americans	2.23
Total death rate	9.80

Fifty-five Mexicans were discovered dead or in a dying condition.

It is estimated by Dr. Juan F. de la Garza of Nuevo Laredo that there occurred in that town during the epidemic from 2,500 to 3,000 cases of yellow fever. From personal observation and from information obtained from reliable citizens of the place, I am inclined to agree with him.

Estimating the population of Nuevo Laredo at the time of the epidemic at 6,000 persons, we deduce that nearly or fully 50 per cent. of the inhabitants were attacked by the disease.

On the other hand, in Laredo, Texas, with an estimated population of 10,000 during the epidemic, there were only 1,050 cases, or about 10 per cent. of the inhabitants thereof. I consider this an excellent showing and sufficient compensation for the labor and expense incurred in fighting the epidemic, bearing in mind also that steps had been taken and were subsequently carried out for completing postepidemic disinfection of the city and surrounding districts with the object of preventing infected mosquitoes and a few isolated cases keeping up the disease during the winter months and giving rise to a fresh outbreak in the spring. For, as a result of our efforts, Laredo can not be considered as an immune town, such as I believe Nuevo Laredo to be. In Nuevo Laredo the epidemic had full sway, and all those naturally subject to the disease, I think had it, whereas in Laredo, Texas, as a result of the sanitary measures taken, there still remains a very large majority of the inhabitants who are liable to contract and spread the disease.

The above figures also compare very favorably with those of the yellow fever epidemic of 1899 at Key West, where a total of 1,350 cases were reported and 68 deaths.

I have no way of knowing what the estimated population of Key West may have been during the epidemic, but judge it would not have been over 12,000. It is probable that of those that remained in the city one-half were immunes, through previous epidemics or, on account of their Cuban birth, having been immunized by an attack of the disease in childhood. So that, with very much less available non-immune material in Key West, the number of cases was considerably greater than in Laredo. This shows clearly the controlling influence of mosquito disinfection.

The quarantine against Laredo by the state of Texas was officially raised November 30; a proclamation to that effect being issued by the governor on that date.

DEATH OF SURGEON R. D. MURRAY.

No place appears more appropriate than this to mention the eminent services rendered by our distinguished fellow-officer and esteemed friend, the late Surgeon R. D. Murray, late ranking surgeon of the Public Health and Marine-Hospital Service, and the veteran of many campaigns, both of arms and of sanitation. He came to Laredo under special orders from the Bureau and united himself with us, joining in our labors, assisting us with his counsel and advice. His special duty was to act as expert diagnostician and ferret out and report cases of yellow fever. He supplemented this by treating a large number of cases, especially of the poorer classes.

The number of physicians in Laredo was limited and, at times, insufficient for the calls on them, so that all the officers of the Service were occasionally occupied in the treatment of cases, work which was foreign to their duties, but which had to be done under stress of circumstances.

Dr. Murray did by far the greatest amount of this volunteer work. The effects of his kind treatment of the Mexicans, remaining night after night at their bedsides in the hope of saving some poor and abandoned patient, was most salutary on the minds of these people and was rapidly breaking down their antipathy and suspicion against the American doctors, when destiny called him away from the scene of his labors and through a deplorable runaway accident on November 15, while on his way to visit a case, he met with injuries which caused his death a week later, on November 22. The demonstrations of grief on this occasion from his fellow officers and the people of Laredo were great, indeed, but not more than a fitting tribute to the great-hearted and generous soul that had passed away.

The tragic death of Surgeon Murray will always leave a feeling of sadness in connection with the epidemic of 1903 at Laredo. He died in full armor, in the discharge of his duties as an officer, a gentleman and a physician.

Laredo was our principal field of operations and we were fully occupied therein, but, notwithstanding this, we were obliged at times to devote some of our attention to nearby towns. Of these Minera furnished some interesting data and will be now considered.

MINERA.

Minera is a mining camp situated about twenty-five miles northwest of Laredo and communicating with it by means of the Rio Grande and Eagle Pass Railroad, one mixed train running daily, except Sundays, over this road. It has a population of about 1,100, consisting of miners and their families, almost all Mexicans. The majority live in houses constructed by and belonging to the Rio Grande Coal Co., but quite a number inhabit miserable huts of the worst kind, built by themselves. The camp is situated close to the banks of the Rio Grande and on the opposite side of the river is the Mexican town of Columbia with a population of about 1,500.

Suspicious cases of illness having been reported from Minera, Surgeon R. D. Murray visited the place October 1 and found seven cases and one death from yellow fever. Minera is well isolated and has no rail communication except with Laredo, so that the danger of the disease being carried to other points in Texas was not great, and as the Rio Grande Coal Co. employed a physician to look after the miners, and our time was fully taken up with Laredo, it was deemed sufficient to give the necessary instructions as to screening and disinfection and leave the carrying out of the work to the company's physician. But as the cases of yellow fever continued to increase in number, it was finally decided that we should take hold of the situation and make an effort to control the epidemic.

F. S. Goodman, pharmacist and special disbursing agent of the Public Health and Marine-Hospital Service, was sent to Minera with a disinfecting gang and a complete outfit, with instructions to disinfect every house in the place and to cover all standing water with oil. The mission of Pharmacist Goodman was executed with extraordinary vigor, thoroughness and success.

The history of the Minera epidemic is extremely interesting and shows conclusively the efficiency of mosquito disinfection in controlling and stamping out an epidemic. Up to October 20 there had occurred in Minera, a town or mining camp of about 1,100 inhabitants, 96 cases and 7 deaths from yellow fever, showing that the disease was generalized. A thorough disinfection of the village done under extreme pressure and within the remarkably short time of something less than three days, was concluded October 21.

On that day two new cases and one death were reported, one case and one death on October 22, and two cases on October 23. From the latter date not a single case occurred until October 30, an interval of more than six days, when one case was reported; then another interval of five days until November 6, when three cases were reported, after which date a few cases appeared from time to time, until the advent of cold weather, aided by the efforts of the officers of the coal company to stem the recrudescence of the disease, following our methods, finally stamped it out.

Considering the incubation period of yellow fever as from five to six days, the above figures show conclusively that the mosquito disinfection of Minera was effective in stamping out the disease.

Whether the second outbreak was due to importation from without or to some infected mosquito that had escaped destruction during the disinfection of the camp, is uncertain, but in any case it is clear that the disease had been practically exterminated and that if reasonable vigilance had been exercised by the officers of the coal company or we had been in a position to devote our attention to the work, the disease would never have been permitted to again obtain any headway. As it is, subsequently to the general disinfection of Minera, on October 21, 36 new cases and 2 deaths occurred up to December 1, without counting the 5 cases and 2 deaths which were reported October 21, 22 and 23, and which it is clear had been infected before the process of disinfection had been concluded.

It is, indeed, more probable that the second infection was introduced from without, as the Mexican town of Columbia, on the other side of the Rio Grande, was at that time ravaged with yellow fever, and in spite of the guards maintained along the river by the Service, the state and the coal company itself, it is well known that there was illicit communication between the two villages.

CONCLUSIONS.

1. The results obtained through the efforts to combat the yellow fever epidemic at Laredo go to demonstrate that the mosquito (*Stegomyia fasciata*), is the only means of transmitting yellow fever and that the efforts to destroy the same were productive of much good, greatly limiting the number of cases.

2. The measures taken to prevent the reproduction of the *Stegomyia fasciata* or other mosquito, by oiling all water containers and deposits of stagnant water, were completely successful.

3. It was demonstrated that to control an epidemic of yellow fever which has gained considerable headway (and such is the condition usually met with), it is necessary to have absolute power to enforce sanitary measures until such time as the people are educated up to the importance of such measures.

4. Inasmuch as the *Stegomyia fasciata* can only become infected by biting the patient during the first three days of the disease, it is of vital importance that cases of fever be reported at the earliest possible moment, so that they may be screened and the mosquito prevented from biting them. Such being the case, an efficient system of inspection is necessary, especially where there is a tendency to hide cases.

5. It is impossible to obtain good results without a mosquito-proof yellow fever hospital.

6. The difficulties of handling an epidemic are increased when such outbreak occurs on the frontier. Arrangements should, therefore, be entered into by treaty with contiguous foreign countries so that, under such circumstances, sanitary measures may be carried out jointly by the countries interested, for mutual protection.

7. Insistent and continued efforts should be made through the public press and other available means to educate the people within the sphere of influence of the *Stegomyia fasciata*, so that they will learn to protect themselves against the invasion or spread of yellow fever among them by destroying the means for the propagation of said mosquito, and by protecting themselves against the mosquito by efficient screening.

Above all, to eradicate the existing fear in the medical profession, as well as among the laity, of declaring the existence of yellow fever. If the first case presenting the slightest suspicious symptoms of that disease were promptly made public, and the proper modern precautions taken, there would be no danger of the disease spreading. In fact, the public should be taught to acknowledge the existence of yellow fever in their midst with the same equanimity as in the case of measles or scarlatina.

8. The effort to control the epidemic at Minera was decidedly successful and would have been entirely so if we could have given it undivided attention. The results at Minera demonstrate almost as clearly as those in Havana that the mosquito is the only means of conveying yellow fever.

Finally, it is a pleasure to state that our relations with Dr. R. G. Tabor, state health officer of the state of Texas, and his staff, as also with the city and county authorities, were most cordial and happy. This accord was of the greatest importance in obtaining the best possible results from our mutual labors.

As to my personal staff, several of whom I have already mentioned in the body of this report, I have to say that one and all complied faithfully with their duties and to them is due in large part such success as we may have achieved.

SUICIDE; WITH SOME ILLUSTRATIVE CASES.*

JOHN L. DAVIS, M.D.

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CINCINNATI, OHIO.

The alarming increase of suicide in recent years in this country is sufficient warrant for calling your attention to the subject to-day. The gifted editor of the *Chicago Tribune*, Mr. Upton, recently contributed some statistics to the *Independent* illustrating this lamentable fact. He showed that in twelve years there have been over 77,000 suicides recorded in the United States, the number increasing annually from about 3,500 in 1891 to 8,600 in 1903. Doubtless many cases failed to reach public knowledge, and doubtless many others recognized as suicides were officially reported under other causes of death. Had all these been noted properly, without doubt our country would show a loss at this time of fully 10,000 a year from self-destruction.

The *Medical News*[1] of New York says: "There have been 50 per cent. more suicides in Chicago in 1903 than in 1902." The same journal states that in Philadelphia for 1902 the official records showed ratio of 15 deaths per 100,000 of population.[2]

Great as is this death rate with the population at large, among insured lives unhappily the ratio is still greater.

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

1. March 7, 1903, p. 476.
2. Medical News, New York, Sept. 5, 1903, p. 466.

President Fouse of the Fidelity Mutual has shown that, while during fifty years the increase in suicide has averaged 30 to each 1,000,000 persons, this increase among insured lives has been much greater. He states: "There is little doubt, when persons are insured under a policy containing a suicide clause, such deaths are often reported as accidental."

The very elaborate and instructive tables prepared by the medical directors of the Mutual Life of New York, and published by that company, show a loss from suicide of nearly 3 per cent. of the company's total mortality.

The company with which I am connected had, in 1902, between 600 and 700 deaths, of which 20 were suicides; last year, however, the ratio was considerably more favorable.

Unfortunately, suicide is not limited to the male sex, though as a rule among civilized people men are three times as liable to self-destruction as are women.

No race nor nationality is exempt from the possibility of suicide. Civilized or barbarian, heathen, pagan or Christian, all are subject to what has been called the crime of self-destruction.

Some nationalities are far more prone to suicide than are others. The unenviable record in self-destruction is held by the people of Central Europe, Bohemians, Poles and Austrians showing the largest percentage, and Dr. Charles Lyman Greene claims this notorious eminence for the Germans.

At the other end of the list, showing least tendency to suicide, is the negro. It is uncommon for the negro to commit suicide; he is happy, easily satisfied and not, ordinarily, overstimulated with ambition; so, while as a race he shows no tendency to race suicide, as an individual the idea of personal suicide rarely ever reaches a fatal fruition. In explaining the comparative rarity of suicide among this race, O'Dea says:

"There are many reasons for this difference, but the chief is probably the indolent, self-satisfied and happy-go-lucky disposition of the negro. Despite his emotional susceptibility in some directions, the negro is a matter of fact being. He possesses the faculty of seeing most things as they are in a shrewd and sensible light. This is the noticeable feature of the objective temperament—the temperament least prone to be influenced by causes tending to suicide.

"It is neither an exclusive property of the negro nor of semi-civilized people generally, though certainly a prominent feature of the semi-civilized state.

"Only those communities or races that have made progress in civilization present a high rate of suicide, for suicide is a crime which results, in a great measure, from the personal and social influence of civilized life. Such being the fact, it needs no argument to show why the negro, who yields comparatively little to these influences, even in America, shows a tendency to suicide far short of his more advanced, but as regards the present inquiry, less fortunate brother."[3]

No age except infancy is exempt from the possibilities of suicide.

According to the United States Census Report of 1870, two suicides were little children between 5 and 10 years old; and five were persons of 90. At age 50 the maximum was reached.

The causes or motives of self-destruction are various, and they differ with different ages.

With a young child growing and oversensitive, slight causes are prone to exaggeration. As Upton says, a slight rebuke, a reprimand, envy of success of a companion, pique over fancied insult, despondency over an ephemeral love attachment, may account for many juvenile suicides. (In passing I may say with adults often no stronger motive is needed.)

O'Dea says truly that physical pain never impels a child to suicide, as it so often does adults; it is moral pain—a shock to its sentiment or to its feeling of justice.

The greatest number of suicides are credited to middle life. From young manhood upward through the years of maturity the influences leading to suicide are changing. At first during adolescence, the development of sexual instinct with its varied retinue of new feelings, emotions and ambitions; later come the strife of active competition in the busy world, the family cares and responsibilities—the hard battle with the world and the frequent defeats. There is often added the irresistible craving for artificial stimulus to keep up the struggle; there may be sickness and accident and disaster to be faced. So often is the contest felt to be unequal that mortal flesh is overpowered.

When advanced years have brought the storm-tossed sailor to less turbulent waters, other evils are felt more oppressive—incurable disease, the loss of friends or of property, the solitude of the world as realized only by the aged. Then death is a welcome relief.

So we see the impulse to suicide varies with the age, the mode of life and environment of the victim.

The means by which self-destruction is brought about varies, too, with a man's surroundings and daily experience. A druggist will naturally take a poison; a man used to fire-arms finds those deadly weapons most convenient.

How can the tendency to suicide be lessened? There are several general suggestions to this end.

In the first place, whatever can be made to diminish our fitful, feverish, strenuous life will be in the right direction. The same general influences which lead to suicide produce nervous disorders of all kinds, from vague neurasthenia to insanity. In any community where there is much insanity there will be a high ratio of suicides.

Our American strenuous life is having a disastrous result on the physical condition of our people; they are becoming physically unbalanced. And this feverish intensity and eagerness to excel begins almost at the cradle and ends only at the grave.

The poor little tot in kindergarten is ambitious to win prizes and to surpass in his little games the other infants.

The school girl must be at the head of the class, even if winning the position brings on brain fever, a stunted growth or a ruined disposition.

The fellows in college will outstrip the others in the foot race, even if it results in an overstrained heart.

The business man is bound to have a bigger company than his competitors, although to effect it he works nights and Sunday, too, and for months and years at a time he deprives his deserted family of his questionable society. And what is the use of it all? His fitful life is ended prematurely, and his neighbors are glad he is out of the way.

The fundamental mistake we make is in our misconception of the purpose of life. We exalt an inanimate thing—financial success—rather than man himself. Until we earnestly believe that man is more than raiment, our feverish, unbalanced career will move madly on.

3. Suicide, O'Dea, p. 196.

But it is full time thoughtful people stopped the pursuit of the fleeting shadow of gold and contemplated the substance itself—humanity. In the simpler life true happiness will be found. It will be found in our efforts to develop man morally, mentally and physically; by lessening our competitions and conflicts; by increasing our sympathy and interest in our fellow; by lifting him up rather than climbing on him.

Suicides naturally are most prevalent among those people who are the most civilized and educated. Of course, this is not a consequence of education, although indirectly it is connected with it. It is consequent on the strife and competition which are a necessary part of progress as already intimated.

But just where suicides are most common, there is found an element most potent in discouraging it. I refer to religion—not any special creed nor dogma, but to the pure reverential spirit which has faith in God and His righteousness.

Men are three times as liable to commit suicide as are women; and without doubt the marked superiority of women in this respect is due to their stronger religious faith. In the doctrine of some churches the sin of suicide is made so abhorrent as to be a most powerful factor in preventing among their adherents the tendency to self-destruction. And it is rare, indeed, that a person of genuine spiritual faith, of whatver creed, deliberately commits suicide. Hence true religion is of highest importance in checking the tendency to suicide.

There is a growing inclination to show what is possibly an excessive sympathy for the suicide. I think it is a mistake to regard deliberate suicide as anything else than a crime; self-destruction is murder; unsuccessful attempt at suicide is in most communities punishable. But it is often lightly treated with something of an apology. Too great laxity in this direction is apt to be serious, and tends toward those epidemics of suicide which have occasionally shocked the world—epidemics which were only checked by severe indignities inflicted officially on the suicides' bodies.

One more factor remains to be considered—the daily press. How artistically are the descriptions given with pencil and camera! How eagerly we read the thrilling and revolting details of the case! Column after column we gloat over the horrid details; and some readers, a little warped in their nervous systems, whose impulses are like skittish horses and ready to run, are so fascinated with the story that sooner or later they imitate exactly what they have read so hungrily. Many and many a time has such a description directly led to other suicides.

A few months ago a peculiarly horrible murder was committed in a country town near Cincinnati.

The whole neighborhood was acquainted and many of the people related through kinship to the victim and members of her family, and very widespread interest in the affair was natural.

As the time for trial approached, our enterprising papers deputed their best reporters and artists for the work. One paper, a little more active than the rest, even established a private telegraph wire to the scene of the trial.

The papers were filled with the full details, descriptions, photographs of surroundings, the suspects, victim and others connected with the proceedings. The whole country about the little village was saturated with the fullest information regarding the case.

Ten days ago the trial was ended, but the terrible results of the newspaper enterprise are not yet ended. Thus far there have been two attempts at suicide among those who have carefully followed the proceedings, and a third man has been driven insane.

All of these crimes, I think, should be charged to the excessive and unwarranted notoriety given to this case through the press.

But the newspapers only publish what people want, you say. That is true. But why not give the people something better than they want. Saloons only give the people what they want, yet no public-spirited citizen advocates saloons near his home. It should be forbidden legally to relate the details of this crime, or other crimes for that matter. There should be filed for official statistical record the essential data, and the newspapers, perhaps, limited to the dry facts alone. Were this done, a great step would be accomplished in checking the growth of morbid taste in the community; and many a life would be saved which now hangs on a frail thread in the trembling hands of a possible victim on the borderlands of indecision.

Illustrative cases from the author's personal knowledge:

CASE 1.—A young man, good health and habits; ambitious and industrious; first-class surroundings; small salary, spending more than income; soon hopelessly in debt. Borrows $100, which he pays on account of premium on $10,000 policy. This secured, blows his brains out and leaves the young widow $10,000, less balance of first premium.

CASE 2.—An old planter, thriftless but ambitious; everything heavily mortgaged; takes a $10,000 policy. Soon after is found in the woods with throat cut and knife in hand. The unfortunate suicide is deeply deplored by the local papers. The lamented and distinguished citizen's policy is read over and found to contain a clause voiding it if death from suicide occurs within three years. But the family and community need the money. So the neighbors suddenly decide it is not a case of suicide, but of murder.

The next step is to find the murderer. Without much difficulty two worthless vagabond negroes are picked up and thrown in jail on suspicion. They have no friends; one easily proves an alibi, but it does no good. The family needs the money, and negroes are very cheap in that part of the country. So they are readily found guilty of murder and hanged, and the family gets $10,000, and lives happily ever after.

CASE 3.—A highly-educated German of wealth and standing in his city was found, when examined for insurance, to be the unconscious victim of an incurable disease. He was greatly shocked and fully realized the significance of the doctor's discoveries. Next day he took a dose of cyanid of potash.

CASE 4.—About two weeks ago the whole community of Macon, Ga.—in fact, practically the whole south—were terribly shocked by the suicide of a prominent citizen of Macon, a man 56 years of age, an upright citizen, at the head of large financial institutions and interested in various great enterprises in the south, reported by commercial agencies to be worth $1,000,000. Under apparently great business strain, his health failed, and finally, to the shock of the whole business world, suicide resulted.

The community was still more surprised and shocked to find that the prominent citizen died bankrupt. His estate was taken charge of by a receiver, and it is very evident he had been under the greatest financial and mental strain conceivable.

A singular feature is that he succeeded so fully in deceiving every one as to his actual financial condition. He was successful in increasing his line of life insurance in the last half dozen years until the figures reached over $1,000,000. But even this vast sum is likely to be swept away by his indebtedness and wild speculative schemes, which, by some means, he was able to conceal largely from the public.

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BOARDS OF HEALTH AND PREVENTION OF DISEASE.

The importance and the scope of preventive medicine increase apace as our knowledge of the origin and transmission of diseases increases, and the duties and responsibilities of health officials—state, municipal, local—increase accordingly. In respect to certain eminently transmissible diseases, e. g., smallpox, diphtheria, scarlet fever and the like, preventive measures generally prescribed and practiced by the public-health authorities are in reasonable accord with our present knowledge of the dissemination of infection in these diseases. In the case of smallpox, for instance, preventive measures —vaccination, isolation, disinfection—as a rule are carried out with great thoroughness. In the case of no other transmissible disease of common occurrence in temperate regions, some of which diseases may be highly dangerous and fatal, is isolation of the patient carried out so effectively as in smallpox—rich and poor are unceremoniously conveyed to special hospitals, commonly known by the unattractive name of "pest-house," and often of a decidedly primitive character. There is no objection to this, but we believe that one weak point in our efforts to prevent smallpox lies in an inadequate control of vaccination. How frequently during recent epidemics did not susceptibility to smallpox demonstrate the unreliability of the physician's certificate of successful vaccination? Measures must be instituted with the view to a more direct and responsible control of vaccination than heretofore.

There are, however, several other transmissible diseases, in the prevention of which probably a great deal more can be done by our health officials than has been attempted. We have in mind such diseases as typhoid fever, dysentery, gonorrhea and syphilis. The absence of all regulations as to syphilis and gonorrhea shows conclusively enough that in certain respects real preventive medicine is still in its embryonic stage. The problems connected with the prevention of syphilis and gonorrhea merit the earnest efforts of our boards of health, especially in the large cities. Here is in a certain sense a virgin field for administrative undertakings that might bear rich fruit. In the case of typhoid fever and dysentery, the conditions are less complicated, and on the whole ripe for new and energetic measures on the part of our health authorities. We have in mind not so much the character of the water supply, concerning the importance of which in the dissemination of typhoid and other intestinal diseases the profession and the public are now reasonably well informed, and in regard to which health officials certainly need no special reminder at this time, as the prevention of all possibility of infection of water and milk by the destruction of the bacteria in question as they leave the body of the carrier, be this the patient in the acute stages of the disease, the convalescent, or the healthy individual. We now know that typhoid and dysentery bacilli may be disseminated by these three kinds of carriers, of which the two first mentioned are especially important, because they in a sense also are producers of the infecting organisms, which in the body of the sick may multiply to an extraordinary degree. In the case of dysentery it concerns the feces, but in the case of typhoid fever it concerns not only the feces, but also the urine, and in certain cases the sputum.

While it must rest to a large extent with the attending physician to see to it that infecting discharges of all kinds are thoroughly disinfected, yet the great importance of these measures in the prevention and limitation of typhoid fever, as well as dysentery, properly places them under the control and regulation of the authorities. It certainly becomes the duty of our boards of health to regulate, as efficiently as possible, the destruction of the infecting discharges of typhoid-fever patients just as much as to prescribe isolation and disinfection in such diseases as smallpox, scarlet fever and diphtheria. Why should not typhoid fever and dysentery be made notifiable diseases generally as well as diphtheria? This would place the cases under the jurisdiction and inspection of the health officers. Much good would result from explicit and authoritative instructions from boards of health in regard to the best recent methods of disinfection in these diseases. Information should be circulated concerning the dangers of contact infection, concerning the rôle of flies in spreading disease and other phases, knowledge of which would aid in prophylaxis. It is evident that energetic measures against these diseases necessitate apparatus and trained persons for the detection of bacilli in urine and feces. All sources of further infection should be placed under control as promptly in the case of typhoid fever as in the case of the eruptive diseases and diphtheria. Why not? But how few of our state boards of health are prepared to render promptly such assistance as here outlined, in the case of typhoid fever, for instance? The time has arrived when our state boards must provide themselves with fully equipped laboratories, manned by trained bacteriologists and sanitarians. We already have a few excellently organized laboratories of this kind, and we believe that many of our municipal laboratories are doing work of a high grade, but there is an impression that their measures against intestinal diseases in particular have not been remarkably progressive and energetic, as a rule. Certainly it no longer is possible for the state boards to meet their growing responsibilities by the means of a salaried secretary, unless he

has adequate knowledge and training and is not overloaded with routine duties, and unless a few members receive a per diem allowance.

Eventually, this higher, trained service must be demanded of our local boards. Only by reorganization and improvement of our public-health service will the communities in general receive the benefits to which they are entitled by virtue of our growing knowledge as to the transmission of many infectious diseases. At present our measures against typhoid and other intestinal diseases (to say nothing of syphilis and gonorrhea, the responsibility for which belongs more to municipal boards) leave much to be desired.

RECENT DEVELOPMENTS IN THE STUDY OF CANCER ETIOLOGY.

In 1901 we published[1] two reviews of the cancer question, which presented most completely both phases of the matter as to the parasitic and the non-parasitic origin of malignant growths. It is interesting to note in looking them over that in the three years that have elapsed since that time, so little has developed that could be added to either side of the question, in spite of the number of workers attempting to solve the problem. To be sure, every now and then some one with the microscope has observed bodies in the tumor cells that resembled parasites, either animal or vegetable, and has considered them as either new discoveries of the specific cause, or corroborations of the work of earlier investigators, but in no instance has sufficient proof been forthcoming to convince pathologists, who must in the nature of things determine when the actual truth is disclosed before it can be generally accepted. There are plenty of interesting forms to be found in tumors, but the criticisms of artefact, cell inclusions and cell degenerations have not been easy to pass. On the other hand, about as many of the workers have made findings that have led them to question even the probability that tumors are produced by parasites, whether or not they have by their writings brought others to the same belief.

It has been known for some time that cell division in cancers assumes very abnormal methods which are quite characteristic of malignancy, for similar abnormal mitotic figures are practically absent in other pathologic conditions. This suggests that the very fundamental conditions of cell division are altered in cancer formation which, not being common to infections, would speak for some other cause, perhaps more related to the theories that involve the principles of cell multiplication, such as the misplaced embryonal matrix, or the parthogenetic division of germinal cells. Very important observations on this phase of the matter have recently been made by Professor Farmer of Oxford, assisted by other English workers, and as the principles involved promise to be the subject of much discussion in the future, an explanation of their nature and import may be in place.

Normal cell division is a remarkably consistent performance, in which certain principles are followed out most exactly. One of the most fundamental of these seems to be the separation of the chromatic elements of the nucleus into threads or chromosomes, the number of which is fixed and constant for the body cells of any given species of animal or plant. For example, the number of chromosomes in the cells of man is thirty-two, while in the lily it is twenty-four. These chromosomes then undergo certain changes in the formation of two new nuclei, each of which takes half of each of the chromosomes. In all organisms, however, there are certain cells that sooner or later differ from their fellows in having their chromosomes fuse in pairs, and so decrease the number of chromosomes to half of what they are in the other cells—in man, sixteen. This process, called reduction mitosis, produces the reproductive elements of the species, so that when one of the sex elements with sixteen chromosomes meets another of the opposite sex but with the same number, by their union we get a cell with the number characteristic for the body cell, and a fertilized ovum on the way to the formation of a new individual result. As long as these cells with reduced number of chromosomes multiply without fertilization, they continue to reproduce their own kind of cells, and their manner of division is known as homotypical mitosis. The importance of such a process to the perpetuation of species, and in this sense to cell multiplication, must be apparent, and likewise the great significance of the discovery of such a process in cancers. Professor Farmer has found that although many of the cells of a tumor exhibit the ordinary type of mitosis, certain of them in every malignant growth examined reproduce the heterotype form seen in the sexually reproductive cell series. Similar forms have never been found in benign tumors.

"The conclusion to be drawn from the above account is that, in a most important respect, some of the cells of a malignant growth have gone through a change similar to that which in normal tissues is confined to the production of the generations ending with the formation of the sexual cells."[2] Bashford and Murray have confirmed this work, and identified the same divisions in cancers of other mammals, reptiles and fish. The resemblance of these cancer cells to reproductive cells has led to the adoption of the term "gametoid" for them, leaving open for the present the question as to their identity with the true gametes (sexual cells).

The inference that may be drawn from this discovery is that in malignant tumors the starting point consists in the development of these sexual cells, which normally are found only in the reproductive tissues, and which, by fusing with one another, start a newly fertilized race of cells into existence. As new sexual cells are continually being formed in these growths there is

1 Park: THE JOURNAL, vol. xxxvii, p. 671; Senn: Ibid., p. 801.

2. Nature, Feb. 4, 1904.

no limit to the number of new breeds of cells started, and, therefore, no limit to the power of growth so long as nutrition is supplied. In the malignant tumors, Farmer has found figures that "strongly recall" the fusion seen in fertilization of germinal cells. It must be admitted that these developments fit with our observations on cancer most beautifully, and offer most attractive fields for thought and work. It is also to be noticed that the cause of the change of the cells of the body into the reproductive form is still open. Whether it consists of a chemical change leading to cell division similar to parthogenesis, or is simply a normal tendency in all cells, reached sooner or later by any of them, or is, perhaps, even stimulated by a parasite, remains to be learned.

THE PRECIPITINS.

The unexampled activity displayed in the study of the reaction products which are obtained when organic substances of the most diverse character are injected into the animal body, has already borne fruit in several ways. Among the many interesting bodies found in the "antisera" are the substances known as precipitins. It will be remembered that these were first discovered in 1897 by Kraus, who found that the serum of goats that had been treated with cholera bacteria, when added to the germ-free filtrate of cholera cultures, produced a precipitate, while normal serum, added to the same filtrate, left the latter entirely clear. The strict specificity of this reaction has been maintained by Kraus and other observers, but has lately been questioned by Norris[1] from the results of an extended research. This observer concludes that the bacterial precipitins can not be considered specific in the strict sense, although, like the sero-precipitins, they are markedly special. Cloudiness develops more quickly and the precipitate always is more copious in the homologous than in the heterologous filtrate. In low dilutions, however, an antiserum will precipitate the filtrate of other kinds of bacteria. It is suggested that by the use of appropriate dilutions the precipitin reaction may be used for detecting relationships between various bacterial groups.

The injection of other proteid substances, such as blood-serum, milk and white of egg, has been found by many investigators to give results wholly similar to those obtained by Kraus with bacterial filtrates, and in most cases the highly special nature of the reaction is strongly marked. As is well known, so much reliance can be placed on the specific character of the precipitins that the test with human blood has assumed great importance in medicolegal work. The serum of an animal that has been injected at suitable intervals with human blood or serum will cause a precipitate to appear when added even in extremely minute quantities to human serum, but produces no change, or at most a slight one, in the serum of practically all other living animals. As we recently noted,[2] the extract of mummy tissue responds to the precipitin test for human serum, thus showing the applicability of the reaction to material several thousand years old. In the blood of apes a distinct although feeble action is produced, and Nuttall, as the result of an exceedingly comprehensive investigation, has discovered the interesting biologic fact that the reaction with human precipitin-serum is notably stronger in the blood of the Old World apes than in those of the New, thus affording confirmation of the view that the former are more closely related to man than the latter. Other data warrant the generalization that the more remote the phylogenetic relationship between animal forms the feebler is the precipitin reaction, while close biologic affinities are betrayed by stronger precipitation. In addition to the employment of this test for distinguishing human blood stains from the stains produced by the blood of other species of animals, the precipitin test has been applied successfully in medicolegal practice for the safe identification of the stains produced by human semen. In this case the specific "antiserum" is prepared by injecting rabbits with human spermatozoa instead of with blood.

Uhlenhuth[3] has recently reported some important experiments which indicate that a further extension of this reaction is possible, namely, in the biologic analysis of the proteid substances found in one and the same animal. An antiserum for the yolk of the hen's egg can be readily produced in the usual way, and by the use of this it is possible, according to Uhlenhuth, to distinguish between the proteid substances present in the yolk and those in the white of one and the same egg. This author states, further, that by means of the precipitin reaction the proteid substances of the crystalline lens of the eye can be distinguished from those of all the other organs of the same animal. From his observations he feels justified in assuming that the lenses of mammals, birds and amphibia are in part composed of similar proteid substances, but that these substances are present in only minimal traces in the lens of the fish eye. It would appear that the relations existing between zoology and physiologic chemistry have rarely been brought to light so conspicuously as by the precipitin test, itself the outgrowth of studies in bacteriology and the theory of immunity.

SOME RECENT OBSERVATIONS CONCERNING BACILLARY DYSENTERY.

In the history of epidemic diseases there is much said about dysentery, both in times of peace and in times of war—especially, of course, in the latter. Naturally, it is difficult to tell at this time what special form of dysentery it may have concerned from time to time, although there is much to indicate that in many, if not most instances, it probably was what we now understand as bacillary dysentery. While much further investigation is necessary before the etiology of all dysenteric diseases

1. Journ. Infectious Dis., 1904, vol. 1, p. 463.

2. The Journal A. M. A., May 14, 1904.

3. Festschr. f. sechzigsten Geburtstage v. R. Koch, 1903, p. 49.

are fully understood, yet the definite recognition as the result of modern etiologic investigation of bacillary dysentery makes it possible to carry on etiologic and epidemiologic studies with greater precision and penetration than heretofore. Thus, Conradi's[1] recent study of what he regards as a contact epidemic in Metz, in Alsace-Lorraine, appears to bring to light points of great interest in regard to the genesis and history of dysentery. In the course of two months there appeared in Metz and vicinity 70 cases of a mild form of bacillary dysentery. There were only three deaths. Conradi examined 60 cases bacteriologically, and in the feces of 56 he demonstrated the presence of virulent bacilli of the Shiga-Kruse type, which were agglutinated by immune dysenteric serum. He could find no bacilli in the blood or urine of these patients. In the clumps of bloody mucus of the early cases the bacilli were often present in pure culture; in older cases it was necessary to carefully wash the masses of mucus before cultures were made from their interior. Conradi succeeded in recovering bacilli from the feces in 27 old cases, in the second to the fourth week after the attack, cases which, without the result of the examination of the feces, would have been regarded as healthy and free from all danger. Hence dysenteric patients may remain infective for one to four weeks, and perhaps longer, after an attack. Conradi also found dysenteric bacilli in the feces of five healthy children in Metz. These facts give us some idea of the manner in which the disease may be conveyed, and also of the difficulties in the way of its control. Anent this phase of the matter it is noteworthy that extensive epidemics of dysentery have been imported by the return home, for instance, of sailors with dysentery. An epidemic in Norway, in 1859, has been traced definitely to the return of a sailor who had been treated for dysentery in Liverpool. The disease spread from the home of this sailor and attacked in all 3,992 persons, of whom 621 died (15.6 per cent. mortality).

Conradi regards the epidemic in Metz as a "contact epidemic," because the disease occurred especially in the crowded homes of the poor, in which the sanitary arrangements were very primitive. Often there were several cases in the same house, the disease beginning in children and later attacking adults.

This Metz epidemic is interesting also from the historical point of view, because it appears to be the last outbreak of a long series which can be followed for some 1,500 years. These epidemics about Metz have been made the subject of special study by Maréchal and Didcon, who describe district outbreaks in 586, 1539, 1552, 1621, 1770, 1783, 1792, 1835, 1844 and 1870. During the siege of Metz in 1870 there developed, from August to October, 19,135 cases of dysentery in the besieging (German) army and 3,500 cases in the besieged. Since then sporadic cases have occurred from time to time. There was an epidemic of dysentery in Metz again in 1888. Under these circumstances one would expect the influences of immunity to make themselves felt, and Conradi believes that this is evident from the fact that of the 70 persons concerned in the last outbreak those over 25 years of age were immigrants, not a single aboriginal inhabitant older than 25 being attacked. Certainly this adds force to the natural inference that the Metz epidemics have been outbreaks of the same disease. It would appear that in the perpetuation of a disease in this manner the harboring of bacilli in the feces of healthy individuals must be an important factor. This may help to secure the viability of the infecting agent until such time as conditions arise that are favorable for the development of more or less extensive outbreaks.

1. Festschrift z. sechzigsten Geburtstage v. R. Koch. 1903, 554.

DATE OF THE PORTLAND SESSION.

The date set for the next session of the American Medical Association is July 11-14, 1905. This date has been decided on after considerable correspondence. The holiday season for the majority of medical men is from about the first week in July to September, and the schools have by that time all closed. Most of those who live in the east will want to utilize the trip to the Association meeting as their summer vacation, and if the date were that usually adopted for the Association meeting, these would not be able to attend. In July Portland has a delightful climate, and consequently there need be no fear of hot weather.

THE TRANSMISSIBILITY OF CANCER.

In spite of the immense amount of work which has been done on cancer in the past few years, and in spite of the almost universal failure of inoculation experiments, there are still those who believe in the inoculability of the disease. It is true that from time to time there have been experimental inoculations which were successful, of late years none more so than those of Leo Loeb[1] in this country. It is to be noted that in all successful cases so far reported the transplanted tumor has been reproduced in an animal of the same species as that from which the tumor originally sprang. Up to the present there has been no well-authenticated case of the transplantation of a tumor of human origin into an animal with growth and diffusion of the neoplasm. Dagonet[2] has just reported such a case. He claims to have transplanted an epithelioma of the human penis into a rat, with the result that this animal developed tumors of a similar histologic structure in the liver, spleen and omentum. These observations have all the earmarks of authenticity and can not be disregarded, but there is plenty of room for disagreement as to their interpretation. Dagonet and the believers in the parasitic theory of malignant growths claim that the success of such transplantations demonstrates that they are due to parasites. This, it seems to us, is an illogical conclusion. Both Hanau and Loeb, who succeeded in transplanting tumors, disclaim that inoculability means infectivity, and it would be just as logical to claim that a successful

1. Journal of Medical Research, vols. vi and viii.
2. Archives de Médecine Expérimentale, vol. xvi, No. 3.

skin graft is infectious as to claim that these tumor grafts are. It seems much more likely that these very rare successes in tumor transplantation are due to unusual vitality in the cells of certain tumors rather than to the presence of an infective agent.

THE PRODUCTION OF SAFE MILK.

The report of an inspection of eighty-eight dairy farms near Chicago by the inspectors of the Board of Health is interesting reading. It shows that definite progress is being made, and indicates means of prophylaxis against the results of impure milk. The Commissioner of Health recommends that all milk for children's use should be bottled in the country immediately after being thoroughly cooled; it should then be kept on ice and delivered to the consumer within twelve hours, but milk which is thus prepared will keep longer and with far less deterioration than milk in bulk. Special warning is given against bulk milk, which may be thirty-six or more hours old. The means of enforcing improvement in the conditions of milk production are by such inspection and the recommendation of improvements and later re-inspection followed, when necessary, by the exclusion from the market of the product from a delinquent farm. Out of eighty-eight farms inspected, the milking was done under clean conditions in sixty-one, the milk was properly cooled in seventy-one, it was properly strained in sixty-six, and the water supply was good on all of the farms. The continuation of this faithful, painstaking work of inspection will be fully paid for by the saving of lives and health, as has been amply demonstrated in the past.

HUMAN BEINGS AND THE PARASITE OF TEXAS CATTLE FEVER.

The recent discovery that the so-called "spotted fever" of the Bitter Root Valley is due to an intracorpuscular blood parasite of the species piroplasma, and the added knowledge that the disease is, in all probability, transmitted by a species of tick, might lead us, on theoretic grounds alone, to suspect that Texas cattle fever might be transmitted to man. As far as we know, there has never been in this country a reported case of such a character, but Lingard[1] has recently brought up the question in India, where he has observed a case which he regards as a mixed malaria and piroplasma infection in a cattle tender. The history of the case certainly supports Lingard's views, as do the excellent illustrations which accompany his paper. If such an infection can occur in India, we can see no reason why it can not occur in this country also, and Lingard's observation should cause the physicians of our southern states to be on the lookout for such cases. It should also lead to a further study of the piroplasma causing the tick fever of the Bitter Root Valley, with a view to determining whether this may not be a modification of the piroplasma of Texas cattle fever.

NOT THE FIRST SESSION IN THE WEST.

One of our weekly exchanges, in commenting on the fact that the next session of the American Medical Association is to be held on the Pacific Coast, says "this will be the first time in the history of the Association that the far-western country has been chosen." The American Medical Association met in San Francisco in 1871 and also in 1894. Furthermore, there was a time, and that not very long since, when the Rocky Mountains were considered to be in "the far-western country," and the Association met there in 1898. By the way, these meetings in the west were noted as being decidedly enjoyable ones, and, while we need not hope for as large a gathering as at the one just held, still it will not be surprising if the attendance at Portland next year is much greater than might at first thought be considered probable. The enthusiasm of the west will bring out a large representation from that part of our country, and there are many more physicians in "the far-western country" within comparatively easy reach of Portland than there were when the Association met in San Francisco in 1894. The attractions of the west are great; the trips to the Hawaii Islands and to Alaska, beside the attractions of the western part of our country itself, such as in the Yellowstone Park, will make a trip to the west and to the American Medical Association session a summer vacation in itself.

THE PREVENTION OF NEPHRITIS AS A COMPLICATION OF SCARLET FEVER.

Nephritis is an unfortunately common and fatal complication of scarlet fever, and the careful clinician is always on the lookout for its development, meanwhile employing such measures as are best calculated to abort its occurrence. To this end he strives to keep the temperature within reasonable limits, and he lessens the demands on the kidneys, insofar as he can, by increasing the activity of the other emunctories, namely, the skin, the intestinal tract and the lungs, while at the same time he flushes the kidneys by means of water introduced into the system by way of the stomach or the rectum or the subcutaneous tissues or even of the veins. It has been suggested that a useful purpose might be subserved in the prophylaxis of nephritis complicating scarlet fever by the administration of hexamethylene tetramin, also known commercially as formin, urotropin, cystogen, aminoform, etc., and reports have been made of the good influence exerted by this drug in preventing inflammation of the kidneys in the course or sequence of the disease named. This medicament has already proved serviceable as a disinfectant of the urine in the course of typhoid fever, in the treatment of cystitis, pyelitis and bacteriuria, and in connection with operative procedures involving the genito-urinary tract. It is entirely without unpleasant effect when administered in physiologic doses, up to seven and one-half grains, even for considerable periods of time. Dr. Buttersack[1] reports the treatment with hexamethylene tetramin of a series of ten cases of scarlet fever occurring in the course of an epidemic in a small German city, and in none of which nephritis developed. He believes the good results to be due to the decomposition of the drug in the tissues of the kidney, with the setting free of formaldehyd.

1. Centralblatt für Bakteriologie, vol. xxxvi, No. 2.

1. Deutsches Archiv für klinische Medicin, vol. lxxx, Nos. 3-4, p. 356.

Medical News.

CALIFORNIA.

Anthrax Outbreak.—An extensive outbreak of anthrax is reported among cattle at the Ria Vista, and the state veterinarian has gone to that place to attempt to limit the spread of the disease. It is feared that the prevalent floods may scatter the infection widely.

ILLINOIS.

Chicago.

More Smallpox.—After a period of quiescence, smallpox has again made itself manifest. Eight patients from this locality were sent to the Isolation Hospital recently.

Hospital Cornerstone Laid.—In the presence of an assemblage of more than 20,000, Archbishop Quigley laid the cornerstone of the St. Bernard Hôtel Dieu of the Hospitaller Sisters of St. Joseph, at Sixty-fourth Street and Harvard Avenue, June 26.

Health of the Week.—There were but 5 more deaths reported during the week ended July 2 than during the week previous, and the mortality rate remains low—only 10.75 per 1,000 annually, as compared with 15.70 for the corresponding week of last year. Measles and chicken-pox of a very mild type are generally prevalent throughout the city. A mild type of influenza is also prevalent.

Personal. Dr. Albert H. Hoy and family sailed for Europe July 6.——Dr. John S. Sweeney will sail from Montreal, July 14, to study European emergency hospitals.——Dr. and Mrs. Henry P. Newman have gone to their summer cottage on Walloon Lake, Mich.——Dr. Casey A. Wood sailed for Europe, July 9, summoned by a cablegram announcing the critical illness with typhoid fever of his brother-in-law, Dr. Cresswell Shearer. After graduating from McGill University three years ago, Dr. Shearer won a scholarship in the University of Cambridge and was at the Marine Zoological Station at Naples, Italy, when taken sick.

Semi-annual Death Report.—For the first six months of the year the total deaths, 14,131, were 1,070 fewer than during the corresponding period of 1903, and the death rate, 14.69 per 1,000, was 10.9 per cent. less. There were 379 fewer deaths under five years of age—a reduction of 10 per cent.; but this decrease was entirely among those of the milk-feeding period. Of these there were 1,014 deaths, as compared with 1,660 last year—a decrease of 646 deaths, or nearly 40 per cent. (38.9). The quality of the milk supply and the rarity of contagious diseases account for this marked reduction. There was a 6.4 per cent. increase of the deaths among the aged, those over 60 years old. Only five of the important causes of death show increases, namely, apoplexy, 93; Bright's disease, 106; consumption, 113; cancer, 42, and violence other than suicide, 58. The following show the decreases indicated: Acute intestinal, 27; bronchitis, 134; convulsions, 30; diphtheria, 89; heart disease, 14; influenza, 63; measles, 221; nervous diseases, 171; pneumonia, 50; scarlet fever, 111; smallpox, 39; suicide, 52; typhoid fever, 107; whooping cough, 187.

Lowest June Death Rate.—The Board of Health Bulletin announces a low June mortality for Chicago, and accounts for it as follows:

Temperature conditions during the last two months have given Chicago the lowest June mortality record, not only in her own history, but among all the great cities of the world. May averaged 57 degrees, about one degree warmer than the record of 33 years. June averaged 65 degrees, about two degrees cooler than the record. The warmer May and the cooler June were especially favorable to the health of the young, and it is the mortality among the young those under 5 years of age—that constitutes the most important factor of the general death rate.

There were 1,745 deaths at all ages reported during the month an annual rate of 11.02 per 1,000 of the population and 24 per cent. less than the average June rate of the previous decade, which was 14.52. Of this total there were 430 under 5 years of age, or less than one-fourth (24.6 per cent.). Ten years ago, 1894, there were 2,033 deaths at all ages in the month of June, of which number 959 were under 5 years of age—a proportion of nearly double (47.1 per cent.) that of June, 1904.

Death rates are diminishing, health is improving and the duration of human life is increasing all over the world; but in no other large city in the same proportion as in Chicago. This fact is becoming so generally recognized that the incredulity of a decade ago is now well nigh overcome—that incredulity which found expression in the dictum of the most eminent vital statistician of the period, commenting on the death rate of Chicago in 1893, that "a death rate of less than 18 in the thousand in a city of a million population is a sanitary impossibility." The city of London has a population of nearly 5,000,000; its death rate last year was 15.6 in the thousand.

Chicago's diminishing death rate is due largely, if not entirely, to the conservation of the health and lives of the young—those under 5 years of age.

MARYLAND.

Personal.—Dr. Thomas C. Baldwin, Whitehall, sanitary officer of the Seventh District, Baltimore County, has resigned.——Dr. Edwin L. Beckley of Middletown was recently operated on at the Emergency Hospital, Frederick City, for gallstones.

Hospital for Naval Academy.—The Navy Department has decided that the new hospital at the U. S. Naval Academy, Annapolis, shall be located on the government farm opposite the academy, on a bluff 45 feet high, overlooking the Severn River. The original proposal to remove the bodies from the cemetery and locate it there, was abandoned.

Baltimore.

Personal. Dr. William S. Halsted received the degree of doctor of laws from Yale University and was the principal speaker before the medical school at its commencement.——Dr. Ejnar Hansen of the University Hospital has gone to Cuba for a two weeks' trip.

Woman's College Election.—At the Woman's Medical College Dr. J. H. Mason Knox was elected president and Dr. H. Warren Buckler secretary of the trustees; Dr. Guy L. Hunner was elected professor of clinical surgery, and Dr. S. Griffith Davis acting dean during the illness of Dr. Richard H. Thomas.

Off for the Summer.—Dr. H. Barton Jacobs has gone to Newport.——Dr. John S. Fulton, secretary of the State Board of Health, has taken a cottage at Ocean City.——Dr. L. McLane Tiffany is at Manchester, Mass.——Dr. Eugene Opie is at Quebec, Canada.——Dr. Harry T. Marshall has joined the U. S. Department of Experimental Agriculture at Melville, Mont.——Dr. Francis M. Chisolm has taken a cottage at Blue Ridge Summit.

MASSACHUSETTS.

Many Charities Benefited.—The residue of the Robert E. Billings estate, amounting to about $100,000, is to be divided among twenty-seven charitable institutions, among which are the Thomas Morgan Rotch, Jr., Memorial Hospital for Infants, and the Channing Home in Boston. This estate has already contributed $2,000,000 to charitable objects.

Harvard's Commencement.—Harvard University on June 29 gave the degree of doctor of medicine to 122 men, 27 of them *cum laude*. Dr. William Osler was at the same time given the honorary degree of doctor of laws, with the following comment by President Eliot: "Anglo-American, the leading medical consultant, author, teacher and orator of this continent."

The Boston Floating Hospital resumed its work July 6. The visiting staff has been strengthened by the appointment of Dr. John Lovett Morse who, with Dr. Samuel Breck, will be on duty during July. These physicians will have the assistance of the resident physician, Dr. Robert W. Hastings, his two assistants, Drs. Huber W. Ellam and Frederick V. Hardwick, and externe Dr. E. D. Hurley, two junior house officers and six medical students. These last appointments, which are made on the nomination of the visiting staff by the board of managers this year, have attracted men from New York, Baltimore, Philadelphia and Montreal as well as from Boston.

Extended Training for Nurses.—The Children's Hospital, Boston, has made arrangements by which there will be a decided advance over its present course in its training school for nurses. Through the co-operation of Simmons College each probationer will give her whole time for four months to studies at the college and instruction in anatomy, physiology, chemistry, bacteriology and sanitation. Then for two months, at the Nurses' Home and the Hospital, these courses will be given in domestic science, cooking, and the essentials of practical work in the hospital. After this six months' period of probation will follow the regular three years' course of hospital training. Under this arrangement there will be the advantage of instruction by the trained teachers of a woman's technical college, without the accompanying hindrance of physical labor in hospital wards.

MISSOURI.

Hurt in Runaway.—Dr. Leander F. Murray, Holden, suffered a dislocation of the shoulder and a fracture of the scapula and clavicle in a runaway accident June 20.

New Kansas City Hospital.—Kansas City has had plans prepared for a new City Hospital, an ample, well-arranged, fireproof structure, the cost not to exceed $225,000.

St. Louis.

Accident.—Dr. Bransford Lewis, while riding in an automobile, June 25, was injured by a runaway horse, which jumped into the automobile, inflicting a compound fracture of the left leg, contusions and internal injuries.

Home Staff Appointed.—At a recent meeting of the board of health the appointment of the following six senior and twenty-four junior physicians to the City Hospital was approved: Seniors—Drs. P. H. Swahlen, G. H. Cottral, F. G. A. Bardenheier, Warren M. Horton, Carl Althans and F. H. Nies. Juniors—Drs. William E. Shahan, John L. Evans, Charles W. Tooker, Jr., H. J. Lenz, A. McReynolds, J. H. Woodbridge, J. Wilbur Shankland, Cleveland H. Shutt, George W. Koenig, S. T. Brownfield, H. W. Dickerson, Roy Philip Schulz, G. H. Warren, Frank B. Kirby, Walter Wilhelmy, John R. Hudson, William Louis Clapper, John H. Beckert, Louis A. Kempff, Newton M. Freund, E. D. Maloy, Harry L. Jones, Thomas E. Graham, C. W. Eastman.

NEW YORK.

New Sanitarium Opened.—The new sanitarium for consumptives at Lake Placid has been opened for the reception of poor patients. The formal dedication will take place later.

Antitoxin for the Fourth.—Dr. Daniel Lewis, state commissioner of health, offers to supply all health officers with tetanus antitoxin. Of the 70 cases of tetanus treated in 1903, 24 were reported in July. As these were directly due to Fourth-of-July celebrations Dr. Lewis urges that wounds resulting from these celebrations be immediately treated with the antitoxin, and says that if the health officers will telegraph the department a supply of the antitoxin will be forwarded at once.

Buffalo.

Hoffa in Buffalo.—Prof. Albert Hoffa of Berlin and his assistant, Dr. Spitze, have been the guests of Dr. Roswell Park.

Personal.—Dr. Lucien Howe has sailed to attend the International Ophthalmological Congress at Lucerne.——Dr. F. Park Lewis has been elected president of the board of managers of the State School for the Blind at Batavia.

Crusade Against Insanitary Tenements.—The health department, in co-operation with the charity organizations, has taken up a crusade against insanitary tenements, with the result that a number of indictments have been returned against owners, and notices to either conform to the tenement laws or empty tenements have been served.

April and May Deaths.—The monthly report of the Department of Health for April shows an annual death rate of 15.91 per 1,000. The following are the principal causes of death: Consumption, 56; cerebrospinal meningitis, 2; typhoid fever, 4; debility, 38; cancer, 22; apoplexy, 23; valvular heart disease, 32; pneumonia, 74; appendicitis, 7; nephritis, 17, and violence, 36. The total deaths for May were 504, as compared to 497 for May, 1903.

Held Under Bail.—W. F. Cook, indicted on the charge of practicing under another name, and of practicing medicine without a license, was arrested. He pleaded not guilty, and gave his name as Charles Crusins. He was placed on $1,500 bail. The prosecution was brought about by the Erie County Medical Society.——Stanley Darlington has been arrested on the charge of practicing without a license. He has not passed the state board examination. He was released on $500 bail.

New York City.

No More Pay Patients.—The board of managers of St. John's Hospital, Brooklyn, has decided that after July 1 no more pay patients will be admitted to the institution.

Floating Baths. Fourteen floating bath houses stationed along the piers of the East River will be opened from the present time until the middle of September, and it is estimated that about 600,000 people will patronize them weekly.

Spratling and the Civil Service.—The Civil Service Board has not changed its attitude regarding Dr. Spratling, and insists that there is no rule in the laws of the commission that would authorize the transfer of a man from a state to a municipal office.

Contagious Diseases.—For the week ended June 25, there were reported to the sanitary bureau 464 cases of measles, with 31 deaths; 455 cases of diphtheria, with 35 deaths; 1 case of smallpox; 57 of varicella; 370 of tuberculosis, with 171 deaths, and 53 of typhoid fever, with 7 deaths.

Sanitarium for Hebrew Children.—This institution is situated at Rockaway Park for the purpose of giving free outing trips to poor and sick children. Last summer the benefits of the institution were enjoyed by 15,796 mothers and children, and 1,372 received medical treatment in the hospital wards for an extended period.

Health Department Transfers.—Dr. Darlington has transferred all the assistant sanitary superintendents. Dr. Walter Bensel of Manhattan has been transferred to Brooklyn; Dr. Patrick J. Murray of Brooklyn to Queens; Dr. Gerald Sheil from the Bronx to Manhattan; Dr. John T. Sprague of Richmond to the Bronx, and Dr. John P. Moore from Queens to Richmond.

Few Consumptive Street Sweepers.—Dr. Woodbury, commissioner of street cleaning, has completed his examinations of 1,872 street sweepers; 15 per cent. of the men were found to be suffering from some lung disease, but only 60 cases of consumption were found. There were 157 cases of bronchitis. Dr. Woodbury will now proceed to examine the drivers and other employes in his department.

Pasteurized Milk and the Infant Death Rate.—Nathan Straus has introduced a new feature in the depots maintained by him for the distribution of pasteurized and modified milk among the city's poor. He has set to work a corps of physicians who will give advice to mothers as to the feeding of children and the preparation of milk for infants. In 1892, when the distribution of pasteurized milk was first undertaken by Mr. Straus, there was a death rate of 96.2 per 1,000 among children under five years of age in this city; in the following year the rate was reduced to 89.2, and each year there has been a reduction until in 1903 it reached the low mark of 54.8.

Personal.—Dr. George E. Doty sailed on the *Occanic* June 29.——Dr. and Mrs. D. B. St. John Roosa sailed on the *Kronprinz Wilhelm* June 28.——Dr. and Mrs. Charles Phelps and Dr. Francis Delafield sailed for Antwerp July 2.——Dr. Charles F. Roberts, sanitary superintendent for Manhattan, completed his thirty-sixth year as an employe of the health department and was presented with a gold medal by his associates.——Dr. Harold Bailey, an ambulance surgeon of Bellevue Hospital, is in a critical condition as the result of an accident incurred while in the performance of his duty.——Dr. Emily Dunning entered Gouverneur Hospital, July 1, as house surgeon. She is the first woman to hold such a position in the institution.

OHIO.

Lawrence Hospital Report.—During the last four years 337 abdominal sections have been performed at Lawrence Hospital, Columbus, and 198 operations not abdominal. The total of the four years' work shows 590 cases in the hospital and 212 out-patients with 7 deaths.

New Hospital Dedicated.—The new building of the City Hospital, Akron, a monument to its donor, Mr. O. C. Barber, was dedicated with appropriate ceremonies June 5. It cost more than $200,000, and is one of the finest and most completely equipped hospitals for its size in the United States. The old hospital building will be converted into a nurses' home.

PENNSYLVANIA.

Philadelphia.

Personal.—Dr. James Hendrie Lloyd has been appointed visiting neurologist to the Philadelphia Hospital.

Off for Europe.—Dr. William L. Rodman sails for England July 9.——Dr. Aloysius O. J. Kelly sailed for Europe June 25, to remain until October 1.

Pennsylvania Hospital.—During June there were treated in the general wards of the Pennsylvania Hospital 304 cases; in the receiving ward 1,808, and 4,986 visits were made to the different dispensaries of the institution.

Illegal Practitioner Found Guilty.—Thomas E. Eldridge was fined $200 for illegally practicing medicine. He was neither licensed nor registered, but had been practicing electrotherapeutics and also the administration of medicine for some years.

Charters for Charities.—A charter has been granted for the Fabiana Italian Hospital, and also to the White League, a charity devoted to combating consumption by out-door treatment. The league will depend on voluntary contributions for its existence, and will establish open-air camps and hospitals.

Crusade Against Milk Dealers.—Of the milk dealers recently arrested by State Food Commissioner Warren, 15 were tried, and 11 of this number were given a hearing, the other 4 being held in bail for trial at court. Eight of the 11 cases heard were held in bail, $500 for each charge, for trial. The accused were charged with selling milk diluted with water, and milk colored by chemical agents and preserved with formaldehyd.

Summer Medical Inspection. The Department of Public Health and Charities has arranged for medical inspectors to make house-to-house visitations during the summer. Their work will be directed toward saving the lives of young infants. Advice as to their care will be given, and where poverty precludes the call of a physician, medical service will be supplied by the city free. The visiting inspectors in their rounds will also rigidly urge vaccination.

Health Report. Despite continuous warm weather sporadic cases of smallpox are present throughout the city, and seven new cases were reported during the week ended June 25. The health authorities view the situation with some concern for the coming winter, and rigid measures are to be taken to see that all persons not vaccinated are looked after by the medical inspectors in a house-to-house canvas. Typhoid fever showed a decrease of 2 cases over the preceding week, 70 cases being reported. The infant mortality is high, but the death rate in general is about the seasonal average. Deaths from all causes aggregated 395, an increase of 7 over last week, and a decrease of 71 over the corresponding period of last year. Thirty-seven deaths were in infants under two years of age.——For the week ended July 2 all classes of contagious disease show a great decrease. There were 52 cases of typhoid fever, with 11 deaths, and there were but 2 cases of smallpox reported, with 1 death. The general death rate was higher than last week. The total deaths from all causes was 533, an increase of 130 over the preceding week, and an increase of 54 over the corresponding period of last year. The number of deaths among infants due to the excessive hot weather was exceedingly large, nearly doubling that of any similar period this summer, and reaching the high number of 92, as follows: diarrhea and enteritis under 2 years of age, 67, and 2 years and over, 5; convulsions, 9; marasmus, 11.

Bequests.—By the will of Hiram Brooke, $2,000 has been left to each of the following hospitals: Episcopal, German, Jefferson, St. Joseph's, and the Friends' Asylum for the Insane; $1,000 to the Jewish Hospital, and $500 to St. Timothy's Hospital. In addition, these bequests have all been increased to $5,000 for the endowment of free beds to be established as permanent memorials to Mr. Brooke. The sum of $5,000 has been devised for a similar purpose to the following hospitals: University, Medico-Chirurgical, Presbyterian, Howard, St. Agnes, St. Christopher's, Children's, West Philadelphia Hospital for Women, Germantown Hospital, Kensington, Orthopedic, Woman's, and Polyclinic.——By the will of John L. Devereux, $50,000 has been left for the establishment of free beds in hospitals: Methodist Episcopal Hospital, $10,000 and $5,000 each to the Samaritan, St. Joseph's Presbyterian, St. Timothy's, Polyclinic, and Episcopal hospitals, and to the Home for Crippled Children.——By the will of Anna J. Sommerville the sum of $193,690 will be shared equally between the Presbyterian Hospital, Presbyterian Home for Women, the Presbyterian Orphanage, and the Presbyterian Board of Aid for colleges and academies, and three other Presbyterian charitable institutions.——In adjudicating the estate of Bridget B. McNally a balance of $22,523 is left for distribution; $475 of this amount goes to each of the following: St. Joseph's Hospital, St. Mary's Hospital, and St. Vincent's Home for Poor Children.

GENERAL.

Library Goes to Brooklyn.—By action of the Association of American Medical Librarians the Library Exchange, which has been in Baltimore at the Hall of the Medical and Chirurgical Faculty of Maryland, is now removed to Brooklyn, where it will be in future under the control of Mr. A. J. Huntington, librarian of the Medical Society of the County of Kings and editor of the *Medical Library and Historical Journal*.

Vital Statistics of Manila.—According to the monthly report of the Board of Health of the Philippine Islands and Manila for February, issued under date of March 15, the death rate for the months was 40.59 per 1,000. The total number of deaths was 709, but it is remarkable that over 60 per cent. of the deaths were of children under one year old. Of these 284 died of "convulsions," 1 death was caused by leprosy, 3 by cholera, 6 by plague, and 20 by beri-beri.

CANADA.

Ontario Vital Statistics.—The deaths in Ontario reported for May were 2,283, representing 91 per cent. of the province, and thus giving a mortality rate of 13.7 per cent. per 1,000.

Congress of French Physicians.—The second congress of the French-speaking physicians of America was held in Montreal during the past week. Dr. Pozzi of Paris was present as the official delegate of the French Academie de Medicine, and performed operations both in the Notre Dame Hospital and the Royal Victoria Hospital.

Ontario Medical Council.—The annual meeting of the Ontario Medical Council was held in Toronto last week. The following officers were elected: Hon. Senator Sullivan, president; vice-president, Dr. A. A. Macdonald, Toronto; registrar, Dr. R. A. Pyne, Toronto; treasurer, Dr. H. Wilberforce Aikins, Toronto; auditor, Dr. J. C. Paton, Toronto.

Toronto and McGill Commencements.—The annual commencements of Toronto and McGill universities were held June 10. The total roll during the past session in the medical department of the former was 721. Professor Minot of Harvard received the degree of LL.D.——At McGill the degree of LL.D. was conferred on Dr. Trudeau of Saranac Lake. Dean Roddick delivered the annual address. A farewell address was given by Dr. J. T. Halsey, who is leaving McGill for New Orleans.

Ontario Medical Association.—The twenty-fourth annual meeting was held in the new medical buildings of Toronto University, June 14 to 16, under the presidency of Dr. James F. W. Ross of that city, Dr. Chas. P. Lusk acting as general secretary. There were about two hundred physicians present from all over the province of Ontario, and the meeting was one of the most successful in the history of the association. Among the important items of medical politics touched on by the president in his annual address were the "plague" of surgery, the registering of births and deaths without compensation from the municipality, a proper revision of the relation of medical and surgical fees and the ethics of commissions. Sir William Hingston of Montreal was present and delivered an able address on cancer. The features of the meeting were a symposium on life assurance and an animated discussion on antitoxin. The following officers were elected: President, Dr. William Burt, Paris, Ont.: Vice-presidents, Drs. John L. Davison, Toronto, Geo. Hodge, London, Edward Ryan, Kingston, and T. H. Middleboro, Owen Sound; general secretary, Dr. C. P. Lusk, Toronto; assistant secretary, Dr. Samuel Johnston, Toronto; treasurer, Dr. Fred. Fenton, Toronto.

Personal.—Montreal General Hospital has several changes in its medical staff. Drs. F. S. Patch and C. W. Anderson are the only members of the house staff who will remain for another year. Dr. R. P. Campbell, formerly of the staff and at present in Germany, will succeed Dr. W. G. Turner as medical superintendent. Dr. Turner has gone to England and Germany, and until the arrival of Dr. Campbell next month his duties will be performed by Dr. R. C. Patterson. The new members of the house staff who will commence their duties next September are as follows: Dr. R. D. Forbes, anesthetist; Drs. J. L. Robinson, F. C. Fysche, W. G. Ricker, J. A. Nutter, L. L. Reford, H. H. Kerr, H. G. Wood, physicians; Drs. A. C. Rankin and W. E. Ainley, locum tenens.——At the Royal Victoria Hospital the following appointments have been made: Admitting officer, Dr. R. King; physicians, Drs. R. Hardisty, D. McKechnie, J. C. Meakins, W. A. Lincoln; surgeons, Drs. H. Church, F. McKenty, J. Coffin, J. A. Faulkner, D. C. McLachlan; eye and ear, Dr. L. C. Lanchland; nose and throat, Dr. H. O. Howitt; gynecologist, Dr. J. Forster; anesthetist, Dr. F. D. Charman; externe in medicine, Dr. J. R. Rogers.——Drs. R. Gibson and D. E. Maclachlan have been appointed resident accoucheurs at the Montreal Maternity Hospital.——Dr. Walker, who has been medical superintendent of the Montreal Western Hospital, has resigned, owing to ill health, and Dr. D. W. Morrison will fill the vacancy.——Dr. J. V. Anglin, Montreal, has been appointed medical superintendent of the New Brunswick Hospital for the Insane to succeed Dr. George Hethrington, resigned.

FOREIGN.

Krehl Succeeds Naunyn.—Professor Krehl of Tübingen has been invited to the chair of medicine at Strassburg, left vacant by Naunyn's retirement.

New Mexican Military Hospital. Chihuahua, Mexico, the headquarters of the second military zone of the Mexican Army, is to have new barracks and a military hospital to cost $190,000.

Floating Sanatoria for the Poor.—An Austrian national association has been formed to collect funds and organize a system of floating sanatoria in the Adriatic on vessels built for the purpose.

Large Indian Birth Rate.—The birth rate in all the provinces of India in 1903 was 39.4 per 1,000, varying from 23.9 to 56.9 in different provinces. The death rate ran from 17.3 to 44.1, or an average for India of 31.49. Plague killed more people than ever before.

Prize for Work in Orthopedics.—The Instituto Ortopedico Rizzoli of Bologna, Italy, offers a prize of $700 for the best work or the best discovery in the orthopedic field. Competition is open to the world, but all communications must be received by the Institute before Dec. 31, 1904.

Penalty for Roentgen Ray Injury.—An attendant at the university clinic at Lemberg recently sued Dr. Rydygier, son of Prof. L. Rydygier, for injury on account of permanent disability induced by experimenting with the Röntgen rays. He was awarded $1,250 damages and a small lifelong pension.

Cuba's Health Good.—Dr. Carlos J. Finlay, chief sanitary officer of Cuba, reports health conditions excellent. It has been two years and a half since there has been a case of yellow fever and about five years since there has been a single case of smallpox. Both of these diseases have been imported, but such care was taken that not a case spread.

Bequest for Building to Prevent Premature Burial.—A German authoress recently bequeathed to the city of Breslau, Germany, the sum of $7,500, to be used for the construction of a vault where bodies should be exposed to inspection for seven days after death, to prevent the possibility of any one being buried alive. The city declined to accept the bequest.

Increasing Infant Mortality in Germany. Dr. J. Trumpp of Berlin declared in the course of a recent address that the infant mortality in Germany far surpasses that of the neighboring countries. In Sweden only 6 to 7 per cent. of the children die during the first year, but the corresponding infant mortality in France is 15 per cent. and in Prussia 23.6 per cent., a rate surpassed by that of Russia alone.

Tuberculosis Stipend.—The Austrian authorities have appropriated a small fund to encourage and support physicians who may wish to take a practical post-graduate course in the means of combating tuberculosis. The work is to be done at the sanatorium at Alland, where free board, lodging and laboratory facilities are placed at their disposal. A special committee has the matter in charge, and will guide the investigators and use the knowledge they gain for the general campaign against the disease, co-operating with the official boards of health.

Proposed International Institute for Study of the Central Nervous System.—The International Congress of the Academies of Europe and America, held at London the last week in May, was opened by an address by Professor Obersteiner of Vienna on the "Anatomy of the Brain." In connection therewith the delegates from the academies voted to petition their governments to establish a special institute for the study of the human central nervous system. Nothing of the kind is as yet in existence. The next congress will be held at Vienna in 1907.

Resignation of Professor Hegar.—Alfred Hegar has been retired, at his request, from all his official positions in Freiburg as professor of obstetrics and gynecology, chief of the clinic for obstetrics and gynecology and of the training school for midwives. He retains the editorship of the *Beiträge zur Geb. und Gynäkologie*. The government, in accepting his resignation, conferred on him the title of privy councilor, with the predicate "Excellency." Only three or four other physicians, including Esmarch, bear this title. Hegar is now in his seventy-fifth year.

Physician Fined for Telephone Injury.—A case has recently been decided at Hamburg in which the central telephone girl sued a physician for injury to her head and ear from his persistently turning the crank in calling the central. This produced such a strong current that she was temporarily disabled. He was telephoning home in respect to an urgent case, but was told his home wire was in use—"busy, call again"—although it was brought out at the suit that his telephone had not been used during that hour. He was condemned to a fine of $7.50, or three days' imprisonment.

A Desert Spa. An Englishwoman has inaugurated a health resort for nervous women in the Nubian desert. Each patient has a tent and native Egyptian woman to wait on her, and the diet is exclusively fruit and cereals. The resort is far from the caravan routes, and men are strictly excluded. No reading matter or distractions of any kind are allowed except painting. A brief description of the scheme is given in the *Allg. med. Ct.-Ztg.*, which adds that there is also a "color cure" combined. Each tent has a glass window, the color selected being the one found to exert the most favorable influence on the patient.

Penalty for Physician and Druggist.—A patient of Dr. Tauchon of Paris was given a prescription ordering 10 gm. of sodium arseniate and 5 gm. of strychnin, followed by the words: "Pour une pilule No. 20." The prescription was put up by a pharmacist's undergraduate clerk, who supposed the above instructions meant: "Make 20 pills like above," instead of which the physician meant to divide the amount into 20 pills. The patient took one of the pills and was seriously poisoned. He sued the physician and the pharmacist for $5,000. The court awarded him $100 damages, and condemned the physician to a month in prison and a $20 fine, and the pharmacist to six days' imprisonment and the same fine. The clerk was not sentenced in any way.

New Discoveries of Radioactive Substances.—Two German physicists, who have for years been engaged at Wolfenbüttel in research on cosmic electricity, Elster and Geitel, have recently published their discovery that the air near the ground and the ground itself possess radioactive properties. They are especially marked in the mineral mud, fango, used for therapeutic purposes. By extraction with hydrochloric acid the scientists were able to isolate the elements to which the radioactivity is due, and by combining them with barium chlorid were able to increase the radioactive properties to 160 times those of the substance whence they had been derived. The mixture behaved like some indifferent salt with which a little radium bromid has been incorporated. It is further announced from Denmark that cryolite, found in Greenland, is also a radioactive substance.

Condemnation of Physician for Scientific Investigation.—The German law in regard to homosexual practices is vague and defective. Certain physicians took the matter up and organized what they call "the scientific-humanitarian committee," their purpose being to collect data on which to base the revision of the law and ensure its enforcement. Dr. Magnus Hirschfeld of Charlottenburg is chairman of the committee, and, in accordance with the resolutions adopted, he sent out about eight thousand circulars, distributing them among the students of the school of technology, asking for information on the subject, after stating the important scientific purpose of the research. The recipients were asked to reply on a postal card, without signature or writing of any kind, merely underlining certain printed figures, which would afford the desired information. Out of the eight thousand recipients, six students felt insulted by the request and instituted legal proceedings against Dr. Hirschfeld, accusing him of sending them immoral literature. Two of the students withdrew their complaint, but the other four carried it into the local court, and the case resulted, May 7, in a fine of about $50 for Dr. Hirschfeld, or twenty days' imprisonment. The judge expressed due regard for the high motives which had inspired his action, but was of the opinion that the circular card might easily do harm to the morals of young people, and stated, further, that the law places the personal rights of the citizen above matters of purely scientific interest. "Otherwise," he added, "such question blanks might be distributed to the inmates of young ladies' seminaries, or any one could accost a stranger on the street with these drastic inquiries, the answers to which render those replying in the affirmative liable to criminal proceedings." The postal cards received indicate that homosexual practices are widespread among the German male population—possibly to an average of 2 per cent.

A German Medical Journal Sued for Libel.—One of our German exchanges has recently been sued for damages by a homeopathic physician, practicing in Switzerland, on account of a reference to him as "the in Switzerland well-known charlatan (Kurpfuscher) and homeopath." He wrote to inform the periodical in question that he was a duly-qualified physician, a graduate of Zurich, and a statement to this effect was published in a following issue. At the same time he instituted legal proceedings against the editor, and the suit recently came to trial: Dr. Mende-Ernst of Zurich *versus* Dr. Spatz, responsible editor of the *Münchener medicinische Wochenschrift*. One of the experts was the leading medicolegal authority, Geh.-Rath von Winckel. He testified to the effect that during the hundred years since the foundation of homeopathy, physicians and colleges have deliberated on its claims and have unanimously decided that its premises are absolute nonsense—unsense. He quoted J. Müller, Virchow's master, who used to say that the principles of homeopathy seemed to him about the same as if, after a man had been run over by a wagon, he

should be treated by having a toy cart run back and forth over him three times. The expert then reviewed Hahnemann's principles, pointing out the way in which homeopathy was utilized to deceive the public and for charlatan purposes, adding: "We physicians can only regard with a pitying smile those who have taken a regular scientific medical course and then devote themselves later to homeopathy. In our eyes they have ceased to be scientific medical men." The expression "charlatan" ("Kurpfuscher") is certainly not synonymous with "homeopath," but scientific medicine can only declare that homeopathy does not exist for us; that it not only does not accomplish anything, but is liable to do much harm. Spatz remarked that it was inconceivable to him how a man who had studied medicine could, from conviction, become a homeopath. A student who had attended lectures on pathologic anatomy and assisted at autopsies could not possibly say that the causes of disease are merely that the purely intellectual vital force is dynamically out of tune. "If a physician can ever be called a charlatan without penalty—and in Germany there is legal precedent for so doing—then it is the homeopath." The testimony of the other scientific expert was to the same effect—that between scientific medicine and homeopathy there is a deep gulf, and that scientific physicians rank homeopaths with charlatans. The Bavarian government recognizes homeopaths, and the designation of "charlatan," as applied to a regularly-graduated homeopathic physician, was not allowed to go unpunished. The editor was fined $37.50 and costs, and ordered to publish the decision of the court in three of the daily papers. The Wochenschrift comments that the publicity given to the affair and to the statement of the stand of scientific medicine in respect to homeopathy, can not fail to enlighten the public somewhat in regard to the latter. All the annoyances of the suit will be more than compensated, it adds, if it should make any physician contemplating turning to homeopathy pause before taking this fatal step. The editor acknowledged from the start that he had no personal knowledge of Dr. Mende.

LONDON LETTER.

The British Medical Association and Medical Defense.

A prolonged controversy as to the advisability of the British Medical Association adding medical defense to the other benefits of membership is being waged. The great advantages of medical defense associations is amply shown by the success of the two associations which exist—"The Medical Defense Union" and "The London and Counties Medical Protection Society." For an annual payment of $2.50 these societies insure a physician against the legal expenses which may be incurred in defense of actions brought against him in his professional capacity, providing him with attorneys. As the British Medical Association is by far the most important medical organization in the country the scheme is proposed of merging the two medical defense societies in it and undertaking medical defense. The advantages of the association with its income of $200,000 undertaking the work are obvious. But equally obvious are the objections of the existing defense societies to committing suicide. They point out that it would be absurd for successful prosperous societies which have acquired great experience in medical defense to wind up. But the greatest objection is that the British Medical Association includes only half the physicians, and that a large proportion of the members of the defense societies do not belong to it. Thus of the 5,800 members of the Medical Defense Union 1,600 do not belong to the association. It is felt that to desert the latter and to wind up the union, compelling them to join the British Medical Association and pay an additional fee of $5 a year if they wish to still enjoy medical defense, would be an injustice. The union has, therefore, practically unanimously declined to merge itself in the British Medical Association. The latter body, under the circumstances, does not appear likely to undertake medical defense on its own account.

Detection of Ankylostoma Infection.

A report has been made to the government by Mr. A. E. Boycott on an improved method of ascertaining the presence of ankylostoma infection by examination of the blood of the workers in suspected mines. The report has been published as a parliamentary paper. Mr. Boycott explains at some length the difficulties which impede the discovery of the worm or of its ova in the feces. He points out that one of its constant effects is to increase the number of eosinophile leucocytes in the blood. In normal blood the proportion of eosinophiles varies from ½ to 5 per cent. of the total leucocytes. When there is more than 5 per cent. there is a probability of the existence of ankylostomiasis—a probability which would be raised to practical certainty by such an amount as 8 per cent.

Vital Statistics in 1903.

The Registrar General's annual summary of the vital statistics of London and other large towns for 1903 has been issued. The seventy-six great towns in England and Wales that are included contained an estimated population in the middle of the year of 15,000,000 in round numbers. The birth rate was 29.7 per 1,000, as compared with 30 in the preceding year, thus further exemplifying the falling birth rate, which has frequently been referred to in THE JOURNAL. The death-rate was 16.3 per 1,000. Infantile mortality measured by the proportion of deaths under one year to births registered averaged 144 per 1,000. Smallpox was the cause of 415 deaths; measles, of 5,486; scarlet fever, of 2,160; diphtheria, of 2,971; whooping cough, of 4,922; "continued fevers," mainly typhoid, of 1,742; diarrhea (including dysentery), of 10,613. In London the proportion of persons married in each 1,000 of the population was 17.4, and the birth rate 28.4. This is the lowest birth rate yet recorded for London, and is 0.1 per 1,000 below that for the preceding year. The death rate of London was 15.7, the lowest on record, and lower by 2 than that of the preceding year. The average annual death rate in the preceding decennium was 18.9.

Cancer Research.

The first report of the Cancer Research Fund of the Royal Colleges of Physicians and Surgeons has been issued. It consists of three papers, in which are recorded the investigations conducted by Dr. Bashford and Mr. J. A. Murray. The first is on the Zoological Distribution of Cancer. Specimens obtained from the most diverse species of animals are described—the cow, dog, horse, sheep, pig, mouse, cat, hen, salamander, gurnard, trout. The disease, therefore, has been found in both wild and domestic animals. In the second paper the "Transmissibility of Cancer from One Animal to Another" is discussed. The recorded attempts to transmit normal tissues, embryonic tissue and tissues from the reproductive organs have been negative. On the other hand, the successes of Jensen and Borrel in transplanting carcinoma from mouse to mouse were repeated in the cancer research laboratory with material obtained from Professor Jensen. With this material 259 inoculations were made with a successful result in 25 to 30 per cent. of the cases. Exposure of the tumor tissue to a temperature of 37 C. for twenty-four hours rendered all the results of transplantation negative, and breaking down of the tissue in a mortar had a similar effect. In the third section of the report the cytology of malignant growths is considered. The work of von Hansemann is examined, and it is shown that although he described the hypochromatic nucleus in carcinomata, yet his observations did not include what is chiefly important in those of Farmer, Moore and Walker—the diminution of the chromosomes in exactly the same way as in reproductive cells. The occurrence of this heterotype mitosis was confirmed. The number of cells exhibiting this mitosis varies in different tumors, and no direct relation to the degree of malignancy has been established. The mitoses in the growing margin are uniformly of the somatic type, and where there is rapid degeneration may be very difficult to find. These facts militate strongly against the value of heterotype mitosis in the diagnosis of cancer. Exception is taken to the view of Farmer, Moore and Walker, that cancer consists in a transformation of the normal adult tissues into modified reproductive or "gametoid tissue." The negative results of testis and ovary transplantation are held to show the inadequacy of this explanation. Certain nuclear figures seen in some of the carcinomata are considered evidence that a kind of conjugation takes place among the cells. If this be so a new cycle would be started thereby, and the independent growth of malignant tumors and their metastases would be explained. Whether such conjugation is the initial phenomenon of cancer is a matter for future investigation.

Miners' Phthisis in the Transvaal.

The fact that the miners in the Transvaal are liable to contract phthisis has recently attracted a good deal of attention, and a commission was appointed more than eighteen months ago by the government to inquire into the causes of the disease. The death-rate in the mines is alarmingly high. Among the rock-drill miners of the average age of 35, it reaches the enormous figure of 70 per 1,000. The mortality of native rock drillers is less—42 per 1,000. This may, perhaps, be explained by the fact that the natives do not work continuously, and that many of them are lost sight of and return to their

kraals to die. The Transvaal Medical Society has recommended as a method of prophylaxis that dry mining should, as far as possible, be converted into wet mining, and the commissioners have suggested that jets and sprays of water would, in combination with good ventilation, prove an efficient preventive against dust.

PARIS LETTER.

Quack Advertisements in France.

Physicians in France have had cause to complain of competition by quacks who advertise in or prescribe by means of the daily press. At a recent meeting of the Society of Legal Medicine Dr. Rocher reminded his colleagues that a hundred years ago Dubois, the prefect of police, had sent to the newspapers a circular which provided that all medical matter in newspapers be subjected to the control of the police. A century later Herbaux, procurator of the republic, has ordered an inquiry to be made as to the lawfulness of certain advertisements which are being published in the daily papers. During the last few months the "Electro Vigor of Dr. McLaughlin," an advertisement of electric belts, has been published on the last page of one of the best-known daily papers. The syndicate of physicians of the Seine took up the matter and wrote to the newspapers who publish these advertisements, and the answers obtained were in one case that the doctor was ill and absent for an undetermined period, and in another that there was no doctor. It is quite possible that under such conditions the newspapers may be prosecuted. The law in France on illegal practice of medicine is quite strict, a fine of $20 to $100 being imposed for the first, and imprisonment for a second offence.

New Smallpox Hospital at Aubervilliers.

The municipal council of Paris has approved the plans for reconstructing the smallpox hospital of Aubervilliers. About 2,000,000 of the 45,000,000 francs reserved for transforming the Paris hospitals will be used for this purpose. About a million francs will also be spent on transforming the St. Louis Hospital, more than half a million francs being used to build new quarters for the nurses. The condition of the latter is steadily improving, though the wages they receive are quite insufficient, varying from $6 to $18 a month, the head nurses of a ward receiving at the most from $16 to $18.

Galvanism in Muco-Membranous Enteritis.

In a recent number of the *Presse Médicale*, No. 27, Dr. Zimmern described the excellent results he had obtained in mucomembranous enteritis by the use of the galvanic current applied externally to the abdomen. The treatment consists in applying the two electrodes in the right and left iliac fossæ, and using a current which starting from 0 is slowly and gradually brought up from 60 to 150 milliampères, then as slowly reduced to 0. The direction of the current is then reversed. Each treatment lasts about 20 minutes, and is repeated three or four times a week. No special attention is paid to the diet, though highly spiced food is of course forbidden. All enemas or cathartics are strictly prohibited with the following exceptions. If there is much constipation, two spoonfuls of castor oil are given every five days, or a large lavage of the intestine if the castor oil does not produce the desired effect. Every day a very small enema of cold water (100 grams) is given so as to start the intestinal reflex of defecation, which is more or less dulled by the lack of sensibility of the mucous membrane. According to Zimmern the results obtained are not so much due to an action on the muscular coating of the intestine as to action on the general circulation of the intestine. Out of 30 patients treated in this manner only 2 were refractory to the treatment, and 20 were absolutely cured, the remaining 8 being only ameliorated. Dr. Delhenn, another specialist in this line, described the results obtained by the galvano-faradic treatment in 53 patients, 46 cases were very much ameliorated by the treatment, and 36 remained cured after a year.

Treatment of Epistaxis Due to Hypertension.

In the *Presse Médicale*, No. 28, Dr. Martinet draws the attention of the medical public to the frequency of epistaxis in old men suffering from hypertension. It comes on generally during the winter, after some such cause as a heavy meal, a prolonged effort, or a walk against the wind. All the signs of hypertension are generally observed, such as hard, vibrating pulse, exaggeration of the second sound at the base of the heart, congestion of the face, and headache. Spitting of blood may also take place, due to a slight hemorrhage from the lungs. Dr. Martinet recommends as treatment, rest, hot mustard footbaths, and cold compresses on the head. The diet should be light, and the epistaxis should be stopped only if it is rather too abundant. The nostril can then be tamponed with some gauze packing dipped in a solution of antipyrin or hydrogen dioxid. When the pulse is below its usual tension, small quantities of digitalis and ergot may be administered, and it should be borne in mind not to employ strong vaso-constrictive drugs, such as adrenalin, which do much more harm than good, nor should even digitalis and ergot be given in strong doses.

Correspondence.

The Scope of State Sanatoria.

BOSTON, MASS.

To the Editor:—The editorials of THE JOURNAL, as now conducted, always merit the thoughtful attention of the profession at large. In your edition of May 21, however, one appears, the sentiments of which are so at variance with the ideas of those who have had much experience with sanatorium treatment of phthisis that I feel impelled to send my protest, lest silence from those most interested be interpreted as consent to the views given.

Just so far as the article advocates the establishment of hospitals for the advanced and hopeless cases within easy access of our great cities and towns, I am heartily in accord with it. At every opportunity, whether public or private, I have urged the pressing necessity of such establishments. I have even gone so far as to oppose the further enlargement at present of the large institution at Rutland, which is not intended for the far-advanced cases, believing that as the sanatorium is adequate for the present for the number of hopeful cases applying for admission, our energies in Massachusetts should be directed now toward caring elsewhere for the great number of hopelessly ill patients.

When, however, by the purport of the article I see a distinct spirit of opposition to the present rapidly growing sentiment in favor of sanatoria, and in particular for the one proposed in Ohio, for the incipient and hopeful cases, I must raise my voice in most emphatic protest. I must challenge, moreover, many of the statements made in support of these sentiments as being in my opinion quite wrong. With the experience of thirteen years at the Sharon Sanatorium, a small private institution for poor women only eighteen miles from Boston, and with the still larger experience during the past six years as attending physician to the State Sanatorium at Rutland, I can not express too strongly my conviction that the trustees, in their decision at the outset to make the sanatorium a place where poor people could have the opportunity to get well, or at least to so far ameliorate their condition as to become wage-earners again, took a grand step forward in the battle against tuberculosis. Had this decision, which was largely due to the wise foresight and determination of Dr. Alfred Worcester of Waltham, Mass., who was formerly one of the board of trustees, not been made, it would have been impossible to accomplish the favorable results at Rutland, which have attracted the attention of the medical profession with the consequent great impetus which has been given to the sanatorium treatment of phthisis by the state in localities long thought to be unfavorable for the cure of the disease. This is said without the least desire to arrogate special praise to those at present in charge. They have merely followed out methods and principles laid out long ago by others, but toward which for various reasons there has been shown until recent years the most extraordinary apathy by the profession and the community generally.

The statement in the editorial that a state sanatorium limited to the care of hopeful cases while excluding those which are far-advanced "will do nothing whatever toward stamping out the contagion from the community," I regard as utterly misleading and unjustifiable. Far greater than the beneficial effect on individual cases is the almost limitless influence which such institutions have as schools for teaching the simple but essential laws of hygiene. Each patient acts as a missionary among his friends and family when after receiving convincing proof of what can be done for the prevention as well as the

cure of disease he goes out again to teach others from his own experience, and from what has been taught him during his stay. Of the truth of this we get almost daily and convincing proofs. We can preach hygiene in our medical schools and journals and elsewhere endlessly, but without one thousandth part of the effect that is produced in the community by showing as tangible proofs the patients who have been under sanatorium treatment.

Again in the editorial it speaks of the advanced cases as being greater sources of infection than the ambulant and possibly incipient cases, a statement to which I take strong exception. Dr. Knopf, in a recent paper, and others, speak of the even greater danger to the community from the ambulant cases from the fact that in their free communication with others everywhere they are liable to spread disease even more than those confined to their beds. To base an argument then on such grounds would seem to be absolutely unjustifiable.

We come now to the statement that "there is no positive proof that the sanatorium treatment of incipient tuberculosis is measurably more effective than the open-air treatment at home when this is *scientifically* and *thoroughly applied*." (The italics are mine.) In reply to this I can only say that from my own experience I find the exact opposite to be true. While acknowledging the admirable work accomplished by some physicians, notably Dr. Charles Millet of Brockton, Mass., in teaching some of his poor patients in their country homes to use the fresh-air treatment, I can only say that I have found it impossible as a rule to make patients adopt the measures which are absolutely necessary for "scientific and thorough treatment," until they have had instruction in a sanatorium. Ignorance and lack of persistence constantly stand in the way of success in the vast majority of cases, whereas the semi-military discipline of a properly regulated sanatorium where a patient is told what to do and what not to do at a critical time, is something which can not be accomplished at home at all in the same degree. What shall be said, moreover, of attempts to cure at home the hundreds and thousands of patients who live in the vitiated atmosphere of cities? While much can doubtless be done to help in this direction, no one acquainted with the true facts would be so deluded as to make favorable comparisons of results in such cases with those who have had the advantages of sanatorium treatment in properly selected places.

The general physician, it is true, can "do wonders for his tuberculous patients," but I regret to say it is constantly brought to my notice that there is a lamentable ignorance shown by many practitioners as to what constitutes an "incipient" case, and also an equally deplorable lack of knowledge as to what "fresh-air treatment" really means.

It is no uncommon occurrence now for applicants with definite symptoms of incipient disease to appear at Rutland at the suggestion of former patients rather than that of the attending physicians, who have either failed to make a correct diagnosis, or, for reasons best known to themselves, have failed to advise without delay what former patients know through experience to be the best and most speedy method of regaining their lost health.

Believing as I do in the sincerity and honesty of purpose of the editorial, I greatly deplore its attitude; for should it prevail through what I believe to be an incorrect knowledge of the subject it would do infinite harm, not only to the endeavor to establish a suitable state sanatorium in Ohio, of which special mention is made, but in general to the cause for which we all are striving.

I believe that you will accept this frank criticism in the friendly spirit in which I send it and that you will give it space in THE JOURNAL.

VINCENT Y. BOWDITCH.

The Medical Gold Brick of Chicago.

CHICAGO, July 2, 1904.

To the Editor:—A worthy gentleman of philanthropic proclivities, a promoter who is alive to the interests of humanity—which is "I," writ large—has discovered that Chicago is suffering from a lack of hospital accommodations. Incidentally he has discovered that there are a few persons who have escaped the net of the hospital grafter and are still foolish enough to employ physicians and to pay them for their services. Bent on remedying this deplorable state of affairs, he is now in Chicago for the purpose of organizing a "co-operative hospital," run on the principle of that much-to-be-anathematized institution, the London Medical Club. The members of the proposed co-operative hospital are to pay a yearly "membership" fee, and the medical staff is to be "paid for its services." The principal alleged *raison d'etre* for the new scheme is the need of providing accommodations for those "too poor to pay a physician, but who can pay something for hospital accommodations." This tearful plaint of the promoter, conjoined with the staff "salary" argument, has already enlisted the sympathies of a number of prominent medical men, who, not content with the grafting that they have, are eager to fly to grafting that hitherto they knew not of.

It is to be hoped that the profession will antagonize this new scheme for imparting a veneer of respectability to dead-beatism. Should such an institution be started, the duty of the medical profession will be to oppose its operation in every possible legitimate way. More than this, the stamp of disapproval should be put on every physician who connects himself with the scheme in any way whatsoever. When consultation and operation fees cease to travel toward such men, they may learn that the selfishness of the individual can not be permitted to obscure that spirit of professional altruism which should imbue the system of every man who poses as a leader in medicine and surgery. The profession is traveling toward pauperism pretty rapidly as it is; the new scheme would be but the beginning of the end. The day is not far distant—unless conditions change and the profession awakens to the danger that confronts it—when the 25-cent fee of the London Medical Club will be too close for comfort. In thus antagonizing the proposed medical gold brick scheme, I am simply following the line of procedure which I mapped out to the promoter, who laid his plans before me and invited me to join the enterprise on a profitable basis. He asked me what attitude the Chicago Medical Society would likely assume. I replied: "I do not know: but in so far as my influence will count, it will be war to the knife." In closing, I wish to remark that the co-operative hospital scheme apparently contemplates a chain of the new graft including every large city in this country.

G. FRANK LYDSTON.

A Fourth Cataractous Family.

WHEELING, W. VA., June 22, 1904.

To the Editor:—In THE JOURNAL, March 4, 1899, I reported "A Third Cataractous Family." I wish now to record what would seem to be another instance of hereditary tendency to cataract. On May 31, 1904, assisted by Dr. Bessie Hewetson, St. Clairsville, Ohio, who afterward sent me these notes, I removed a mature cataract from the eye of R. H. A., aged 74 years. His sister, now in her 82d year, has been blind in one eye from cataract for several years. His father died at 77, and had been blind from cataract for several years. One eye was operated on one year before his death. A sister of his father was also blind from cataract for several years before her death. She lived to be about the same age.

JOHN L. DICKY, A.M., M.D.

Queries and Minor Notes.

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

PREPARATION OF VOLUMETRIC SOLUTIONS.

BUFFALO, N. Y., June 23, 1904.

To the Editor:—How can I prepare a decinormal solution of sodium hydroxid for urinalysis without the tedious method of standardizing hydrochloric acid gravimetrically?

A. R. SATTERLEE, M.D.

ANSWER.—Recent chemical research has demonstrated the practical value of the use of potassium bitartrate instead of acids for

this purpose. The purified potassium bitartrate (cream tartar) must be used, and this may be obtained from dealers in chemical reagents. The tenth-normal sodium hydroxid volumetric solution is prepared as follows: Introduce 0.934 gm. purified potassium bitartrate into a 300 c.c. flask, add 160 c.c. distilled water, and boil until dissolved. Add to this about 5 drops of phenolphthalein, test-solution, and then cautiously add from a burette the sodium hydroxid solution, frequently agitating the flask, boil the liquid and toward the end of the operation reduce the flow to drops until the red color produced no longer disappears on shaking, but only a pale pink tint remains. The sodium hydroxid solution is prepared by dissolving 7.5 gm. sodium hydroxid in sufficient distilled water to measure at 25° C. (77° F.), about 1,050 c.c. Note the number of c.c. of the sodium hydroxid solution consumed, then dilute the remainder of the solution so that exactly 50 c.c. of it shall neutralize 0.934 of potassium bitartrate. If, for example, 40 c.c. of the original solution of sodium hydroxid were required for neutralization, then the remaining solution must be diluted in the same ratio, viz., 10 c.c. to each 40 c.c., and another test made with the finished diluted solution for control, and if necessary a new adjustment made so that each 50 c.c. will exactly neutralize 0.934 potassium bitartrate.

A QUESTION OF TRESPASS.

——— —, Wis., June 29, 1904.

To the Editor:—Five years ago, at the request of a physician here, I came to this town to take charge of her practice during her illness. Several families who had never employed her employed me, and when I was about to leave urged me to stay and open an office. I refused, saying that, in the circumstances, it would not be right. This spring, five years later, I received a letter informing me that two physicians of the town had died, and urging me to fill the vacancy thus made. After carefully considering the matter, I moved here. I have called on the physician in question, as well as on the other physicians of the town, but she seems to resent my presence and tells people I have knowingly done an unprofessional thing. Who is right? O.

ANSWER. We consider that our correspondent had a right to settle in this town, and committed no breach of ethics in so doing.

ST. LOUIS FAIR.

U. S. GOVERNMENT BUILDING, WORLD'S FAIR,
ST. LOUIS, July 4, 1904.

To the Editor:—Permit me to add to the medical attractions at the Fair, as published in your issue of July 2, page 42, these exhibits in the U. S. Government Building: That of the Public Health and Marine-Hospital Service, under the Treasury Department; that of the Bureau of Animal Industry, and that of the Division of Entomology, where specimens of anopheles and culex may be seen living. In the Palace of Mines and Metallurgy is an exhibit showing graphically the percentage composition of U. S. mineral waters. Beside these, there are about a dozen premature infants in incubators on the Pike, which may be seen for a quarter, and *expert* fitting of glasses at *fancy prices* in every building of any importance by *opticians*. MARCUS W. LYON, JR., M.D.

BOOKS ON TESTING MILK.

SISTERVILLE, W. Va., June 27, 1904.

To the Editor:—Please inform me if there is a book out, and, if so, who are the publishers, on testing cow's milk for health departments of cities? VICTOR HUGO DYE.

ANSWER.—Leffman & Beam, "Analysis of Milk and Milk Products," published by P. Blakiston & Co., 1012 Walnut street, Philadelphia. Another book is by Farrington and Woll, "Testing Milk and Its Products," or Gerber's "Chemical and Physical Analyses of Milk." These may be purchased from any first class book house.

COEDUCATIONAL MEDICAL SCHOOL AT PORTLAND.

M. W. L.: Yes, there is a medical school at Portland, Ore., which admits women—the Medical Department of the University of Oregon.

Marriages.

LOUIS J. HAAS, M.D., to Miss Clara Reid of Minneapolis, Minn., June 22.

OTTO ROHRLACH, M.D., to Miss Florence Neumann, both of Chicago, June 8.

J. W. GALVIN, M.D., to Mrs. Mary F. Hayes, both of Louisville, Ky., June 22.

PAUL T. LYON, M.D., Ridgway, Iowa, to Miss Ethel K. Amos of Chicago, June 11.

KIRK SHAWGO, M.D., Piper City, Ill., to Miss Myra Wilcox of Quincy, Ill., June 15.

CAPOLIS L. BLUE, M.D., to Miss Nettie Clowser, both of Tocsin, Ind., June 8.

FREDERICK G. SPARLING, M.D., to Miss Ruth Eloise Phillippi, both of Omaha, Neb.

EMIL REITH, M.D., to Miss Emma Elizabeth Brown, both of Altoona, Pa., June 22.

FRANK LITTEN, M.D., Austin, Texas, to Miss Mellie Reese of Waco, Texas, June 15.

JAMES MCMANUS, M.D., Cairo, Ill., to Miss Alice Cleary of Memphis, Tenn., June 15.

LEVI E. RECK, M.D., Piqua, Ohio, to Miss Alma Bishop of Tippecanoe,, Ohio, June 15.

JAMES ALBERT FULTON, M.D., to Miss Rose C. Flack, both of Kansas City, Kan., June 23.

J. B. SHERBON, M.D., Colfax, Iowa, to FLORENCE BROWN, M.D., of Iowa City, Iowa, June 2.

GEORGE MCCULLOUGH, M.D., to Miss Jessie M. Von Bessler, both of Troy, Ohio, June 22.

LUTHER G. BUNKER, M.D., to Miss Emily R. Plaisted, both of Waterville, Maine, June 22.

ELDEN H. FOSTER, M.D., to Miss Penelope McRee Smith, both of Bonham, Texas, June 14.

JAMES TUNSTALL INGE, M.D., to Miss Helen Grant Jones, both of Mobile, Ala., June 1.

EDGAR GILMORE GIVHAN, M.D., to Miss Lena Parham Peterson, both of Montevallo, Ala.

EUGENE B. CLARK, M.D., to Miss Deva McClung, both of Chattanooga, Tenn., June 15.

ALBIN B. PHILLIPS, M.D., Clear Lake, Iowa, to Miss Agnes Allen of Ames, Iowa, June 22.

EDWIN M. TROOK, M.D., Marion, Ind., to Miss Olive Bernard of Burlington, Iowa, June 20.

EMILE L. DELAUNEY, M.D., to Miss Alma L. Calkins, both of South Omaha, Neb., June 29.

ERNEST W. POTTHOFF, M.D., Chicago, to Miss Nellie Gertrude Slocum of Oak Park, June 25.

EDWARD W. CANNADY, M.D., East St. Louis, Ill., to Miss Ida Rose of Columbia, Ill., June 15.

JOHN A. WILKINSON, M.D., to Miss Hattie Marie Kelly, both of Hale's Corners, Wis., June 21.

LOVING FLINT HUBBELL, M.D., Sidney, Ohio, to Miss Agatha Hollihan of Lima, Ohio, June 28.

WILLIAM T. MCARTHUR, M.D., Los Angeles, Cal., to Miss Mary Smith of York, Pa., June 16.

JOSEPH E. RIDENOUR, M.D., Jesup, Iowa, to Miss Alice Durand of Dubuque, Iowa, June 15.

ADRIAN E. FAUVE, M.D., Indianapolis, Ind., to Miss Mary Etta Julliard of Washington, D. C.

DAVID R. ULNER, M.D., Alexandria, Ind., to Miss Blanche Trimble of St. Louis, Mo., June 28.

SHERMAN E. WRIGHT, M.D., Chicago, to Miss Katherine Alice Best of Minneapolis, Minn., June 29.

JOSEPH A. DORGAN, M.D., Lawrence, Mass., to Miss Anna J. Gookin of Lowell, Mass., June 8.

HELEN S. WILLIAMS, M.D., to George Owen Nagle, both of Chicago, at Memphis, Tenn., June 8.

JESSE H. ROBBINS, M.D., Sioux City, Iowa, to Miss Mary Whittier of Whiting, Iowa, June 16.

JOHN A. RUSSELL, M.D., Boulder, Colo., to Miss Ellen Gertrude Ross of Golden, Colo., June 15.

CLIFTON M. WAUGH, M.D., Toluca, Ill., to Miss Mamie McMaster of Mount Ayr., Iowa, June 22.

JOHN P. STEWART, M.D., Attalia, Ala., to Miss Theodosia Wickliffe of Louisville, Ky., June 22.

JOHN M. THOMAS, M.D., Columbus, Ohio, to Miss Florence Anderson of Cleveland, Ohio, June 22.

C. L. NEUBERT, M.D., to Mrs. Alice Gross, both of Denver, Colo., at Council Bluffs, Iowa, June 14.

SPENCER S. FULLER, M.D., Paxton, Ill., to Miss Marguerite Linton Smith of Riverside, Ill., June 29.

CHARLES EDWIN FRENCH, M.D., El Paso, Texas, to Miss Alice L. Werne, Louisville, Ky., June 21.

WILLIAM TYLER DOUGLASS, M.D., to Miss Emma Viola Anderson, both of Harrisburg, Pa., June 22.

LAURENCE RICHARD DE BUYS, M.D., Houma, La., to Miss Miriam Duggan of New Orleans, June 14.

HENRY BOLIN ALLEN, M.D., Americus, Ga., to Miss Mary Graybill Jogner of Sandersville, Ga., June 8.

GEORGE FRANCIS MILLS, M.D., Oneida, N. Y., to Miss Anna Regina Devereux, at Buffalo, N. Y., June 23.

CARL FRANCIS DENMAN, M.D., Danby, N. Y., to Miss Marie Elizabeth Peck of Brookton, N. Y., June 29.

GEORGE S. BROWNING, M.D., Alma, Mich., to Miss Myrtle Goodrich of Lacon, Ill., at Chicago, June 21.

RALPH W. HOLMES, M.D., Gallipolis, Ohio, to Miss Carolyn Gertrude Woolslair of Beaver, Ohio, June 7.

GEORGE H. DEMPSEY, M.D., Grafton, Ill., to Miss Hattie J. Richardson of Maumee, Ill., at St. Louis, June 23.

OTTO E. WESTERFIELD, M.D., San Francisco, to Miss Mary Lawrence Mills of North Manchester, Ind., June 22.

DANIEL E. HEALEY, M.D., South Framingham, Mass., to Miss Katherine G. White, of Swampscott, Mass., June 15.

LEWIS F. LADD, M.D., Martin, Mich., to Miss Lenna Gertrude Atwood of Battle Creek, Mich., in Chicago, June 22.

J. ALBERT NOBLE, M.D., San Francisco, to Miss M. K. Walsh, formerly of Honolulu, H. I., at Santa Cruz, Cal., June 15.

J. EDWARD LUNDY, M.D., Portage la Prairie, Man., to Miss Agnes D. Barnett of Arnprior, Que., in Montreal, June 8.

DABNEY M. TRICE, M.D., Charlottesville, Va., to Miss Annie Waller Cocke of Red Hills, Fluvianna County, Va., June 7.

ALICE GRAY SNIDER, M.D., Ann Arbor, Mich., and HUGH THOMPSON, M.D., New York City, at Coshocton, Ohio, June 15.

JOHN EDWARD SCHWENDENER, M.D., Milwaukee, Wis., to Miss Mary Barbara Corneliussen of Story City, Iowa, June 15.

Deaths.

William H. Saylor, M.D. Willamette University Medical Department, Portland, Ore., 1869, corresponding secretary of the Oregon State Medical Society in 1889, and president in 1893; in 1882 and 1883 professor of anatomy at Willamette University, and thereafter professor of clinical surgery and genitourinary diseases in the medical department of the University of Oregon, and president of the State Board of Medical Examiners since its organization in 1895, died at Good Samaritan Hospital, Portland, June 8, from heart disease, aged 60.

Henry H. Seys, M.D. University of Maryland School of Medicine, Baltimore, 1853, surgeon, medical director and medical inspector in the Army during the Civil War; for 16 years health officer of Springfield, Ohio, and for half a century a practitioner in that city; died at his home in Springfield, June 17, from nephritis, after a long illness, aged 73. Clark County Medical Society, and the Springfield Board of Health, at special meetings, passed resolutions of respect and sorrow.

James Simpson, M.D. Jefferson Medical College, Philadelphia, 1865, who, although an undergraduate, had charge of the hospital corps at Alexandria, Va., throughout the Civil War; for many years chief surgeon at St. Mary's Hospital, Philadelphia, died at the General Hospital in that city, June 20, after a long illness, aged 65.

Henry J. Power, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, who retired from practice in 1899 on account of ill health, died at his home in McKeesport, Pa., June 15, from heart disease, after an illness of six months, aged 49.

Julius J. Stricker, M.D. Jefferson Medical College, Philadelphia, 1878, of Portage, Pa., president of the Cambria County Board of Health, died in the Cambria Memorial Hospital, Johnstown, Pa., June 20, from paralysis, after an illness of two months, aged 54.

John J. Quinn, M.D. Detroit (Mich.) College of Medicine, 1893, a member of the American Medical Association, was found dead in his office in Superior, Wis., June 17, from the effects of chloroform, supposedly self-administered, aged over 40.

Duncan N. Patterson, M.D. Jefferson Medical College, Philadelphia, 1854, of Mangum, N. C., member and ex-president of the Medical Society of the State of North Carolina, died at the home of his daughter in Charlotte, N. C., June 25, aged 74.

James B. Neil, M.D. University of Nashville Medical Department, 1866, assistant surgeon in the Confederate service, and formerly state senator, died at his home in Nashville, Tenn., June 27, after an illness of three months, aged 67.

William J. McNiff, M.D. University of Vermont Medical Department, Burlington, 1898, of East Pepperell, Mass., a member of the Massachusetts Medical Association, died at the family home in Worcester, Mass., June 17.

Bryan G. Williams, M.D. Bellevue Hospital Medical College, New York City, 1893, for several years assistant physician at the Long Island State Hospital, King's Park, N. Y., died and was buried at sea, May 13.

Dennis J. Treacy, M.D. Jefferson Medical College, Philadelphia, 1867, who had been suffering for a long time from malignant disease of the liver, was found dead in bed in his home in Philadelphia, aged 63.

Clifford Franklin Odell, M.D. Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa, 1903, died at his home in Moline, Ill., June 15, from tuberculosis, after an illness of six months, aged 23.

James D. Pettus, M.D. Kentucky, 1893, for more than half a century a practitioner of Lincoln County, Ky., died at his home in Crab Orchard, June 3, from paralysis, after a short illness, aged 74.

John Edward Maguire, M.D. College of Physicians and Surgeons, Boston, 1888, of Lowell, Mass., died at the family home in Pigeon Cove, Mass., June 22, from consumption, aged 38.

Leonard Brooks Parker, M.D. Castleton (Vt.) Medical College, 1843, sometime state senator, and for 58 years a resident of Marine City, Mich., died at his home, June 19, aged 85.

William Oscar Cameron, M.D. Medical Department of Western Reserve University, Cleveland, 1895, died at his home in Johnstown, Pa., January 5, after a short illness.

Lucian A. Lowden, M.D. Medical College of Indiana, Indianapolis, 1885, committed suicide by taking strychnin in his office in North Indianapolis, Ind., June 21, aged 43.

Franklin R. Robey, M.D. Meharry Medical College, Nashville, Tenn., 1883, died suddenly from hemorrhage of the lungs at his home in Houston, Texas, June 23.

Frank A. Rockwith, M.D. Philadelphia, 1871, died at his home in Saginaw, Mich., June 23, from paralysis, after an invalidism of ten years, aged 68.

James M. Clement, M.D. Medical Department of the University of Pennsylvania, Philadelphia, 1862, died June 12, at his home in Philadelphia, aged 71.

M. Ayres Robinett, M.D. Cleveland Medical College, 1870, of Beach City, Ohio, was struck by an electric car, June 18, and instantly killed, aged 56.

Jephtha G. Dolley, M.D. Cincinnati, 1854, a member of the Orleans County Medical Association, died at his home in Albion, N. Y., June 8, aged 75.

Richard D. Lucius, M.D. Medical College of Alabama, Mobile, 1871, of Eutaw, Ala., died from heart disease at Tuscaloosa, Ala., June 13, aged 57.

William M. Murchison, M.D. University of Louisville Medical Department, 1880, died at his home in Weimar, Texas, June 17, after a short illness.

Charles Rockhold, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874, died at his home in Parsons, Kan., from paralysis, June 18.

William B. Lewellen, M.D. Kentucky School of Medicine, Louisville, 1859, died suddenly at his home in Saverton, Mo., June 20, aged 81.

W. B. Pullen, M.D. Hospital College of Medicine, Louisville, 1888, died at his home in Jacksonville, Texas, April 10, from pneumonia.

James C. Mitchie, M.D. Ohio, 1886, died in North Adams, Mass., June 14, from diabetes, after a long illness, aged 67.

A. J. Overholt, M.D., a pioneer of Salida, Colo., died at his home in that city, June 7, from heart disease, aged 64.

Elijah Merriman, M.D. Medical College of Fort Wayne, Ind., 1877, died at his home in South Whitley, Ind., June 10.

Benjamin B. Gumpert, M.D. Philadelphia, 1853, died at his home in Philadelphia, June 23, from apoplexy, aged 88.

George D. Sparham, M.D. McGill University, Montreal, died at his home in Athens, Ont., April 20, aged 95.

David D. Thomas, M.D. University of Louisville, 1849, died at his home in Dallas, Texas, April 21, aged 80.

M. H. Mills, M.D. Ohio, 1872, of Tipton, Ind., died from apoplexy, at Rochester, Ohio, June 12, aged 50.

Orsino A. Williams, M.D. St. Louis Medical College, 1870, died at his home in Versailles, Mo., May 6.

James H. Horton, M.D., 1873, died at his home in Clinchport, Scott County, Va., June 15, aged 76.

John B. Smith, M.D. Heidelberg, died at his home in Perry, Ga., June 4, aged 91.

Association News.

NEW MEMBERS.

New members for the month of June, 1904:

ALABAMA.

Mason, Jas. M., Birmingham.
McAdory, W. P., Birmingham.
Ward, H. S., Birmingham.
Heacock, J. D., Birmingham.
Robertson, W. H., Clayton.
Castleman, H. L., Sylacauga.

ARIZONA.

Dodsworth, R. M., Phoenix.

ARKANSAS.

Robinson, J. C., Marianna.
Sparks, J. E., Ashley.

CALIFORNIA.

Fleming, E. W., Los Angeles.
Ferbert, J. C., Los Angeles.
Zillmer, A. L., San Francisco.
Stevens, W. E., San Francisco.
Gleason, C. D. R., San Francisco.
Westerfeld, O. F., San Francisco.
Stimpson, W. G., San Francisco.
Hogue, G. I., San Francisco.
Burnham, C. J., San Francisco.
Zobel, A. J., San Francisco.
Mohun, C. C., San Francisco.
Hamlin, G. D., Oakland.
Hare, Jessie D., Fresno.

COLORADO.

Fisk, S. A., Denver.
Drechsler, Wm., Denver.

CONNECTICUT.

Brainard, C. B., Hartford.
Lampson, E. R., Jr., Hartford.
Kane, T. T., Hartford.
Sheedy, G. F., Bridgeport.
Smith, E. T., Hartford.
Cook, Ansel G., Hartford.
Swett, Josiah, New Hartford.
Barnes, Wm. S., New Haven.
Harishorn, W. E., New Haven.
Kilbourn, C. L., New Haven.
Foster, J. P. C., New Haven.
Tuttle, C. A., New Haven.
Goodrich, Wm. A., Waterbury.
Platt, Wm. L., Torrington.
Reidy, D. D., Winsted.
Goodwin, Ralph S., Thomaston.
Plummer, Paul, Collinsville.
Hayes, J. D., Torrington.
Robinson, M. P., Windsor Locks.
Irving, S. W., New Britain.
Miller, W. R., Southington.
Mansfield, H. P., Ridgefield.
Kelsey, E. R. Winsted.
Caldwell, W. E., West Suffield.
Stanley, C. E., Middletown.
Ives, Sarah E., Middletown.
Kowalewski, V. A., West Haven.
Robbins, Jas. W., Naugatuck.

CUBA.

Weber, Andres P., Havana.

DELAWARE.

Kollock, H. G. M., Newark.

DISTRICT OF COLUMBIA.

Polkinhorn, Henry A., Washington.
Burch, W. T., Washington.
Geddings, H. D., asst. surg. gen., Washington.
Borden, Major W. C., Washington.
Edie, Guy L., surg. U. S. A., Washington.
O'Reilly, R. M., surg. gen. U. S. A., Washington.
Fry, Samuel, Washington.
Hagner, Francis B., Washington.
Wiley, Harvey W., Washington.
Morgan, W. G., Washington.

FLORIDA.

Kerr, Geo., Pierson.
Taylor, H. M., Crystal River.
Cannon, A. B., Sarasota.

GEORGIA.

Daniels, R. A., Thomasville.
Sessoms, W. C. Brewton.
Campbell, M. G., Atlanta.

HAWAIIAN ISLANDS.

Cooper, Chas. B., Honolulu.

ILLINOIS.

Mueller, Frederick, Chicago.
Hosmer, A. B., Chicago.
Andrews, F. T., Chicago.
Brown, E. J., Chicago.
Richardson, J. R., Chicago.
Schembs, F. H., Chicago.
Vaill, E. J., Elgin.
Alguire, Alden, Belvidere.
Alguire, Annie, Belvidere.
Swan, Chas. E., Dunning.
Jack, C. M., Decatur.
Turner, F. A., Sandwich.
Sherman, E. A., Aurora.
Waggonner, F. A., Hamilton.
Angear, B. H. S., Sublette.
Gagnon, A. L., Kankakee.

INDIANA.

Dinnen, J. M., Ft. Wayne.
Kimberlin, A. C., Indianapolis.
Dugan, T. J., Indianapolis.
Hughes, W. F., Indianapolis.
Barcus, P. J., Crawfordsville.
Scull, L. E., Hammond.
Wharton, W. L., Matthews.
Davis, T. Henry, Richmond.
Keyes, F. H., Dana.
Kerrigan, J. J., Michigan City.
Myers, B. D., Bloomington.
Johnson, O. B., Lizton.

INDIAN TERRITORY.

Cook, W. Albert, Tulsa.
Childs, J. S., Purcell.

IOWA.

Hetzel, C. C., Iowa City.
Paul, C. B., Des Moines.
Osborn, J. W., Des Moines.
Fay, Oliver J., Des Moines.
Mammen, G. H., Le Mars.
Cole, A. J., Britt.
Somers, R. H., Le Mars.
Stuart, P. E., Nashua.
Smith, C. P., Mason City.
McDonald, J. E., Mason City.
Ramage, Chas., Charles City.
Horton, J. D., Nashua.
Sabin, A. E., Kirkman.

KANSAS.

Cowen, H. K., Midway.
Welsh, H. G., Hutchinson.
Walker, A. E., Anthony.

KENTUCKY.

Taylor, P. R., Louisville.
Peak, J. H., Louisville.
Felix, Chas. W., Olaton.
Hume, E. E., Frankfort.
Smith, Wm. C., Hadley.
Knox, D. B., Georgetown.
Hall, E. N., Woodburn.
Heizer, Wm. J., New Haven.
Gibson, H. R., Richmond.
Offutt, W. N., Lexington.

LOUISIANA.

Roberts, Norman, New Orleans.
Smith, V. C., Henderson.
Peters, A. M., Winnfield.
White, J. A., Alexandria.

MAINE.

Gilbert, F. Y., Portland.
Straw, N. W. R., Portland.
Thayer, A. S., Portland
Nichols, Estes, Portland.
Wight, I. H., Bethel.
Sturgis, J. L., New Gloucester.

MARYLAND.

Streett, David, Baltimore.
Cordell, E. F., Baltimore.
Branin, C. N., Baltimore.
Biedler, H. H., Baltimore.
Schaefer, Otto, Baltimore.
Smith, W. S., Baltimore.
Dare, Geo. S., Rising Sun.
Jannar, J. H., Elkton.
Collins, C. E., Crisfield
Schreiner, E. R. (U. S Army), Ft. McHenry.
Smith, F. B., Frederick City.

MASSACHUSETTS.

Southard, E. E., Boston.
Dow, E. S., Boston.
Fitz, R. H., Boston.
Knight, F. I., Boston.
Marcley, W. J., Rutland.
Flagg, P. J., Wittineague.
Mahoney, F. R., Lowell.
Sturgis, B. F., Jr., Salem.
Pritchard, W. P., Fall River.
Page, J. G. E., Southbridge.
Penner, H. O., So. Framingham.
Berry, J. C., Worcester.
Ryan, D. M., Ware.
O'Connor, J. E., Fall River.
Flynn, J. J., Pittsfield.
Leard, J. S. H., Jamaica Plain.
Gifford, J. H., Fall River.

MICHIGAN.

Hoff, N. S., Ann Arbor.
Northcott, A. T., Bay City.
Erwin, R. W., Bay City.
Tiffin, W. E., Detroit.
Loucks, R. E., Detroit.
Gailey, J. K., Detroit.
Connor, G. L., Detroit.
Aitcheson, W., Ortonville.
Holbrook, A. G., Coldwater.
Garner, H. B., Traverse City.
Wheelock, A. S., Goodrich.
Cunningham, T. M., Marquette.
Frazin, John V., Lapeer.
Simonson, A. B., Calumet.
Abbott, John T., Ovid.

MINNESOTA.

Wooley, E. M., Winona.
Gulick, W. V., Oronoco.

MISSOURI.

Lichtenberg, J. S., Kansas City.
Hall, F. J., Kansas City.
Yancy, E. F., Sedalia.
Tinsley, G. N., Bowling Green.

MONTANA.

Tuttle, T. D., Helena.

NEBRASKA.

Crummer, LeRoy, Omaha.
Swoboda, Louis, Omaha.

NEW HAMPSHIRE.

Brown, J. S., Manchester.
Perkins, F. H., Manchester.

NEW JERSEY.

Doriss, H. S., Atlantic City.
Bartlett, Clara K., Atlantic City.
Garrabrant, Clarence, Atlantic City.
Scott, Geo., Atlantic City.
Metzler, V. W., Atlantic City.
Shimer, A. R., Atlantic City.
Frick, J. H., Atlantic City.
Lippincott, A. H., Camden.
Bailey, W. G., Camden.
Cramer, Alfred, Camden.
Saunders, O. W., Camden.
Martindale, J. Watson, Camden.
Schellenger, E. A. Y., Camden.
Leavitt, A. F., Camden.
Bushey, S. G., Camden.
Tutschulte, E., Newark.
Petry, Wm., Newark.
Paul, F. M., Newark.
Crankshaw, C. W., Newark.
Reddon, M. W., Trenton.
Ackley, Bertine, Trenton.
Rogers, Richard R., Trenton.
Ward, J. W., Trenton.
Blair, J. E., Burlington.
Halsey Jos. G., D. D. S., Swedesboro.
Simmons, W. G., Swedesboro.
De Grofft, E. E., Woodstrom.
Hand, Anna M., Cape May City.
Blake, Duncan W., Gloucester City.
Lummis, M. F., Cape May City.
Demarest, Fred. F. C., Passaic.
Stroud, F. G., Moorestown.
Stevenson, J. R., Haddonfield.
Pugh, J. Howard, Burlington.
McClure, Jas. C., Williamstown.
Leedy, D. D., Flemington.
Kice, H. W., Wharton.
Terhume, Percy H., Passaic.
Hall, Walter H., Burlington.
Fish, Clyde M., Pleasantville.
Gleadon, W. P., Cedarville.
Fisher, C. F., Clayton.
Garrison, Daniel, Penn Grove.
Helfer, Samuel A., Hoboken.

NEW YORK.

Townsend, H. S., Buffalo.
Culkins, J. R., Rochester.
Sartry, A. B., Little Falls.
Showerman, B. F., Batavia.
Reid, G. C., Westernville.
Quackenbush, L. H., Binghamton.
Dunning, Mary E., Newburg.
Lucid, M. M., Cortland.
Weidman, J. A., Dunkirk.
Rogers, B. F., Buffalo.
Hastings, T. W., New York City.
Frauenthal, H. W., New York City.
Nydegger, J. A., New York City.
Brickner, S. M., New York City.

NORTH CAROLINA.

McIver, Lynn, Sanford.
Cooke, F. K., Wake Forest.
Long, J. W., Greensboro.
Strong, C. M., Charlotte.
Crowell, S. M., Charlotte.

OHIO.

Todd, G. M. Akron.
King, G. L., Alliance.
Rinehart, H. D., Dayton.
Barker, F. D., Dayton.
Lamb, F. W., Cincinnati.
Iglauer, Samuel, Cincinnati.
Large, Secord H., Cleveland.
Lowman, John H., Cleveland.
Lucas, V. C., Cleveland.
Farrar, H. D., Columbus.
Donnelly, James, Toledo.
Bowman, D. E., Toledo.
James, J. K., Delaware.
Robertson, Joseph, Steubenville.
Rhoten, W. G., Mowrystown.
Brattain, G. E., Paulding.
Keenan, I. W., Quaker City.
Edwards, F. M., Portsmouth.
Harrison, F. M., Napoleon.
Moore, H. M., Oxford.
Vermilya, O. C., Fremont.

OKLAHOMA TERRITORY.

Bonham, J. M., Hobart.

OREGON.

Beard, T. E., Grants Pass.
Courtney, J. S., Dayton.

PENNSYLVANIA.

Jones, W. W., Allegheny.
Singley, John De V., Allegheny.
Shillito, N., Allegheny.
Cole, W. W., Allegheny.
Hertz, W. J., Allentown.
Postles, D. W., Chester.
Crothers, L. H., Chester.
Gottschalk, Leon, Chester.
Roberts, F. C., Easton.
Sagerson, J. L., Johnstown.
Gerhard, J. R., Reading.
Rigg, S. B., Reading.
Rhode, Henry J., Reading.
Taylor, S. Banks, Reading.
Cleaver, Israel, Reading.
Grim, D. S., Reading.
Loose, C. G., Reading.
Irwin, J. R., Washington.
Davis, Walter, Wilkesbarre.
Fell, A. G., Wilkesbarre.
Robin, L. N., Pittsburg.
Miller, Harold A., Pittsburg.
Johnson, T. D. Barton, Pittsburg.
Murdock, F. H., Pittsburg.
Hitzrot, C. H., Pittsburg.
Leffman, H., Pittsburg.
Bernardy, H. L., Philadelphia.
La Wall, Chas. H., Philadelphia.
Potsdamer, J. B., Philadelphia.
Dray, Arthur R., Philadelphia.
Carter, Frederick, Philadelphia.
Horgan, Edw., Philadelphia.
Norris, Richard C., Philadelphia.
Lancaster, Thos., Philadelphia.
Thomas, C. H., Philadelphia.
Tully, E. W., Philadelphia.
Collins, F. K., Philadelphia.
Drummond, Winslow, Philadelphia.
Hammond, W. A., Philadelphia.
Biggs, Montgomery H., Philadelphia.
Bauer, Marie L., Philadelphia.
Berens, Bernard, Philadelphia.
Given, Ellen E. W., Philadelphia.
Allen, Luther M., Philadelphia.
Ellis, Alice G., Philadelphia.
Burns, Stillwell C., Philadelphia.
Huston David T., Philadelphia.
Butler, Margaret F., Philadelphia.
Fleming, T. J., Philadelphia.
Fulton, Z. M. K., Philadelphia.
Franklin, Melvin M., Philadelphia
Picard, Henry L., Philadelphia.
Kyle, E. B., Philadelphia.
McGuigan, J. J., Philadelphia.
Mudgett, J. H., Philadelphia.
Muller, G. P., Philadelphia.
Penner, W. L., Philadelphia.
Dubbs, J. H., Philadelphia.
Brown, Fred. K., Philadelphia.
Pontius, Paul J., Philadelphia.
Loughridge, Samuel S., Philadelphia.

Goepp, R. Max, Philadelphia.
Watt, Robt., Philadelphia.
Remington, Jos. P., Philadelphia.
Butt, Miriam M., Philadelphia.
Lowe, C. B., Philadelphia.
Fife, C. A., Philadelphia.
Steel, W. A., Philadelphia.
Broune, Chas., Philadelphia.
Keech, Harry B., Philadelphia.
Saxmau, N. H., Philadelphia.
O'Farrell, G. D., Philadelphia.
Lytle, I. W., Philadelphia.
Hoyt, D. M., Philadelphia.
Weaver, W. W., Philadelphia.
Roberts, Walter, Philadelphia.
Fahy, J. Eugene, Philadelphia.
Ankeney, Clinton R., Philadelphia.
Allen, J. H., Philadelphia.
Smith, Addison W., Scranton.
Webb, D. A., Scranton.
Spitzer, W. M., Scranton.
Arndt, F. F., Scranton.
Capwell, D. A., Scranton.
Sturge, Edgar, Scranton.
Rodham, Thos. B., Scranton.
Corser, John B., Scranton.
C. M. Adams, Williamsport.
Frantz, C. J., Warren.
Waish, F. A., Erie.
Cracraft, C. C., Claysville.
Sturdevant, D. W., Laceyville.
Wilcox, H. B., Kingston.
Boal, Geo. F., Freedom.
Hogan, Wm. C., Bradford.
Rose, W. A., Rochester.
Shugert, Guy S., Rochester.
Cloud, J. H., Ardmore.
Wellman, H. M., Blairsville.
Simpson, W. A., Indiana.
Carson, J. B., Blairsville.
Wick, J. A., New Bethlehem.
Nicholis, R. D., Glassport.
Good, J. F., New Cumberland.
Meanor, W. C., Beaver.
Lenker, C., Schuylkill Haven.
Stotts, Arthur E., Ehrenfeld.
Foster, John, New Castle.
Carson, Susan R., Lansdowne.
Hoopes, W. H., Newport.
Hoover, A. M., Parker's Landing.
Shellenberger, Edw., Warren.
Eldon, Wm. McKee, Roaring Spring.
Dickson, Wm. R., McDonald.
Heilman, Sharon P., Kittanning.
Heller, H. D., Hellertown.
Pilcher, J. E., Carlisle.
Scroggs, J. J., Beaver.
Kendall, Eugene E., Waterford.
Marsden, Henry L., Somerset.
Pohl, H. C., Nazareth.
Rentzheimer, W. H., Hellertown.
Mann, C. H., Bridgeport.
Swarzlander, L. B., Doylestown.
Robison, J. L., State College.
La Ross, W. A., McDonald.
McCreary, J. Bruce, Shippensburg.
Milmor, R. H., Warrensville.
Minnich, Wm. H., Dallastown.
Lessig, L. A., Schuylkill Haven.
Hunter, J. R. W., Lewistown.
Brodbeck, John R., Codorus.
Weide, Geo. A., Frederick.
Wilhelm, E. T., So. Bethlehem.
Dotterer, Chas. R., Zieglerville.
Barman, J. W., Lansdale.
Ewing, Wm. B., West Grove.
Crewitt, John A., Newtown.
Farquhar, Geo. W., Pottsville.
Fraunfelder, J. A., Nazareth.
Godfrey, Andrew, Ambler.
Elliott, Thos., Sharon.
Ely, Jas. B., Newport.
Beckwith, J. F., Plymouth.
Gutshall, Frank A., Blair.

PHILIPPINE ISLANDS

Woolley, Paul G., Manila.

RHODE ISLAND.

Higgins, Chas. W., Providence.
Abbott, Harlan P., Providence.
Wilson, Wm. E., Pawtucket.

SOUTH DAKOTA.

Coller, Granville J., Brookings.
Jenkinson, Henry E., Wessington Springs.
Bartholomew, P. H., News.

TENNESSEE.

Webb, U. R., Covington.
Moore, J. T., Algood.
Williams, W. B., Dayton.

TEXAS.

Capps, Edgar D., Ft. Worth.
Hart, S. W., Mineola.
Robinson, W. L., Bazette.
Scott, E. E., Matagorda.
Neal, W. S., Dalhart.
Fowler, E. M., Forney.
Neely, W. H., Terrell.
Barnes, H. D., Tulia.

UTAH.

Worthington, Union, Salt Lake City.
Rich, Ezra C., Ogden.
Fisk, F. F., Price.
Buchtel, F. C., Vernal.
Rich, Edward L., Ogden.

VERMONT.

Arthur, F. M., Pittsford.

VIRGINIA.

Newbill, C. F., Norfolk.
White, Reid, Lexington.
Powell, Oscar L., Onancock.
Quick, T. C., Falls Church.

WEST VIRGINIA.

Forman, L. H., Buckhannon.

WISCONSIN.

Schmitt, Foster, Milwaukee.
Weber, Fred R., Milwaukee.
Seaman, G. E., Milwaukee.
Fiedler, Otho, Milwaukee.
Birkbeck, Samuel, Gratiot.
Cox, Joseph P., Spooner.
Kern, Josef, Cecil.
Jackson, R. H., Madison.
Malloy, T. E., Random Lake.
Wing, W. S., Oconomowoc.
Staehle, M., Manitowoc.

WYOMING.

Miller, S. B., Laramie.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending July 2, 1904:

Kilbourne, H. S., deputy surgeon general, relieved from duty in Philippine Division and to proceed to San Francisco on transport to sail from Manila, P. I., July 15, 1904. On arrival at San Francisco to report by telegraph to the military secretary for further orders.

Gandy, Charles M., surgeon, detailed as examiner of recruits at Detroit in addition to his duties at Fort Wayne, Mich.

Webber, Henry A., asst.-surgeon, left Fort Walla Walla, Wash., on detached duty en route to American Lake, Wash.

Mabee, James L., asst.-surgeon, ordered to proceed from Fort Casey, Wash., to American Lake, Wash., for duty during maneuvers.

Grubbs, R. B., asst.-surgeon, ordered to proceed from Fort Wright, Wash., to Camp Nesqually, American Lake, Wash., for duty during maneuvers.

Geer, Charles C., asst.-surgeon, granted thirty days' sick leave, with permission to apply for thirty days' extension.

Farr, Charles W., and Brechemin, Louis, Jr., asst.-surgeons, on duty at Fort Mason and Baker, Cal., will report to the commanding officer, Company of Instruction, Hospital Corps No. 2, Fort McDowell, Cal., for duty during the maneuvers in Department of California and Columbia, and on completion of same return to their respective stations.

Church, James R., asst.-surgeon, granted thirty days' sick leave, with permission to apply for two months' extension.

Sweazey, Verge E., asst.-surgeon, relieved from further duty in Philippine Division and assigned to temporary duty at U. S. A. General Hospital, Presidio of San Francisco.

Shaw, Henry A., surgeon, assignment to duty as chief surgeon, Second Provisional Division at Army maneuvers, Manassas, Va., revoked.

Harris, H. S. T., surgeon, designated for duty as chief surgeon, Second Provisional Division at Army maneuvers to be held at Manassas, Va.

Borden, Wm. C., surgeon, granted leave of absence for one month and five days.

Woodruff, Chas. E., surgeon, sick leave extended two months.

Smart, Charles, asst.-surgeon general, relieved from duty in the Philippine Division and will proceed by the first available transport from Manila, P. I., to San Francisco, and on arrival report by telegraph to the military secretary, War Department, for orders.

Stark, Alexander N., asst.-surgeon, relieved from further duty in Washington, D. C., as attending surgeon, and will report in person to Rear Admiral John G. Walker, U. S. Navy, Chairman of the Isthmian Canal Commission, for duty on commission.

Anderson, Everett A., contract surgeon, contract annulled this date at his own request.

Watkins, Y. E., contract surgeon, left Fort Miley, Cal., at date, to take station at Fort Apache, Ariz.

Corbusier, H. D., contract surgeon, granted one month's leave of absence.

Adair, G. W., contract surgeon, ordered to Fort DuPont, Del., for temporary duty.

Wilkins, A. M., contract surgeon, arrived at Fort Baker, Cal., for duty.

Koyle, Fred T., contract surgeon, ordered to proceed to Fort Bliss, Texas, for temporary duty.

Daywalt, Geo. W., contract surgeon, granted one month's leave of absence.

Shellenberger, James E., contract surgeon, ordered to proceed to Fort St. Philip, La., for temporary duty.

Felts, Robert L., contract surgeon, ordered to proceed to Fort Logan H. Roots, Ark., for temporary duty.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ended July 2, 1904:

Huntington, E. O., surgeon, ordered to the Naval Hospital, Portsmouth, N. H.

Carpenter, D. N., surgeon, detached from duty with the marine battalion on the Isthmus of Panama and ordered home and to await orders.

Richardson, R. R., asst.-surgeon, ordered to the *Wabash*.

Smith, O. G., passed asst.-surgeon, commissioned passed assistant surgeon, with the rank of lieutenant, from April 12, 1904.

Bell, W. H., passed assistant surgeon, detached from the Naval Hospital, Portsmouth, N. H., and ordered to duty with the marine battalion on the Isthmus of Panama.

Shiffert, H. O., asst.-surgeon, detached from the *Nashville*, and ordered home to await orders.

Taylor, E. C., asst.-surgeon, detached from the Naval Hospital, San Juan, P. R., and ordered to the *Bancroft*.

McDonnold, P. E., asst.-surgeon, detached from the Naval Museum of Hygiene and Medical School, Washington, D. C., and ordered to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Mink, O. J., asst. surgeon, ordered to the Naval Hospital, Philadelphia.

Porter, F. E., asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

Campbell, R. A., acting assistant surgeon, detached from duty with Naval Recruiting Party No. 1 and ordered home to wait orders.

Plummer, R. W., passed assistant surgeon, detached from the *Bancroft* and ordered to the Naval Hospital, San Juan, P. R.

McClannahan, R. K., asst.-surgeon, ordered to the General Hospital, Fort Bayard, N. M., for treatment.

Seaman, W., asst.-surgeon, ordered to the *Wabash*.

McCullough, F. E., passed assistant surgeon, detached from the *Wisconsin* and ordered home.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the twenty-one days ended June 30, 1904:

Williams, L. L., assistant surgeon general, granted leave of absence for one month from July 18.

Vaughan, G. T., assistant surgeon general, granted leave of absence for six days from June 13.

Gassaway, J. M., surgeon, detailed as sanitary officer at the Louisiana Purchase Exposition.

Irwin, Fairfax, surgeon, granted leave of absence, on account of sickness, for seven days.

White, J. H., surgeon, granted leave of absence for fourteen days from July 3.

Wertenbaker, C. P., surgeon, seven days' leave of absence from June 14, 1904, under paragraph 189 of the regulations.

Brown, B. W., passed assistant surgeon, granted leave of absence for two months from July 1.

Eager, J. M., passed assistant surgeon, proceed to Messina, Italy, for special temporary duty.

Nydegger, J. A., passed assistant surgeon, department letter of June 6, 1904, granting extension of leave of absence, on account of sickness, for five days from June 5, revoked. Granted leave of absence for five days from June 5.

Cumming, H. S., passed assistant surgeon, granted leave of absence for twenty-one days from July 1.

Richardson, T. F., passed assistant surgeon, proceed to Alice, Tex., for special temporary duty; to proceed to certain points in Texas for special temporary duty.

Holt, J. M., assistant surgeon, granted leave of absence for one month from June 25; granted leave of absence for seven days from June 17 under paragraph 191 of the regulations.

Trotter, F. E., assistant surgeon, to proceed to San Francisco Quarantine and assume temporary charge during the absence, on leave, of the medical officer in command.

Schereschewsky, J. W., asst.-surgeon, granted leave of absence for one month from June 20.

Amesse, J. W., asst.-surgeon, detailed to represent service at meeting of Washington State Medical Association, at Seattle, Washington, July 12-14.

Berry, T. D., asst.-surgeon, relieved at Louisville, Ky., and directed to proceed to Laredo, Tex., for duty.

Bahrenburg, L. P. H., asst.-surgeon, to proceed to Evansville, Ind., and assume temporary charge during the absence, on leave, of the medical officer in command. Granted leave of absence for seven days from June 14, 1904, under paragraph 191 of the regulations.

Boggess, J. S., asst.-surgeon, proceed to Washington, D. C., for special temporary duty.

Pettyjohn, J., asst.-surgeon, relieved at Immigration Depot, New York, and directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Spratt, R. D., asst.-surgeon, directed to proceed to Louisville, Ky., and report to medical officer in command for temporary duty and assignment to quarters.

Porter, J. Y., sanitary inspector, to proceed to Cumberland Sound Quarantine, Fla., as inspector.

Goldsborough, B. W., acting assistant surgeon, leave of absence for four days from June 7, 1904, granted by bureau letter of June 10, revoked.

Mackall, B. McV., acting assistant surgeon, granted leave of absence for five days from June 16, under paragraph 210 of the regulations.

Safford, M. V., acting assistant surgeon, granted leave of absence for three days from June 9, under paragraph 210 of the regulations.

Schug, F. J., acting assistant surgeon, granted leave of absence for thirty days from July 1.

Stuart, A. P., acting assistant surgeon, granted leave of absence for thirty days from July 1, 1904.

Wetmore, W. O., acting assistant surgeon, granted leave of absence for four days from June 15, under paragraph 210 of the regulations.

La Grange, J. V., pharmacist, granted leave of absence for seven days from June 14, under paragraph 210 of the regulations.

Walerius, M., pharmacist, granted leave of absence for thirty days from July 15.

Holt, E. M., pharmacist, granted leave of absence for eleven days from July 5.

Carrington, P. M., surgeon, to proceed to certain points on the El Paso & Northeastern Railway for special temporary duty.

Trask, J. W., assistant surgeon, relieved from duty at Fort Stanton, N. M., and directed to proceed to Chicago and report to medical officer in command for duty and assignment to quarters.

Moore, G. P., acting assistant surgeon, granted leave of absence for seven days from July 3, 1904, under provisions of paragraph 210 of the regulations.

Steuart, G. H., acting assistant surgeon, granted leave of absence for fourteen days from July 1.

BOARDS CONVENED.

Board convened at Washington, D. C., June 13, for the physical examination of an officer of the Revenue-cutter Service and an applicant for appointment. Detail for the board: Assistant Surgeon General L. L. Williams, chairman; Assistant Surgeon General W. J. Pettus, recorder.

Board convened at Stapleton, N. Y., June 18, for the physical examination of an officer of the Revenue-cutter Service. Detail for the board: Passed Assistant Surgeon A. C. Smith, chairman; Passed Assistant Surgeon J. B. Greene, recorder.

Board convened at Washington, D. C., June 30, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Assistant Surgeon General G. T. Vaughan, chairman; Assistant Surgeon A. J. McLaughlin, recorder.

Board convened at Port Townsend, Wash., July 2, for the physical examination of an officer of the Revenue-cutter Service. Detail for the board: Passed Assistant Surgeon J. H. Oakley, chairman; Passed Assistant Surgeon M. H. Foster, recorder.

APPOINTMENT.

Dr. Edward Erskine appointed acting assistant surgeon for duty at Rogers City, Mich., effective June 16, 1904.

RESIGNATION.

Pharmacist C. H. Bierman resigned, to take effect June 16, 1904.

CASUALTY.

Acting Assistant Surgeon H. McD. Martin died at Fredericksburg, Va., June 22, 1904.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from June 26 to July 1, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, June 12-19, 1 case.
District of Columbia: Washington, June 11-18, 4 cases.
Florida: At large, June 18-25, 7 cases, 1 death.
Georgia: Macon, June 18-25, 1 case.
Illinois: June 18-25, Chicago, 1 case; Danville, 1 case.
Louisiana: New Orleans, June 18-25, 5 cases, 3 cases imported.
Maryland: Baltimore, June 18-25, 2 cases.
Massachusetts: Lawrence, June 18-25, 1 case.
Michigan: Detroit, June 18-25, 3 cases.
Missouri: St. Louis, June 18-25, 9 cases.
Nebraska: June 18-25, Omaha, 2 cases; South Omaha, 1 case, imported.
New Hampshire: Manchester, June 18-25, 6 cases.
New Jersey: Jersey City, June 2-19, 2 cases, 1 case imported from Baltimore.
New York: June 18-25, Buffalo, 1 case; New York City, 1 case; Niagara Falls, 1 case.
Ohio: Toledo, June 18-25, 2 cases imported.
Pennsylvania: June 18-25, Altoona 1 case imported; Johnstown, 1 case, 3 cases in suburban districts; Philadelphia, 7 cases, 1 death; Pittsburg, 1 case.
Tennessee: Memphis, June 18-25, 8 cases.
Washington: Tacoma, June 13-20, 1 case.
Wisconsin: Milwaukee, June 18-25, 6 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, June 4-11, 1 death.
China: Hongkong, May 14-28, 5 cases, 2 deaths.
France: Marseilles, May 1-31, 4 deaths; Paris, June 4-11, 10 cases.
Great Britain: Glasgow, June 10-17, 20 cases, 3 deaths; Leeds, June 11-18, 3 cases; June 4-11, London, 21 cases; Newcastle-on-Tyne, 8 cases, 1 death; Nottingham, 3 cases; Sheffield, May 28-June 11, 3 cases.
India: Bombay, May 24-31, 16 deaths.
Italy: Palermo, June 4-11, 1 case.
Java: Batavia, May 7-14, 8 cases.
Mexico: City of Mexico, June 5-12, 5 cases, 1 death.
Russia: Moscow, May 28-June 4, 11 cases, 4 deaths; Odessa, June 8-16, 2 cases; St. Petersburg, May 28-June 14, 15 cases, 3 deaths, Warsaw, May 21-28, 23 deaths.
Spain: Cadiz, May 1-31, 1 death.
Turkey: Constantinople, June 5-12, 4 deaths.

YELLOW FEVER.

Mexico: Tampico, June 11-18, 1 case; Vera Cruz, June 26, 1 case imported from Progreso.

PLAGUE—INSULAR.

Hawaii: Honolulu, June 21, 1 case.

PLAGUE—FOREIGN.

China: Amoy May 31, increasing; Hongkong, May 14-28, 60 deaths.
Formosa: May 14-28, 596 cases, 489 deaths.
India: Bombay, May 14-31, 109 deaths; Calcutta, May 21-28, 90 deaths; Karachi, May 22-29, 53 deaths.

CHOLERA.

China: Hongkong, May 14-28, 13 cases, 12 deaths.
India: Calcutta, May 21-28, 51 deaths.

Miscellany.

Discussion on Ankylosis of the Jaw.—In the copies of THE JOURNAL, July 2, that were first off the press Dr. Charles F. Allan, Newburgh, N. Y., is made (page 24) to speak of "chloroform and moisture" used in treatment of ankylosis. This was corrected on the press. The last sentence of the discussion should read: "Pressure under chloroform persistently applied to the patient at infrequent intervals, helped on by the daily use of the screw-opener by the patient, is the only practice that will cause return to normal conditions."

RAW OYSTERS AND TYPHOID FEVER.

Important Investigations by the New York Health Department on the Dangers of Raw Oysters.

The Department of Health of New York City has been very much interested for several years in trying to trace to their source the cases of typhoid fever that continue to occur in the city with a certain regularity, in spite of sanitary precautions. The cases are too few to be attributable to water-borne infection, and only a certain proportion can be traced to milk infection. Many of the cases occur in persons who have not been outside of New York City for a month or more before they came down with the first symptoms of their attack and yet who did not drink raw milk, or, indeed, enough of milk in any form to justify the conclusion that milk was the infective agent. For several years there has been more than a suspicion that raw oysters were responsible for a large number of these sporadic cases of typhoid fever, which kept occurring constantly in sufficient numbers to awaken uneasiness. It is true that uncooked vegetables also fell under suspicion, but in a number of cases the patient's histories showed that those attacked were accustomed to eat rather freely of raw oysters.

Accordingly the Board of Health set about an investigation of the oyster supply of New York City and especially of the treatment of the oysters after they were removed from the beds in more or less deep water, until they reached the consumer. The results of this investigation were given at the last meeting of the Medical Society of the County of New York, April 25, 1904, in a report presented by Dr. Walter Bensel, the acting sanitary superintendent of the New York City Department of Health. The details of this report are not likely to be a source of comfort or good feeling to New Yorkers who have been accustomed to eat raw oysters without any consideration for the source from which they came. In the near neighborhood of New York City, that is on the Long Island shore of the sound,

as well as on the Connecticut shore, on Staten Island, and in the Kills of New Jersey everywhere the direct connection of oysters with sewage material was traced not only as a possibility but as an actuality.

After being dredged from the beds, oysters are always carried by the oyster fishers up the small streams in the neighborhood, and then stored in oyster houses, or oyster floats, for some days before going to market. One reason for this, of course, is that oysters are usually shipped in quantities, and this gives opportunity for the accumulation of a sufficient number. Another and more important reason for storing oysters in these little creeks at various points, is that the water is not salt, but at most only brackish, slightly affected by the tides that come up the stream and oysters thus exposed to almost fresh water become "fattened," as it is called.

The normal osmosis of the oyster is disturbed by the change in the element in which it lives and the result is that it retains much more water than before and takes on a plumper appearance. It is not a bit more nutritious, the added material being water, but it is somewhat bleached and rounder, and is thus more satisfying to those who want quantity rather than quality in their food materials. The oyster epicure insists that the shellfish loses its proper and delicious savor by being thus treated, but then most eaters of oysters are not appreciative critics in this matter.

According to the photographs obtained by the inspectors of the Department of Health of New York City, very many of the oyster floats and of the oyster houses, on the floor of which oysters are stored, with water flowing over them, are contaminated by the sewage material of the little villages along the streams and by such objectionable material as the drainage from houses, from poultry yards and barns and occasionally even by the direct placing of privies and other outhouses over the stream. In some cases privies are situated within a few feet of oyster houses in which large numbers of oysters are stored and into which almost surely the sewage material from the privy vault succeeds in percolating through the always moist soil on the edge of the stream.

It is very evident that this state of affairs does not exist alone in the neighborhood of New York City, but to some extent, at least, is almost surely to be found in the neighborhood of other large cities on our Eastern coast. The population is thickest near New York, and conditions are probably worst there, but any one who really wants to be safe in the matter of eating raw oysters must know whence the oysters come and what the customs of the oyster fishermen with regard to their storage before they are sent to market really are. It would seem clear that the suspicion that a certain number of the cases of typhoid fever are due to raw oyster eating, must now give way to the certainty that a large proportion of the sporadic cases of city typhoid fever where it is known that there is no infection of the water supply must be attributed to these agents.

Meantime those who wish to enjoy the oyster without danger of contracting typhoid fever must, for the time at least, take them cooked. To those who have not been accustomed to drink boiled water it seems a hardship when first suggested that all drinking water must be boiled. The inhabitants of many towns in this country, however, have learned that their only safety is in boiling the water, and so the precious habit has been gradually formed. It is to be hoped, indeed, that an improvement in the conditions of the oyster trade can be brought about to such an extent as to ameliorate present conditions. The publication of the report comes at a time when the intervening months whose names are spelled without the letter "R" may well serve as a period for the institution of such sanitary measures of various kinds as—without inflicting too much hardship on the oystermen or the public—may secure oyster lovers against the dangers that now undoubtedly exist.

The Next International Medical Congress.—The committee of organization of the Fifteenth International Medical Congress, to meet at Lisbon, April 19 to 26, 1906, is displaying great zeal and executive ability. The first official bulletin has already been sent out, dated May 7, 1904, and contains the regulations and the list of officers for each of the seventeen sections, and of the national committees organized in each country. Dr. John H. Musser, the president of the American Medical Association, is the president of the national committee for the United States. The regulations for the sections are added, each section being requested to confer with the secretary general by September, 1904, in regard to the themes to be discussed and the names of the persons to be invited to deliver the addresses. Leading authorities in the specialty should be consulted and the same subject may be presented by one or several speakers, the number of themes being restricted to three as a rule. The preliminary program will be announced by the end of the current year, and the definite program in December, 1905. Each section is invited to send to the secretary general the names of two or three persons particularly eminent in the specialty worthy to be proclaimed honorary presidents of the congress. The honorary presidents of the sections are proclaimed at the first session of each section. The bulletin contains also an able editorial on the tendency to specialization and toward congresses devoted to a single specialty. The editorial is signed by Miguel Bombarda, secretary general, who comments on this tendency as a danger for the general progress of science and both the theory and practice of medicine. The physician must not forget that the relief of the sick patient before him is not the only task of the medical man. His rôle in society is much wider than this. He carries the lamp of truth, throwing its soft and unchanging light into the humblest homes. The human mind is so constructed that it loves to nestle in the nook it has selected for its activity, and the longer it is ensconced there the greater the effort required to come forth from it even for a moment. The effort is always made under protest and unwillingly, and nothing but an important motive will induce the scientist to step outside of his habitual preoccupations. Brains adapt themselves to habits, and there are as many brains as there are men and classes and specialties. Mankind could be classed according to habits as correctly and exactly as the classifications of zoology and botany. The large general medical congresses, notwithstanding the few days devoted to them, and notwithstanding the scattering of the members in the various sections, are always a true refreshment for the mind. However one may wish to restrict his thoughts and efforts to his specialty, echoes abound on all sides and force on his attention new facts, discoveries, discussions, addresses, new ideas, scientific excursions, etc., and the mind is inevitably drawn out of its rut and its horizon expanded. This is the grandest function of general medical congresses. Their task in bringing scientific workers together, in exchanging impressions and ideas, in the recreation from change of air and scene, the study of new countries and customs, in their widespread influence on the world at large as the conquests of science are marshaled, and disputed questions are settled, all these phases of general medical congresses are understood and appreciated by all. But their special function is to give the special sciences and those who cultivate them a refreshing bath in general science, and both the specialty and humanity at large benefit immeasurably by it. For further particulars in regard to the coming congress see page 780.

The Field of Exercise.—Jay W. Seaver, M.D., former medical examiner at Yale University Gymnasium, says that exercise may not only be classified as one of the necessities of life, like food and air, but may be looked on as a therapeutic means of very high value. Exercise may be divided into two general classes, as active and passive, the first being made up of movements that are directed by the central nervous system, consisting of such movements of the various parts as cause a complete flexion and extension of the joints with the consequent stretching of the muscles that would ordinarily produce these joint movements; and second, the muscles may be subjected to mechanical pressures and kneadings that will stimulate the circulation of both blood and lymph, and produce nutritive changes that are quite similar to those set up by active exercise. This is massage. The abnormal conditions that are best treated by exercises are those of the nervous system where there is a tendency to inertia and explosive action. The normal working of the motor portions of the brain with the at

tendant activities of large sensory tracts will treat the entire nervous system by one of those fundamental processes that is so essential to vitality and to the smooth or well co-ordinated functions of the brain. The utilization of nerve force through these normal channels will usually prevent the explosive action of the nervous system along abnormal lines. We see a good illustration of this in the restful sleep that follows a hard day's work of physical activity, and the opposite effect in the restless, fitful sleep where the day's work has been of an intellectual character and accompanied by no physical activity that has, so to speak, called the brain back to its fundamental processes. The second great class of cases that are benefited by exercises includes cases of malnutrition. There seems to be no power that so thoroughly calls into activity the nutritive processes of the body as does the reflex demand for more nutrition on the part of muscular tissue that is working. Digestion is immediately improved, and, if the nervous system is at rest the vegetative processes of life are most effectively stirred by the claims of the muscles, which constitute over 40 per cent of the weight of an ordinary person. The third class of cases that are especially helped by exercise includes those in whom the circulation is deficient from one cause or another. It has been shown by students of physiologic problems in recent years that many of the so-called violent exercises produce a lowering of blood pressure, and it has been noted for some time that people with heart lesions were able to do much physical work with apparent benefit to their health, while such persons remaining quiet and sedentary in their habits of life have suddenly found that the compensation in heart energy has not balanced the loss through the lesion, and sudden heart failure has been the termination of life. But not only does appropriate exercise act favorably on the weak heart, but the lymphatic flow is almost entirely dependent on muscular contraction, and the nutrition of the various tissues apears to depend more on the lymph than on the blood directly, so that if we have inadequate central power to force the fluids of the body along in their course, we must depend more and more on the movements of skeletal muscles to accomplish this work.

Priority and Scientific Discoveries.—The *Journal of Tropical Medicine* contains some sensible comments on the frequency with which the question of who discovered a microbe or enunciated a theory causes heartburn and bitter recrimination. It says: "The friends of the claimants range themselves with the hero of their belief in opposite camps, and assail their opponents with vigor. Not infrequently the question of nationality comes up, and, when that element is introduced, the acrimony of a home or family squabble may be less, but only to give place to a sullen and defiant attitude combined with a comprehensive sneer at the whole nation, its people, their customs, and especially their scientific effrontery. It is a time-worn saying that science knows no nationality; that may be so, but it is to be feared that there are but few scientists whose horizon is not only limited to their nation, but even to their city, their parish, their university, to themselves, in fact. . . . The facts are that few men have personally evolved an original conception and worked it out to a conclusion. In tropical medicine we are in the midst of questions of the kind. A complete piece of work like Manson's filarial investigation, in which he not only settled the habits of the parasite, but also proved that the mosquito was the carrier of the filaria to man, has seldom, if ever, been surpassed in importance or in scientific acumen. Koch's discovery of the cholera bacillus was merely an excellent piece of bacteriologic and microscopic investigation in comparison. . . . Since Laveran discovered the malaria parasite many workers have elaborated the pathology and etiology of malaria; others, such as McCallum, Manson, Ross, Golgi, Grassi, etc., having contributed definite and important steps in the elucidation of the behavior of the parasite and its mode of conveyance to the human body. One step has led to another, and it is difficult in some instances to ascribe definitely the part that each played in bettering our knowledge. . . . We would urge on all men to take to heart the statement of Sir Alfred Jones in his speech at the Colonial Institute, November 11. "We care not whether the work is done at the London or the Liverpool School of Tropical Medicine, in Hamburg or elsewhere, what we want is to see the work done. We are fighting a great problem, namely, how to render our colonies healthy, and we have no concern or patience with individual or national jealousies." Let us, while being anxious to accord our scientific workers all honor and to see that their contentions are fairly dealt with, never forget that many men's minds frequently travel contemporaneously in the same direction, and should one by his commanding genius or from opportunity gain the ascendancy, the matter is not one of this or that school of university or this or that individual, but whether or no the discovery or observation is a real acquisition to our knowledge and a benefit to mankind.

American Medical Association.

NATIONAL AUXILIARY CONGRESSIONAL AND LEGISLATIVE COMMITTEE.

Minutes of meeting held at Atlantic City June 8, 1904.

The meeting was called to order by the chairman, Dr. Charles A. L. Reed of Cincinnati, at 2:25, with the following present:

C. S. Bacon, Chicago; J. B. Tweedle, Weatherly, Pa.; J. R. Currens, Two Rivers, Wis.; J. A. Dibrell, Little Rock, Ark.; S. D. Van Meter, Denver; C. L. Miller, Lebanon, Pa.; Frank W. Goodell, Effingham, Ill.; W. T. Halliday, Monmouth, Ill.; John T. Dickes, Portland, Ind.; I. N. Pickett, Odell, Neb.; J. B. Kent, Putnam, Conn.; Silas B. Presbrey, Taunton, Mass.; C. Lenker, Schuylkill Haven, Pa.; S. R. Miller, Tennessee; I. C. Gable, York, Pa.; J. E. Hawley, Burr Oak, Kan.; Joseph E. Porter, Florida; Walter Wyman, U. S. Public Health and Marine Hospital Service; E. Elliott Harris, New York City; James S. McKay, New York; George F. Comstock, New York; R. A. Marmion, Medical Director, U. S. Navy; Philip Mills Jones, San Francisco; George Cook, New Hampshire; Harry B. Walter, Harrisburg, Pa.; S. M. Gates, Scranton, Pa.; R. W. Erwin, Bay City, Mich.; C. L. Stevens, Athens, Pa.; J. C. Hall, Anguilla, Miss.; M. E. Alderson, Russellville, Ky.; J. W. Bell, Minneapolis, Minn.; William E. Anderson, Farmville, Va.; John W. Parsons, Portsmouth, N. H.; W. O. Congdon, Cuba, N. Y.; H. O. Riek, Baltimore, Md.; J. C. Chipman, Sterling, Colo.; J. A. McCallum, Arkadelphia, Ark.; William H. Dudley, Easton, Pa.; Shelby C. Carson, Greensboro, Ala.; John C. Fisher, Elmira, N. Y.; J. M. Frazier, Texas; John Champlain, Westerly, R. I.; J. N. Hurty, Indianapolis; H. B. Garner, Traverse City, Mich.; Samuel T. Earle, Jr., Baltimore, and Thomas Hubbard, Toledo, O.

The Chairman's Address.

The Chairman stated that the meeting was called because it was deemed important that the gentlemen who are members of the National Auxiliary Congressional Committee of the American Medical Association should meet as a distinct body, under the auspices of the Association, and that, as a committee of the Association, it might realize its corporate existence, exchange views as to important questions of policy, and take up such business as might properly come before it.

He said, in effect, that, since coming to Atlantic City, he had become impressed with the fact that the legislative machinery of the American Medical Association is not as definitely understood as it might be, or as, indeed, it ought to be understood. The National Auxiliary Congressional Committee was organized by virtue of the general authority conferred by the constitution of the American Medical Association on the National Committee on Medical Legislation. The National Committee on Medical Legislation met a little over a year ago in New York, immediately following the adjournment of the Association in New Orleans. It was then considered necessary, for the proper performance of the duties which fell on it, that it must have helpers, as nearly as possible, in every minor political subdivision of the country.

The presidents of the respective state associations were requested to furnish lists in their respective states of one physician in each county to act in the capacity of an auxiliary committeeman. This act of courtesy, this kind office by the executives of the various state medical associations, was very generally exercised, with the result that the central national committee was promptly furnished with a list of names, numbering in the course of a few weeks some 1,600 representatives of as many different counties in the United States. Dr. Reed continued as follows:

In a few states only there has been lack of co-operation, not from any antagonism to the movement, but from a misunderstand-

ing, I am sure, as to exactly what was required. Take, for instance, the state of Massachusetts, the president of which state association felt that to furnish this list would imply certain relations beween his state association and the national association, which, in his opinion, did not exist. He believe, of course, that President Francis was mistaken in this view, and I am sure that the Massachusetts State Association is as loyal to the American Medical Association and as co-operative as any in the country. In the instance of the state of Alabama, the president of that association felt that it required some authority not now conferred by the constitution of that body to enable him to exercise this kind office. In a few other states lack of local organization was taken as a barrier to compliance with the request. But in the majority of the other states, some thirty-eight, action was taken very promptly.

We received from each of those states complete lists, and were able to go forward with the work of organization. The lists that were sent me from these various states were simply nominations; appointments were made by the national committee, from which formal commissions were issued. Under the terms of this commission these auxiliary committeemen were asked to bring the fact of their appointment to the attention of the local profession and to the attention of the community. They were asked to use their influence in furthering the interests of medical legislation, respectively, in their state legislatures and before the Congress of the United States. It presently became apparent, however, that this request that these gentlemen interest themselves in state as well as in national legislation was a mistake, and I am gratified that no specific request ever emanated from the national Association asking them to take up matters of state legislation. In the first place, each state association is provided with its own legislative machinery. In the next place, we were sending enough for them to do in behalf of national legislation, so that any work in addition would probably have been beyond their capacity, or, at least, their inclination to perform.

Now, there was another inadvertent mistake. The National Legislative Committee, in issuing this commission, stated that as soon as the list was completed a directory of the National Auxiliary Congressional Committee would be published. But on reflection, and after advising with the executive officers of the American Medical Association, this provision was reconsidered, as it was deemed inexpedient to publish a list of names which represented the strength of our legislative movement and which might expose our organization to any adverse influences that might arise. It was considered that it would be better that this auxiliary committee should sustain a more confidential relation to this general legislative movement; consequently, notwithstanding the intimation that had gone forth, the directory was not prepared. I feel that it is due the Auxiliary Committee that this explanation should be made, and I am perfectly sure that it will concur in the wise judgment of the Association and in the more mature deliberations of the Committee on Legislation itself, in the position which was finally taken.

Now, the next question comes as to the methods of work. It was the object of this committee to get behind Congress, behind the members of the National House of Representatives; behind the Senate of the United States; if necessary, behind the Executive of the United States. We felt it important that the profession should be so organized that it would shortly send its own representatives to the Congress.

The National Committee on Medical Legislation thought that it was not wise policy for it, consisting, as it does, of three members, to take the initiative in bringing the influence of the great medical profession of the country to bear on questions of pending legislation. Consequently, before the Committee on Medical Legislation took any action looking to the active exercise of this influence, it was thought wise to secure the advice of another body which had already been brought into existence, namely, the National Legislative Council, consisting of one representative from each state medical association, and one from each of the national medical services, appointed to meet in Washington and pass on questions of pending legislation. There, if you please, is exemplified the great principle of the initiative. The medical profession of the United States has been so long victimized by being placed in the position of sponsors for ill-considered measures of legislation, presented alike in state legislatures and the national Congress, that the time was ripe for formal and responsible action through regularly constituted channels. Therefore, this large committee was called into consultation on all questions of pending legislation. The conference lasted two days. A few measures were approved, while others were rejected. It was resolved to invoke the influence of the Auxiliary Committee, and through it the influence of the entire profession, only in such measures as had met with approval The methods by which this was done was to issue the circulars that you have received—no doubt, to your annoyance—in the form of referenda. This leads me to speak a little of these referenda. They were issued to the National Auxiliary Committee, to be submitted at their discretion to their local medical societies, to be brought to the attention of local political influences, and each committeeman was requested, in turn, to communicate with his Congressman and with his Senators, and to the chairman of the committee, whether in the House or Senate, before which these bills were pending. In the case of the Panama Canal Commission an urgent request was made to forward a communication directly to the President. The details in each of these recommendation varied according to the exigencies of the case.

Now, I must first thank the gentlemen here present, and through them their colleagues, for the cordial co-operation which they have extended to the National Committee on Medical Legislation in endeavoring to bring the influence of the national medical profession to bear on questions pending at Washington.

Let me give you a few examples: Take, for instance, referendum No. 1, relating to the appointment of a medical representive on the Panama Canal Commission. This was brought to the attention of the National Legislative Committee very late. We understood we had about three weeks in which to move, and we needed all of it, for, understand, there is considerable work to do in sending out 2,000 referenda. The work was pushed as rapidly as possible. In the meantime, however, the Panama Canal Bill had been changed on the calendar and was reached nearly a week earlier than was expected. With the referendum all printed, the envelopes all addressed and stamped, there came the information that five of the commissioners had been selected. The serious question was whether to proceed or not. Long-distance communication was had immediately with Washington, with the result that we received information to the effect that it seemed worth while to try the referendum. We accordingly issued the referendum, which was mailed in one hour after the word was received from Washington. The result in some particulars was most desirable, for, within forty-eight hours after the referendum was issued, in excess of fourteen hundred telegrams were received at the White House. This showed spontaneous action, showed enthusiasm on the part of the profession all over the country; showed the possibility of concert of action. By this means this particular referendum was brought to the attention of the national executive and to every member of the Congress, both the Senate and House. You have received the report on this, as on subsequent referenda. It is, consequently, unnecessary to go over them here.

One of the most important clauses in the commission was that the auxiliary committeemen should report to the chairman of the national committee, the only course which enables your chairman to know just what was being done. It enables him, when he goes before individual Congressmen, to tell him just who in his district is interested in the proposed measure—a valuable influence. I am very sorry to say, however, that a number of our auxiliaries forgot to report to the national chairman, who is thereby placed at a distinct disadvantage. The fact, however, that out of something over seventeen hundred auxiliary committeemen there were fourteen hundred telegrams received at the White House shows that a very large proportion of this great auxiliary committee are active and vigilant; and yet your national chairman received less than twelve hundred reports from these auxiliary committeemen. We do not know who did what; we do not know just all that has been done. So it was with the second and third referenda. In this connection I may state that I have made arrangements with Senator Heyburn to send me a list of those physicians who responded with reference to the Pure Food Bill. I have received regularly a list of names of those who have been in communication with Senator Heyburn. I feel that it is important to bring to your attention this particular question, that you may realize the importance of communicating what you have done to the office of your chairman.

Now, we need a committee that is absolutely unencumbered with dead material; we want live workers. Here is a complete list of our auxiliary committeemen; it contains about two thousand names. You will observe opposite certain names are check-marks, indicating what members have responded. These lists relating to the respective states will be made up and sent to the members of the National Legislative Council, who will be asked to undertake the work of revision, taking great care to ascertain which physicians have worked and which have not, and to retain everybody who has manifested interest.

I want to call your particular attention to just one other subject. There are two members of the medical profession in the U. S. Senate—one from the state of New Hampshire and one from the state of Delaware. There is not a single member of the medical profession in the National House of Representatives. There are something over three hundred lawyers, and many representatives of the other professions, yet our own profession is not represented on the floor of the National House of Representatives. I ask that the influence of the great Auxiliary Committee be exercised in inducing members of our profession, wherever possible, to stand for Congress. You will then have secured the best possible influence in the best possible place. This is exceedingly important, and I urge it most seriously on the consideration of every man who stands as the representative of this great legislative movement in the county in which he is appointed to serve.

That brings me to another point. Do you realize that you look on yourselves as honest men? I do, and the profession at large recognizes you as honest. Do you, however, realize that you are dishonest when you accept a position to protect the influence of your profession in your county, and then fail to discharge the duties of your position? When you do that way you simply cheat your profession out of what belongs to it. If, therefore, you can not or will not attend to the duties of the position, by all means give it up to some one who will. I feel that I can talk in this personal way, because the shoes I am making do not fit any feet now on this floor. I only wish to invoke your influence in getting the seriousness of this undertaking properly understood by the profession. When that point shall have been carried, the real effectiveness of our organization will begin.

Addresses on Medical Legislation.

Dr. J. N. McCormack of Kentucky gave a short talk on "The Relations of Organization to Legislative Work." He was followed by Dr. J. A. Dibrell of Arkansas, who spoke on the "Scope and Limitations of Efforts to Secure Medical Legislation." Dr. S. D. Van Meter of Colorado addressed the meeting on "State Methods for Procuring Medical Legislation"; Dr. Henry Beates, Jr., of Pennsylvania on "The Proper Attitude of the Medical Profession as Such to Existing Political Parties."

Wood Alcohol Resolutions.

The Secretary, Dr. McKnight, Connecticut, then read the following resolutions, which were referred to the Auxiliary Committee for action by the House of Delegates:

Moved by Casey A. Wood, delegate from the Section of Ophthalmology, that,

WHEREAS, The employment as beverages of wood spirit or methyl alcohol and its various preparations is known to have been responsible for numerous deaths and many cases of blindness in this country during the past few years; and

WHEREAS, Even the breathing of confined air charged with the fumes of this form of alcohol has been known to produce blindness, it is

Resolved, That the House of Delegates of the American Medical Association, recognizing the dangerous character of wood alcohol and liquors containing it, believes that it should be placed on the list of poisons. It accordingly urges the proper federal and state authorities to take the necessary steps to protect life and eyesight from its pernicious influences.

On motion, the foregoing was reported favorably to the House of Delegates.

The report of the Committee on National Bureau of Medicines and Foods was recommended for adoption to the House of Delegates.

Dr. E. Elliott Harris, New York, brought to the notice of the committee a resolution establishing a "clearing house for medical supplies of unknown composition" that had been referred to the committee by the House of Delegates. It was voted that the measure be referred back to the House of Delegates with the recommendation that it be considered in committee of the whole.

Adjourned.

Approved: CHAS. A. L. REED, Chairman.
E. J. MCKNIGHT, Secretary.

NATIONAL LEGISLATIVE COUNCIL.

Minutes of meeting held at Atlantic City, June 6-8, 1904.

At the meeting of the National Legislative Council, held Monday, June 6, there were present Drs. C. A. L. Reed, Ohio; William H. Welch, Maryland; J. R. Currens, Wisconsin; R. T. Sloane, Missouri; E. J. McKnight, Connecticut, and S. D. Van Meter, Colorado. Dr. McKnight was appointed secretary *pro tem.*

A committee consisting of Drs. Van Meter, Currens and Sloane was appointed to draft resolutions in connection with the death of James B. Sanford of Denver, Col., late secretary of the National Legislative Council.

Standard Medical Practice Act.

In consideration of the fact that a standard medical practice act is now being considered by the American Association of Medical Colleges and the National Confederation of Medical Examining and Licensing Boards, it was voted that each of the above-mentioned associations be requested to appoint a committee of conference, consisting of three members, to meet with the sub-committee of this body, to consider the drafting of a standard medical practice act.

The second session was held June 7, Dr. C. A. L. Reed presiding.

There were present Drs. Reed, Sloane, Van Meter, Currens, Dibrell, Earle, Anderson, McKnight, Carl E. Black of Illinois and Major Borden of the U. S. Army.

Dr. E. J. McKnight was elected permanent secretary of the council.

Report on Army Legislative Work.

Major Borden of the U. S. Army presented a detailed statement of the present status of the bills now before Congress relating to the medical department of the United States Army, setting forth the efficient work which had been accomplished by the Committee on Medical Legislation in furthering the various measures now pending.

Resolutions on Death of Dr. Sanford.

The following resolutions were submitted by the committee appointed, and were adopted:

WHEREAS, Dr. James B. Sanford of Colorado, by his uprightness of character and brilliancy of attainment, had reached a position of commanding influence in the medical profession;

WHEREAS, Dr. Sanford, by virtue of his broad conception of and absolute devotion to the duties of citizenship, had reached not only an enviable distinction, but exerted a most beneficient influence in the political councils of his state and his country;

Therefore, be it resolved, That the National Legislative Council of the American Medical Association, of which body he was recently secretary, recognizes the great loss that not only the organized medical profession, but that society at large has sustained in his untimely death, which occurred at Denver, March 16, 1904.

Resolved, That these resolutions be spread on the minutes of this body and that a copy of the same be forwarded with our sincere condolence to the family of the deceased.

At the third meeting there were present Drs. McKnight, Reed, Welch, Currens, Van Meter, Earle and Harris.

Dr. Van Meter reported that the committee had been unable to agree on a standard medical act, but were ready to present what had been prepared, with the suggestion that the council consider the various drafts and from them formulate a measure to be submitted with its recommendation for adoption by the legislatures of the various states.

Dr. McKnight suggested that the council had not been asked by the Association to prepare such a measure, and that it seemed to him that some action emanating from the House of Delegates would be more appropriate. The Chairman, concurring in the suggestion of Dr. McKnight, felt that the council might with propriety consider the terms of such a proposed measure, but that before promulgating the same the whole question should be submitted to the House of Delegates. The council, under the terms of the Constitution and By-Laws, was purely a consultative body, and, consequently, it might seem to assume too much in taking the initiative in such an important step as the one now proposed.

The entire question was finally referred to the National Committee on Medical Legislation, with instructions to promulgate its conclusion ad interim to the House of Delegates for consideration at the next annual session.

The Chairman called attention to the fact that a communication relative to the establishment of a medical clearing house for the analysis of proprietary preparations had been referred to the House of Delegates by the Michigan State Medical Association, and had in turn been referred to the National Legislative Council.

On motion, the entire question was referred to the House of Delegates.

Approved: CHAS. A. L. REED, Chairman.
E. J. MCKNIGHT, Secretary.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

American Ophthalmological Society, Atlantic City, July 13.
Washington State Medical Association, Seattle, July 13-15.
Academy of Ophthalmology and Otolaryngology, Denver, August 24-28.
Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held May 12, 1904.

The Chairman, Dr. Samuel Wolfe, in the Chair.

Physicians' Bookkeeping.

DR. MORDECAI PRICE read a paper, stating that in the early years of his practice he had tried almost every kind of book for the purpose on the market, purchasing a new kind almost yearly, which became very expensive as well as annoying, after which he finally began keeping merely a list of calls, in book form, which were afterward entered separately, visit by visit in a ledger, each patient being given a page, the transferring being done either at the end of a day or a week. This method he felt was incomparably better than the book ruled thirty-one spaces (one for each day of the month), as the latter gave no room for memoranda, while in the ledger you could enter in detail the time consumed, particulars of services rendered, etc., With this method, the patient's account is concentrated, the quarterly sending out of bills is much facilitated, and if a patient asks for an itemized statement, it can be rendered in a very short time; and no matter how long standing the account it is of easy reference. Then, too, he stated this method was one which would be sustained in a court of justice, citing a case in which he had operated on a difficult case of gallstones, the patient dying, he was compelled to present his bill in the Orphans' Court, and the judge questioned the amount thereof. With the ledger kept in this form, he was able to state exactly the character of the operation and the difficulties encountered, with the result that his bill was allowed. In reference to collecting bills by legal measures, he felt, as a rule, there was very little accomplished thereby, in most cases the expense almost consuming the amount thereof.

DISCUSSION.

DR. L. W. STEINBACH felt that the method outlined would not be sufficient in court, as he stated that every entry must be

made first in a daybook. His method is to keep a visiting list, with each visit to be made marked with a dot, and when the visit has been made he makes a stroke in place of the dot. In addition, he carries a prescription blank, put up in pad form, with a stub to it, on which he enters a brief history of the patient's condition, the day, date and hour, at the time of the visit; the work at the office being entered in the same manner on a sheet, but a little more fully. The entries from these blanks are afterward transferred to the ledger. He recommended that bills be sent out every six months (not more frequently than every three months), believing that this was ample time for the regular patients, and that most of the transient patients who would pay, paid as they went along. He believed that the best method of collecting was to have accurate bookkeeping, and send out accounts every six months, recommending the regular commercial double entry bookkeeping. With the books kept in this manner an itemized statement can be furnished in very short order, if requested. He also laid stress on the importance of accurate history keeping.

DR. WILSON BUCKBY stated that it was a notorious fact that physicians were the poorest bookkeepers in the city, and emphasized the importance, at the present time, with the large increase in the number of physicians, of having the accounts kept in such a manner that they could be sustained in court. He did not feel that Dr. Price's method would be sustained in the courts, as he did not view it as a book of original entry, and recommended a combination day-book and ledger, wherein would be enumerated the detail of the services, the charge, the time spent, and expense to which the physician was put for apparatus, etc. He also said that hieroglyphics, such as "O" for office visits, or a dash or cross, etc., indicating visits, would be entirely excluded, the requisite being that it must be a book of original entry in plain writing. He believed that in many instances the doctor was his own best collector; in a practice of about a quarter of a century he had had two collectors. The method of the first was to go from house to house, and, if they could not pay him anything, get them to name a date when he would call, at which time he was sure to be on hand. The method of the second was similar. He stated that since he had discontinued driving and going out at nights, except in cases of urgency, his practice had materially decreased.

DR. I. C. GERHARD stated that he had frequently been called into the Orphans' Court to prove his claim against a decedent's estate, and that he felt the subject of physicians' bookkeeping resolved itself into three heads: 1. The easiest way to keep books. 2. The legal way. 3. The easiest legal way. He stated that there was no law on the statute books requiring that the books be kept in a certain way, and also that he did not think the judges desired to be exacting, the requirement being that the book should contain a daily entry of each visit, with the name of the patient and list of the medicine furnished, with the price which custom has fixed for the service. He stated that he had a claim ruled out in the Orphans' Court which had been kept in a 31-column book, and that in the same case an ice man had merely presented slips of paper and had his claim admitted. He recommended that a page be devoted to each patient, in which the services, etc., be entered in detail, and that the bills be sent out monthly, and believed very good results would be attained by this method.

DR. J. CARDEEN COOPER related an instance in which he had a bill reduced in the Orphans' Court from $5 a visit to $2 a visit, the judge ruling that that was the customary fee in this city, notwithstanding that the patient had previous to his death paid him $5 a visit, as the book showed no evidence of the acquiescence in such a fee by the patient.

DR. HENRY BEATES, JR., referred to the necessity for the books, showing the name of the party to be charged, the name or member of the family to whom the services were rendered, date and services in detail, charges, etc., without which the books would be useless in a court of law.

DR. A. BERN HIRSH stated that he had talked with a lawyer of large experience in Orphans' Court work, and learned that in order to secure the introduction of the books the entries must be able to speak for themselves; in other words, the entry in the book of original entries should contain the name of the person responsible for the account, the date, the place where the service was rendered, the name of the patient, the nature of the illness, the nature of the treatment, and the charge. He called attention to the fact that the loose-leaf ledge had been decided legal, and he believed that this method, with a convenient ruling, would be a time-saver to the physician. He exhibited some sample pages.

DR. LOUIS JURIST stated that he had never attempted to collect a bill by process of law. He felt that the standing of the professional man in this country was too commercial. He believed that the charge should be regulated according to the circumstances of the patient. He did not approve of attempts to collect bills by law, and believed that the best result would be obtained by keeping the books posted up regularly, sending out bills once a month, but sending to perfect strangers as soon as the services are rendered.

DR. WALTER L. PYLE deprecated a "per visit" charge, and believed that the bill should be regulated, first, by the amount of service rendered, and, second, by the circumstances of the patient. He believed the bill should be sent "For professional services rendered."

DR. WENDELL REBER felt that better results would be attained by sending out bills more frequently, believing that they should, excepting in special cases, be sent out monthly, while many of the general practitioners only sent them out once in two, three or six months. He referred to a case in which he had rendered a man a bill, for services rendered to his wife and child, at the end of the month, and that this man had requested that this be done in the future at any time any services were rendered to any of his family.

DR. A. M. EATON felt that many physicians were very reckless in the matter of sending out bills, as many sent them out only semi-annually, whereas he felt better results would be obtained by more frequent rendering. He believed that they should be rendered at not longer intervals than three months. He referred to the case of a physician who asked a friend to loan him $100. The friend requested that he allow him to go up to his office and make out some bills for him, which was done, with the result that bills for $300 were made out in less than ten minutes, over $150 of which was paid in five days. He referred to the immense amount of money which was lost by the profession. He also referred to the large number of people who were able to pay who sought free treatment at clinics, etc., which he felt should be prevented, if possible, and also the people who make a practice of not paying the physician's bill. He believed that the formation of an association, with the support of the county society, for the collection of accounts, with collectors personally calling on the debtors, would be of much value.

C. W. VAN ARTSDALEN, of the Philadelphia bar, stated that a book, to be admitted in evidence in the courts, need not be in any particular form, so long as it possessed the requisites of a book of original entry, which were: 1, That the entries be made at or about the time the services were rendered; 2, the date of the service; 3, the name of the party charged; 4, the designation of the party to whom the services were rendered; 5, the services in detail, and the charge therefor, together with the costs of apparatus, etc. In order to prove the claim in the Orphans' Court, all these requisites must appear on the face of the book, as, this being a proceeding in which the other party is dead, the claimant is not a competent witness. In a proceeding in the common pleas court against a living debtor the physician would be allowed to testify in his own behalf, and in that instance might be permitted to use a book, which, by reason of being made in hieroglyphic characters, could not be offered in evidence, as a memorandum to refresh his memory, provided the said memorandum was made at or about the time the services were rendered; but the books should always be kept in such a manner that they will possess all the requisites of books of original entry and be admissible in any court.

DR. J. THOMPSON SCHELL referred to the case of a physician who had died with a considerable amount of money owed to him, but, since no one could understand his bookkeeping, his

widow was able to collect very little. He recommended that the books be kept in such a manner that anyone could understand them, and felt that every man owed this to those dependent on him.

DR. WILLIAM H. GOOD referred to the class of patients who, after paying a physician one or two visits and running up a bill, go elsewhere, many times in addition boasting that they do not intend to pay the physician's bill. One of this character recently came under his care.

DR. FRANK C. HAMMOND said it was the custom in Augusta, in which city the profession is thoroughly organized, for each physician to have in his office a large printed card, stating the fee for each office visit, each house visit, each of the various operations, etc., below which price no physician will take a case. He considered that this consistently demonstrated the value of organization.

DR. HENRY BEATES, Jr., referred to the fact that the courts would fix the fees of a physician at such an amount as has been decreed by custom. He urged the necessity for the protection of the regular physicians by statutory enactments calculated to rid the community of illegal practitioners. He believed that the profession should receive more and higher recognition, which could best be obtained by protective legislation and the eradication of the irregular practitioners.

AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION.

Seventh Annual Meeting, held in Atlantic City, June 6 and 7, 1904.

(*Concluded from Page 71.*)

The President, Dr. S. J. Meltzer, New York City, in the Chair.

The president, in his address, gave a historical review of the association since its inception, in 1897, described its aims and made suggestions for the future conduct thereof.

In the symposium on gastric ulcer, "Medical Treatment" was read by Dr. S. W. Lambert, New York, who recommended rest in bed and rectal feeding by means of predigested foods, eggs, milk, meat, broths, etc. When feeding by the mouth is resumed, it must be begun on peptonized milk and gradually increased similar to the method pursued in feeding infants during the first two years of life. Owing to the tendency to recurrence, prophylactic living and diet must be insisted on after cessation of treatment, particularly slow eating, thorough mastication and avoidance of alcohol and highly-seasoned food. He also considered the complications, such as constipation, hyperacidity, anemia and gastric hemorrhage, and the value of bismuth, nitrate of silver and iron.

DISCUSSION.

DR. JOHN W. BELL, Minneapolis, advocated complete rest of the stomach for a sufficient length of time to allow the ulcer to heal, and, when feeding by the mouth is resumed, a well-cooked cereal was recommended rather than milk.

DR. F. H. MURDOCH, Pittsburg, Pa., recommended that the milk be boiled and taken in teaspoonful or dessertspoonful doses, so that a glass will be consumed in fifteen or twenty minutes. He also emphasized the value of bismuth, and stated that he had continued the liquid diet in some instances as long as six, seven or even nine months.

DR. T. KAUFFMANN, New York, urged the necessity for more frequent operation in chronic ulcer and did not believe we should wait for hemorrhage to make the diagnosis.

DR. M. MANGES felt that the reason for the failure of bismuth in some instances was due to the fact that it was not given in large enough doses.

DR. FENTON B. TURCK referred to experiments on dogs, in which the fistula in the gastroenterostomy had closed in many instances. He recommended that the nutritive enemata be introduced as high as possible, in order to facilitate absorption.

DR. MAX EINHORN, New York, stated that he did not employ rectal feeding except in severe cases; nor did he think it necessary to peptonize the milk. He also referred to internal galvanism as a therapeutic agent of value.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gastric Fermentation.

Merck's Archives recommends the following:

℞.	Carbo ligni Bismuthi subnitratis, āā.....gr. v	30
	Resorcin .....gr. ii	12
	Pulv. aromatici .....gr. i	06
Sig.:	Give at one dose one hour after eating.	

Infantile Colic.

Rotch recommends:

℞.	Sodii bicarbonatis .....gr. xl	2|70
	Spts. ammon. aromatici .....m. xl	2|70
	Glycerini .....m. xxx	2
	Aquæ menthi pip.....ʒii	60
M. Sig.:	Teaspoonful between feedings.	

Gastric Ulcer.

Lenhartz and Wagner prefer to give proteid food at once, even when there has been severe bleeding, rather than feed by the rectum. This treatment was first suggested to Lenhartz by the good results obtained in the gastric disturbances of chlorosis, by means of a plentiful proteid diet. In these cases the hyperacidity and anemia disappeared. Since these same conditions existed in gastric ulcer, it seemed rational that the same line of treatment be followed. The results were excellent, the patients returning to work much sooner, no unfavorable complications followed, renewed hemorrhages have not been more frequent than in cases treated otherwise.

METHOD OF FEEDING.

On the day after the hematemesis the patient is given 300 grams of ice-cold milk and one raw egg well beaten up. During the first week this daily allowance is increased by 100 grams of milk and one egg every day. The author advises not to give more than one liter (1 quart) of milk for fear of stretching the stomach. Beginning with the sixth day raw scraped beef is given, from 35 grams upward; after the second week well boiled rice, farina and toast are permitted; after three to four weeks a mixed diet. He also gives 2 grams (30 grains) bismuth subnitrate in suspension, three times daily during the first ten days; later this dose is cut in half, and Blaud's pills are given, pulverized, if necessary.

Buckingham, in the *Boston Med. and Surg. Jour.*, reports very good results in gastric ulcer from rectal feeding and absolute rest in bed. The rectal enemata consisted of one egg, eight ounces of peptonized milk and ten minims of deodorized tincture of opium every six hours, one cleansing enema daily. Nothing was given the patient by mouth for three weeks, except small pieces of ice.

Diarrheas in Infancy.

Rotch, in *Amer. Med.*, regards the treatment of these conditions as still largely empirical, but believes it can usually be determined whether the large or small intestine is affected. The best success is obtained if the treatment is given by mouth, when the small intestine is the seat of disease, and by rectum when the large intestine is affected. He also differentiates the group of cases with marked fermentation and little local lesion and ileo-colitis class of cases when the lesions are more or less decidedly marked. No specific remedy or intestinal antiseptic has been found to absolutely kill the organisms or neutralize their toxins. Clear the intestines of bacteria

by laxatives, support the strength, combat nervous symptoms and hyperpyrexia are the chief indications. Of the drugs he recommends bismuth. He believes there are possibilities in the future for serum treatment, but at present it is not successful.

The following combination has been recommended after the alimentary canal is free of all irritants:

℞ Bismuthi subnitratis ..... ℥ii 8
Salol ..... gr. xvi 1
Aquæ cinnamomi ..... ℥i 30
Aquæ q. s. ad ..... ℥ii 60
M. Sig.: Shake well. Teaspoonful in water every two hours.

For diarrhea in infants with green stools:

℞ Hydrargyri chloridi mitis
Pulveris ipecacuanhæ, ää ..... gr. i 06
Sacchari lactis ..... gr. xx 1 30
M. Chart. No. x. Six.: One powder three times a day.

Diarrheas.

Hemmeter has found the following formula useful in putrefactive diarrheas:

℞ Tannigen ..... ℥i 4
Bismuthi subgallatis ..... ℥ii 8
Salol ..... gr. xxiv 1 55
Ext. opii denarcotized ..... gr. iii 20
M. Ft. capsula No. xii. Sig.: One capsule every two to four hours.

The following formula has been recommended in the serous form of diarrhea after the bowels have been cleared of all irritating matter:

℞ Bismuthi subnitratis ..... gr. xx 1 30
Tr. kino ..... ℥ss 2
Tr. zingiberis ..... m. x 65
Tr. cardamon co. q. s. ad ..... ℥ii 8
M. Sig.: Give at one dose in water every two to four hours.

If much pain is present tr. opii camphoratæ ℥ss (2 c.c.) may be added to the above mixture.

Constipation.

MEDICINAL TREATMENT.

The following prescriptions are recommended when medicinal treatment is required:

℞ Aloes purificat ..... gr. xx 1 30
Ext. belladonnæ ..... gr. iv 25
Ext. nucis vomicæ ..... gr. v 30
Oleoresinæ capsici ..... gr. iv 25
M. Ft. pil. No. xx. Sig.: One pill at bedtime.

The following is claimed to cure habitual cases:

℞ Ext. cascaræ fluidi (tasteless)
Ext. glycyrrhizæ fluidi ää ..... ℥i 30
M. Sig.: A teaspoonful at bedtime.

For atony of the bowel it is recommended to use:

℞ Ext. rhamni purshianæ ..... ℥i 4
Ext. nucis vomicæ ..... gr. viii 50
Ext. physostigmatis ..... gr. ii 13
Ext. hyoscyami ..... gr. v 30
M. Ft. pil. No. xxx. Sig.: One pill night and morning.

FOOD.

The condition of constipation is so common in practice that the physician pays little attention to his patient's remark: "My bowels are always constipated," except to reply: "I will give you some laxative pills to use as you need." Patients can be very much benefited by attention to habits of living, and habits of eating and drinking. Cohen, in his "System of Physiologic Therapeutics," regards the diet as important as any other part of the treatment. He suggests: A certain bulk of fecal matter is necessary in the intestines in order to produce sufficient peristalsis for the bowels to perform their normal physiologic function. A diet rich in meat and eggs and poor in vegetables, fruit, and water will leave very little residue in the intestine. Therefore, foods should be taken which contain a large amount of cellulose; this remains undigested, fills the intestine and excites in it a peristaltic activity.

Vegetables that are most laxative are tomatoes, spinach, lettuce, asparagus, Spanish onions, cabbage and celery.

Of breads and cereals, oatmeal, cornmeal and wheaten grits are the best. Breads made of coarse flour are to be preferred in aiding to overcome constipation, e. g., graham, corn, rye, oats, and whole wheat meal. Bran bread is especially efficacious. It is made by adding bran to ordinary flour in as large proportion as is compatible with the making of good bread. Ginger bread and Boston brown bread are laxative, but may provoke gastric indigestion.

Honey, molasses and coffee are useful in lessening constipation. The addition of sugar and cream to coffee will sometimes retard gastric digestion and counteract the stimulating effect of coffee on the bowel.

Fruits are laxative because of either the sugar they contain, the fruit acids or their irritating skins and seeds. Strawberries, blackberries, raspberries, gooseberries, blueberries, currants and grapes are effective partly because of their seeds and partly because of their fruit acids or acids produced in digestion. Apples, pears, peaches, plums, cherries, oranges, and grape fruits are chiefly laxative because of their sugar and fruit acids. Prunes, figs, raisins and dates have beside these a skin or seeds that act as a local irritant. Fruit produces the best effect when eaten alone on an empty stomach. Fruits cooked in syrupy preparations are less effective.

THE NEED OF FLUIDS.

The author further states that constipation may result on account of the failure to take sufficient fluid to keep the intestinal contents soft or to form the intestinal secretions as abundantly as is needed. Slight constipation may often be relieved by taking a glass of cold water the first thing in the morning and the last thing on retiring. The water stimulates secretion and peristalsis, the rectum is filled with fecal matter and within an hour after breakfast the desire to defecate is provoked. Hard water constipates, unless there is enough magnesium or sodium sulphate to make it laxative. Water containing much organic matter may produce diarrhea. An average adult should drink from 5 to 8 glasses daily. Grape juice and sweet cider are loosening to the bowels.

Medicolegal.

Mental Pain Inferable.—The Court of Civil Appeals of Texas holds, in Galveston City Railway Co. vs. Chapman, a personal injury case brought by the latter party, that mental pain may be inferred from the existence of physical suffering.

Prerequisites to Payment for Services in Epidemic.—The Court of Appeals of Kentucky says, in Laurel County Court vs. Pennington, that for necessary medical attention and services rendered during the prevalence of epidemic diseases, physicians appointed as health officers for cities, towns and counties, as provided by Section 2060 of the Kentucky Statutes of 1899, may be compensated by the councils, trustees, or county courts of the cities, towns, or counties where such epidemics occur. But where the persons receiving the benefit of such services are able to pay therefor, it would seem that the physicians must look to them alone for compensation. Moreover, the court thinks that, in this, as in all other cases where it is sought to recover on an account which is denied, the burden of proof is on the plaintiff, and it holds that as the physician by whom this action was brought failed to establish the insolvency of the persons for whom he rendered the medical services and furnished the medicines and other things charged for, the verdict to that extent was unsupported by the evidence. It also holds that as it was not clear from the evidence how much of the services charged in certain items of the account were rendered in enforcing quarantine or other sanitary measures to prevent the spread of the smallpox, the verdict and judgment in the physician's favor should have been set aside and a new trial ordered.

Death from Self-Administered Drug.—The Supreme Court of Louisiana says, in the case of Brignac vs. the Pacific Mutual Life Insurance Co., that a clause in a life insurance policy reading, "If I die by my own hand or act, voluntary or involuntary, sane or insane," is a mere ordinary suicide clause, and is not violated by an act done without suicidal intent.

The pronounced leaning of our jurisprudence is against finding that there has been suicidal intent, where the facts will possibly admit of a different construction. In reaching their conclusions as to whether a person has committed suicide, courts are not tied down by the rigid rules of the criminal law. They are authorized to act on circumstantial as well as direct evidence. The presumptions on which they act are weighty, precise and consistent. The death of a person resulting from morphin administered by himself is in one sense death from his own hand, but it is not necessarily suicide. For example, if in this case the drug was taken by the insured for the purpose of obtaining relief, while in one sense it could be said that he had "come to his death by his own hand," it could not be said that he had committed "suicide."

Right to Establish Clinic and Hospital.—The Supreme Court of Louisiana holds in the case entitled the Succession of Hutchinson, that the establishment and maintenance of a clinic and a hospital for the sick is not ultra vires or beyond the corporate powers of the Tulane University and of its board of administrators; the university having special authority to teach medicine, and the evidence showing that a hospital in which clinical instruction can be given is an absolutely necessary adjunct to medical teaching. It says that if a hospital is indispensable to a medical school, can any one in reason say that the authority to establish and maintain a medical school does not include authority to establish and maintain a hospital? A hospital used for such purposes is an educational institution. Realizing the force of the foregoing, counsel were driven to argue that the medical department of Tulane is already sufficiently provided with clinical opportunities by having access to the Charity Hospital, and that, therefore, a hospital is unnecessary, and the establishment and maintenance of one is ultra vires. But that argument, the court declares, can hardly be serious. As well might it be argued that the university has no need of a library of its own because it has access to the Fisk and Howard libraries. As very well observed in one of the briefs: "Any institution organized by law to teach medicine has, as necessary incident thereto, the right to set up and maintain a hospital in order to afford its students opportunity for the study of disease and injury, to be instructed at the bedside of the patient. A medical school has as much power and authority to have a library of living disease as a literary school has the right to have a library of books. It requires no special legislative authority to build a house, set up beds in it, and invite sick people to come there and be treated. It requires no special legislative authority to buy books and place them on shelves to be read." And the court itself further holds that it requires no legislative authority to set up and maintain a private hospital.

Sufficiency of Reporting Births by Mail.—The First Appellate Division of the Supreme Court of New York affirms the decision of the Appellate Term, in the case of the Department of Health of City of New York vs. Owen, reported on page 332 of THE JOURNAL, Jan. 30, 1904. Sections 1237 and 1239 of the Greater New York charter requires physicians to keep a register of births in which they have assisted professionally, and to report a written copy of the same to the department of health within ten days after any birth. The penalty for violation is a fine of $100. It was contended that to relieve themselves from the penalty the duty is imposed on physicians of personally filing the required certificates. The court, however, denies this because, it says, the opinion rendered by the Appellate Term fully covers the point, and it agrees with the views therein expressed that the construction for which the department of health contended could not be sustained, and that a physician complies with the statute when he has properly made out a certificate and has mailed it, properly directed, to the department of health. To this it adds that, although the statute does not require that the certificate should be taken in person by the physician to the board of health, it places the burden on him, where it does not appear that the certificate was filed with the board, of furnishing the evidence of its having been properly and duly mailed, if he would escape the penalty imposed for the omission to comply with the provisions of law. Two of the five members of the court dissent. One of these, Presiding Justice Van Brunt, declares that the statute was in no way complied with. The other, Justice Laughlin, says that he is of the opinion that the legislature intended to make it the duty of a physician to see to it that a copy of the entry in his register concerning a birth reaches the department of health within 10 days. Of course, it is not necessary that he should present it in person. He may employ the mails, or any agency, for the purpose of transmission; but in that event he must, by inquiry or otherwise, ascertain that it has reached its proper destination within the time prescribed therefor by the statute. The language employed is fairly susceptible of this construction, and the efficiency of the statute requires it. The construction given in the prevailing opinion opens the door to collusion and corruption, and will render the law ineffectual. Physical or mental inability to comply with the law would doubtless be a defense to a prosecution for the penalty but in the absence of such disability it was clearly competent for the legislature to require an individual practicing a profession requiring a license to perform, as a condition of his right to practice his profession, an act manifestly justified by public policy, and essential to the enforcement of the criminal laws and to the establishment, preservation and enforcement of personal and property rights.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

June 25.

1 *Abdominal Pain from Unsuspected Irritation at the Internal Hernial Ring. C. G. Stockton.
2 Primary Typhoidal Cholecystitis, with Calculi. F. T. Stewart.
3 Pathologic Increase of Uric Acid. E. E. Smith.
4 Primary Streptococcal Membranous Laryngitis in an Adult. S. Mc. Hamill.
5 Lithiomercuric Iodid. R. C. Rosenberger and J. W. England.
6 Larynx in Beginning Pulmonary Tuberculosis. W. G. B. Harlan.
7 Three Points of Interest Concerning Smallpox and Vaccination. B. Kohn.

1.—See abstract in THE JOURNAL, vol. xlii, p. 1441.

Medical Record, New York.

June 25.

8 *Foreign Bodies in the Eye and Their Removal with the Electro-magnet. W. B. Marple.
9 *When and How Shall We Operate for Prostatic Hypertrophy? Willy Meyer.
10 *Case of Hyperpyrexia with Recovery. H. W. Wood.
11 Nail in the Deep Urethra. G. Frank Lydston.
12 Chemical and Physiologic Action of the Potassium Chlorate and Iron Mixture. W. E. Dreyfus.
13 Case of Turpentine Poisoning. E. D. Newman.
14 Simultaneous Occurrence of Typhoid and Malarial Fevers in the Same Patient. V. E. Watkins.

8. **Foreign Bodies in the Eye.**—Marple discusses the removal from the eye of those foreign bodies that are susceptible to electro-magnetic attraction, such as iron and steel. He reviews the history of the use of the magnet for this purpose, its first use dating back to about 1600. The large magnet constructed by Volkmann is much lighter and more easily handled than the Haab magnet, and it is also more powerful. The magnet is used for two purposes—first, as a means of diagnosis; second, for the removal of the foreign body. The author describes the technic and cites a number of cases from which he draws the following conclusions:

1. An eye in which a piece of iron or steel is buried invariably deteriorates, and ultimately becomes blind (siderosis bulbi) if the foreign body is not removed, unless it becomes completely encapsulated. In many cases this degeneration is preceded by the symptoms of hemeralopia.

2. If the foreign body is in the anterior segment of the eye, the Haab magnet is almost universally used, at least to get the particle into the anterior chamber.

3. The injury in the great majority of cases, when it is in the anterior segment of the eye, is not attended with a prolapse of the iris, and the occurrence of this complication makes it probable that the foreign body has not penetrated the globe. This symptom, however, is not a reliable one in case the foreign body has made a large or irregular wound in the eye.

4. If the foreign body has penetrated into the vitreous or posterior part of the globe, localization either with the sideroscope, or x-ray, had better precede any attempt to extract it, especially if the lens is still transparent. After the particle has been localized it

can be removed by way of the anterior chamber with the Haab magnet, or by opening directly into the sclera near where the particle has been located. As to which is the better method to be employed in this class of cases, is still a matter of discussion among ophthalmologists.

5. If the symptom of pain can not be elicited with the Haab magnet, this is to be interpreted as evidence (*a*) that there is no foreign body in the eye, (*b*) that it is enveloped, in recent cases, in a fibropurulent exudation or a blood clot (Fehr's case), or (in less recent cases) that it is firmly encapsulated, (*c*) that it has passed entirely through the globe and is lodged partly or wholly in the orbital tissues (double perforation).

9. **Prostatectomy.**—Meyer discusses the indications for operation, and also the technic. He says that the catheter should have a very limited scope, and that the regular use of the catheter by the patient should no longer be a routine advice. Patients who can get along well with the catheter introduced once or twice in twenty-four hours, following out the strictest antiseptic precautions, may resort to its use. For the rank and file of prostatics, an operation should be suggested. The catheter should not be given the first place in the list of remedies used in the treatment of prostatic hypertrophy. It should be our last, instead of our first, resort—in the average case. As a general dictum he would say, advise operative intervention in every case as soon as regular catheterization becomes necessary. As to the method of operation, the choice would lie between prostatectomy and galvanocaustic prostatotomy (Bottini's operation). Prostatectomy is the most radical and the most surgical procedure. It should command first place in the treatment of the hypertrophied prostate, especially since the perfection of the technic of the operation, which has reduced the mortality to less than 5 per cent. The perineal route is preferable to the suprapubic, although in the average case the choice of the route will hinge on the question of preservation of sexual power. The patient's general condition, and not his age, furnishes a contraindication to operation. Where the effects of the general anesthesia are feared, spinal anesthesia is indicated. If the operation with the knife be refused or contraindicated, Bottini's operation should be advised.

10. **Hyperpyrexia.**—Wood reports a case, a well-developed male, showing no evidences of hysteria or of a neurotic diathesis, in which the temperature reached 112 F., respiration 90, pulse 140. The patient was comatose and could not be aroused at all. The patient was treated hydrotherapeutically and recovered. In addition to the symptoms mentioned, there were chilly sensations, a dull headache and aching of the muscles of the back and calves of the legs. No diagnosis was made.

Medical News, New York.

June 25.

15 Iodin and Mercury to Combat Local Infections. A. Stabler.
16 A Brief Report of Four Years of Genito-urinary Work in the Second Surgical Division of Mt. Sinai Hospital. (Concluded.) H. Lilienthal.
17 *The Tracheal Traction Test as an Aid in the Recognition of the Asthmatic Lung. A. Abrams.
18 *Acute Thyroidism Following Curettage. D. H. Wells.
19 New Slidebox; Also a Method of Recording Imbedded Tissue. W. R. Dunton, Jr.

17. **Tracheal Traction Test.**—Abrams' method consists in percussing the manubrium sterni, first with the chin approximating the sternum, and then again when the neck is extended forcibly on the sternum. In the former instance the percussion note is resonant, or even hyperresonant; in the latter posture it is dull, or even flat. The alteration in the percussion tone occasioned by the change in position is not confined to the manubrium sterni, but extends to the lung areas on both sides of the latter. He calls this the tracheal traction test, and finds it present invariably in health, in all lung affections, except idiopathic bronchial asthma—it is positive in symptomatic asthma—thus affording a valuable aid in the differential diagnosis of symptomatic and idiopathic asthma. Abrams assumes that a positive reaction with this test denotes contraction of the bronchial muscle consequent on stimulation of the vagus. When this muscle is in a state of contraction the air in the trachea and bronchi is under considerable tension, the pitch becomes higher and the volume and intensity so decrease that, while percussion formerly yielded resonance, the same act now yields a dull, or even flat, sound. The negative results obtained in idiopathic asthma warrant the conclusion that in this disease the tonicity of the bronchial muscle is so reduced that it no longer responds to stimulation of the vagus.

18. **Thyroidism Following Curettage.**—Wells reports a case of this kind in a woman aged 53. She had passed the menopause, but for six months had frequent small bleedings from the uterus, which was of normal size and freely movable. For years there had been a slight enlargement of the right lobe of the thyroid, an excitable, rapid pulse, slight tremor, but no exophthalmus. Curettage was performed under nitrous oxid-ether anesthesia. Microscopic examination of the scrapings showed only a moderate grade of endometritis. Six hours after the operation the patient was flushed, tremulous, nervous, with a pulse of 130 and temperature 100.5 F. These symptoms increased in severity, the pulse rising to 178. There was also profuse sweating, a watery diarrhea, marked irritability of the bladder, with polyuria, râles all over the chest, and vomiting. The thyroid was perceptibly enlarged, especially on the right side, and presented a quite apparent thrill. There was marked throbbing of the heart and large arteries. Blood examination showed no leucocytosis and no typhoid reaction. The toxic symptoms continued until the twenty-fourth day, when the patient began to improve. The treatment was purely symptomatic. The heart action and general condition was not benefited by any drug; in fact, medication apparently did more harm than good.

New York Medical Journal.

June 25.

20 *Albuminuric Retinitis. L. W. Fox.
21 The Carbohydrates as Etiologic Factors in Stomach Disorders. W. F. Deeks.
22 The Fever of the Puerperium (Puerperal Infection). (Continued.) J. H. Burtenshaw.
23 A Plea for a Truer Therapy—Real Treatment of the Sick. W. C. Abbott.

20. **Albuminuric Retinitis.**—This symptom of chronic interstitial nephritis is found in about 30 per cent. of all cases, and is nearly always bilateral, even when only one kidney is affected. Fox divides albuminuric retinitis into two forms, acute and chronic. The former is characterized by swelling, congestion, hemorrhages and phenomena suggestive of acute inflammation, while the latter is attended by hemorrhages and numerous dirty white spots. The subjective symptoms are few and not very distinctive, headache and loss of vision being the most prominent. Bright's disease may be associated with blindness without perceptible structural changes in the retina. The iris and choroid may be inflamed, and opacities of the lens, palsy of the extraocular muscles, particularly the superior oblique and the external rectus, are by no means rare. Subconjunctival hemorrhages may occur, usually during the night, and he considers them premonitory symptoms of kidney disease and due to disease of the vascular channels. Retinal detachment and folding of the retina, particularly in that form accompanying pregnancy, are seen sometimes. The ophthalmoscopic appearances are characteristic. The arteries are changed in size, either larger or smaller, and tortuous. There is a loss of translucency. White stripes are found along the vessels, due to degeneration of the walls or infiltration of the circumcorneal lymph sheaths. The veins are tortuous, alternately contracted and dilated, and show evidences of an impeded venous circulation. The mechanical pressure may be exerted by a diseased artery. The venous walls are subject to the same changes as those of the arteries, resulting in white stripes and varicosities. Grayish opacity near the disc, or whitish spots scattered through the fundus, following the lines of the vessels, indicate retinal edema. Hemorrhages are frequent and manifest themselves as linear extravasations along the course of the blood vessels, rounded infiltration and subhyaloid hemorrhages. Absorption of the hemorrhage and subsequent atrophy is shown by the yellowish or whitish-yellow spots that are scattered throughout the fundus. At a short distance from the margins of the optic disc it is by no means uncommon to perceive coalescence of these spots, forming a broad encircling zone designated as the "snow bank" of retinitis albuminurica. The pathology of these patches may be said to consist of fatty degeneration of the fibers of Mueller and of the granular layer, together with round-celled infiltra-

tion and hypertrophy of the nerve fibers. The condition known as albumosuria, described by Bence-Jones, is attended by fundus changes similar to those seen in retinitis albuminurica. It is necessary to examine the urine for albumose as well as for albumin, in order to differentiate between the two conditions. As to prognosis, Fox says that vision is nearly always impaired or lost, according to the number, extent and situation of the hemorrhages. The outlook as regards life is very grave. Most patients die within two years, yet he has seen one case that lived seven years after the retinal changes were detected. When the disease occurs in patients over 50 years of age its course usually is less rapid than in younger individuals. If the hemorrhages of the retina are associated with fatty or colloid deposits, in a patient between 30 and 40 years of age, death may be expected in from three to five months. The retinitis that follows pregnancy and the infectious fevers is more favorable as regards life. As soon as the condition is recognized general treatment, such as indicated in nephritis, should be begun. For the anemia, Basham's mixture, given in doses of 1 to 2 drams every three hours, is the most applicable. Strychnin, in doses of 1/60 to 1/30 gr. three times daily, and gray powder 1 to 2 gr., and gallic acid 10 to 15 gr., three times a day, are beneficial in absorbing the hemorrhages and the exudate. Free purgation and diaphoresis are especially advantageous. Eliminate from the diet all foods rich in albumin. The personal bygiene should be looked after. Decapsulation may be of great service in relieving the condition.

Cincinnati Lancet-Clinic.

June 25.

24 The Education of Defectives. E. W. Mitchell.
25 Nervous Phenomena and Local Disease—Question of Surgical Intervention. E. S. Stevens.
26 Abdominal Hysterectomy and Appendectomy. E. Harlan.

Boston Medical and Surgical Journal.

June 28.

27 Some Fermentations in Medical Education. H. C. Ernst.
28 Contribution to the Pathology of Hysteria Based on an Experimental Study of a Case of Hemianesthesia with Clonic Convulsive Attacks Simulating Jacksonian Epilepsy. B. Sidis and Morton Prince.

American Journal of the Medical Sciences, Philadelphia.

June.

29 *Retroperitoneal Sarcoma. J. Dutton Steele.
30 *Traumatic Intestinal Rupture with Special Reference to Indirect Applied Force. Emanuel J. Senn.
31 *Castration for Tuberculosis of the Testicle. Charles G. Cumston.
32 *Relation of Cells with Eosinophile Granulation to Bacterial Infection. Eugene L. Opie.
33 The Envelope of the Red Corpuscle and Its Rôle in Hemolysis and Agglutination. S. Peskind.
34 Hemolysins in Human Urine. Roger S. Morris.
35 Mental Symptoms Associated with Pernicious Anemia. William Pickett.
36 Clinical and Histologic Study of the Ophthalmic Condition in a Case of Cerebellar Neoplasm Occurring in a Subject with Renal Disease. Charles A. Oliver.
37 Case of Fibroadenoma of the Trachea; with Remarks on Tumors of the Trachea in General. Sylvan Rosenheim and Mactier Warfield.
38 Case of Supposed Sarcoma of the Chest Wall Symptomatically Cured by Means of the X ray. James P. Marsh.
39 Chronic Interstitial Nephritis in the Young. Jose L. Hirsh.
40 *Kernig's Sign; with Report of Cases Where the Angle Has Been Accurately Determined. Joseph L. Miller.
41 Report of Two Cases of Volvulus of the Entire Mesentery. A. D. Whiting.
42 A Simple Method for the Reduction of Luxations of the Humerus. Eleanore Boulton.

29. **Retroperitoneal Sarcoma.**—Steele reports cases of sarcoma originating in the retroperitoneal space, referring to a former article (*Amer. Jour. Med. Sci.*, March, 1900). From an analysis of the reported cases, he concludes that sarcoma of the retroperitoneal space is not so very uncommon, and that it is of late years recognized that the development of such tumors has a definite symptom-complex. More reference is being made to the condition and more cases reported. It occurs more frequently in the first, fourth, fifth and sixth decades of life; 53 per cent. occurred in the interval from the thirtieth to the sixtieth year. Sex is not a predisposing cause. In four cases there seemed to be a direct relation between the abdominal injury and the tumor development. In one case the tumor grew from the wall of a retroperitoneal abscess. Its growth is rapid, and the most common point of origin is in the right lumbar region. The next is the center of the retroperitoneal space, the next the iliac region, and in six cases the tumor grew in the pelvis; in four, originated in the upper central region, above the umbilicus. In the majority of cases this is lateral. It is almost always single. It is very hard and firm in the earlier stages, but is prone to degeneration, most often hemorrhagic in character, but may be puriform or myxomatous. Metastasis occurred in one-third of the cases, most frequently in the liver and lungs. In many cases the intestines are involved, and in five cases a cystic tumor ruptured into the gastrointestinal tract or the peritoneal cavity. The most characteristic signs are the early presence of a hard or elastic nodular tumor, usually quite immovable. As it enlarges interference with the abdominal viscera is more marked. The most valuable point in the physical diagnosis is the relation of the colon and intestines to central and lateral growths, and the relation of the stomach to upper central tumors. The determination of the position of the stomach with the colon, in most cases, should decide whether or not the tumor is retroperitoneal. When this is done the diagnosis is narrowed to tumors of the kidney, adrenals, accessory adrenals, remnants of the wolffian ducts, tumors of the pancreas, aneurisms, and solid retroperitoneal tumors in the restricted use of the term. The only absolutely characteristic sign is the tendency to early degeneration, and an exploratory incision is the only certain means of determining the origin, and surgical interference offers the only hope of prolonging the patient's life. The prognosis is decidedly bad. Early diagnosis is imperative if any benefit is to be obtained from treatment.

30. **Traumatic Intestinal Rupture.**—Senn reports a case where slight violence in the gluteal region produced intra-abdominal laceration, the cause being a fall. Operation was successful. He discusses the condition, its pathology, the symptoms, treatment, etc., at some length.

31. **Tuberculosis of the Testicle.**—Cumston holds that the radical treatment for this condition should not be allowed to become obsolete, that castration has an exceedingly low mortality as an operation, and, if performed early, there is a good chance of preventing further infection. It meets the demand of the eradication of the soil breeding the disease. Conservative surgery applied to the testicle is practically useless in tuberculosis, and favors the dangers which castration tends to eliminate.

32. **Eosinophile Granulation.**—In this rather elaborate paper Opie finds that certain bacteria, such as those of tuberculosis and hog cholera, producing chronic fatal infection in guineapigs, cause the eosinophile leucocytes to disappear gradually from the blood. Hence, a study of the tissue removed by autopsy gives little indication of the behavior of the eosinophile leucocytes during the course of bacterial infection. During more acute infections produced by intraperitoneal inoculation the eosinophile leucocytes almost all disappear completely from the peripheral circulation within a few hours. The cells seem to accumulate in the vessels of the inflamed mesentery and the omentum, and undoubtedly undergo degenerative changes, of which the nuclear fragmentation is the most characteristic. Under the influence of severe bacterial infection, eosinophile myelocytes, together with other elements usually regarded as characteristic of the bone marrow, accumulate in the spleen and may be found in the circulating blood. This shows that these elements are derived from the bone marrow and not from the spleen.

40. **Kernig's Sign.**—Miller summarizes his paper as follows:

1. A maximum angle of 115 degrees gives more valuable results than does an angle of 135 degrees, as proposed by Kernig. 2. The angle obtained in any individual case depends, in part, on the force used in extending the leg, and for this reason actual measuring of the angle is not essential. 3. The sign is present in a large percentage of the cases of meningitis; it is, however, not constant, may be transitory, or only appear late; therefore, daily examination should be made for its presence. 4. It is present in a typical manner, occasionally in a number of widely different disease conditions, and for this reason it is probable that there is not a uniform cause for the sign. 5. The sign is occasionally unilateral, exclusive of cases of hemiplegia or local trouble, which might explain its unilateral presence. 6. The presence of the sign in cases of suspected meningitis is merely another factor favoring the diag-

nosis. Its absence, especially early, is not infrequent, and should not be allowed to outweigh the positive findings.

Cleveland Medical Journal.

June.

43 *Talma Operation for Ascites Following Cirrhosis of the Liver, with Report of Cases. J. H. Jacobson.
44 Chronic Prostatitis. Charles G. Foote.
45 Report of a Case of Malignant Endocarditis. William O. Osborn.
46 *Ethyl Chlorid as a General Anesthetic. Secord H. Large.
47 Acute Dilatation of the Stomach Complicating an Abdominal Operation. Hunter Robb.

43. **The Talma-Morrison Operation.**—Jacobson discusses the operation of omental anastomosis in cases of hepatic cirrhosis and reports three cases. He deduces the following conclusions from his study of the subject:

1. The principal cause of ascites in cirrhosis of the liver is the obstruction to the portal circulation. 2. The percentage of cures or improvements following the operation is about 49.08 per cent. 3. The operation has been of benefit in cases of hypertrophic cirrhosis without ascites and promises some hope in cases of ascites due to cardiac disease. 4. For the success of the operation it is necessary that a sufficient number of normal liver cells be present. 5. The operation should be performed early in the disease, in anticipation of ascites, before serious complications have taken place. 6. Simple scarification of the omentum and a corresponding area on the parietal peritoneum is sufficient to secure success. Scarification of liver, gall bladder and spleen is not essential. 7. The dietetic treatment of the patient should be continued after the operation and alcohol in every form strictly avoided in the hope of stopping the destruction of liver cells and the formation of cicatricial tissue.

46. **Ethyl Chlorid.**—The history of the use of ethyl chlorid is noted briefly by Large, who believes it to be a safe and reliable general anesthetic for minor operations, or as a preliminary to the use of chloroform or ether in the major ones. He reports briefly a number of cases where it was used in the young, middle-aged and old without any bad effects. He sums up its advantages in: (1) Its safety and reliability; (2) simplicity of administration, and no expensive apparatus is required; (3) lack of cyanosis or struggling; (4) no unpleasantness in administration, no smothering; (5) lack of after-effects; (6) its cheapness; (7) its easy mode of transportation; (8) it can be administered with the patient either sitting or reclining; (9) it can be given in the office; (10) it is adapted to cases in which it is not desirable to narcotize the patient thoroughly, as an operation for goiter, opening of an abscess, etc., and, finally, it is valuable as a preliminary to chloroform or ether anesthesia, saving time and material.

University of Pennsylvania Medical Bulletin, Philadelphia.

May.

48 *Physiologic Areas and Centers of the Cerebral Cortex of Man, with New Diagrammatic Schemes. Charles K. Mills.
49 *Points of Resemblance Between Paralysis Agitans and Arthritis Deformans. William G. Spiller.
50 Differential Diagnosis of Single or Multiple Brain Tumors and Diffuse Encephalic Syphilis. Charles K. Mills.
51 Case of Progressive Spinal Muscular Atrophy in Which the Atrophy Began in the Extensors of the Hand and Fingers. Charles S. Potts.
52 Paraplegia Dolorosa Caused by Vertebral Carcinomata, Spinal Caries and Multiple Neuritis. William G. Spiller and Theodore H. Welsenburg.
53 Formation of Bone Tissue Within the Brain Substance. A Contribution to the Inclusion Theory of Tumor Formation. D. J. McCarthy.
54 Paralytic Chorea, with a Report of Two Cases. Carl D. Camp.

48. **The Cortical Centers.**—Mills' article is a demonstration of the more modern results of investigation and his deductions from these as to the physiologic areas and centers of the cerebral cortex.

49. **Paralysis Agitans and Arthritis Deformans.**—Spiller reports a case in which these seemed to co-exist, somewhat embarrassing the diagnosis. The question is, which of the two conditions really existed? He discusses the relation of the two and the interest of the subject as regards the nervous origin of arthritis deformans. He does not wish to claim or suggest that the two diseases are identical, but believes that there is a similarity between them that is greater than has been supposed.

Journal of Medical Research, Boston.

May.

55 *Production and Properties of Anti-crotalus Venin. Simon Flexner and Hideyo Noguchi.
56 Occurrence of Lipase in the Urine as a Result of Experimental Pancreatic Disease. Albion W. Hewlett.
57 Composition of Zygadenus Venenosus and the Pharmacologic Action of Its Active Principle. M. Vejux-Tyrode.
58 Contribution to the Study of Hemagglutinins and Hemolysins. W. W. Ford and J. T. Halsey.
59 Ragged Edges of the Small Lymphocytes. Herbert C. Ward.
60 Method of Studying the Pathology of the Bone Lesions by the X-ray. Henry O. Feiss.
61 Chronic Subcutaneous Abscess in Man Containing Acid-proof Bacilli in Pure Culture. W. Ophüls.
62 Occurrence of Bacillus Pseudodiphtheriæ in Cow's Milk. D. H. Bergey.
63 A Motile Culture of Bacillus Dysenteriæ. Charles Hunter Dunn.
64 *Simple Method of Demonstrating the Presence of Bacteria in the Mesentery of Normal Animals. Albert George Nicholls.
65 Simple Method of Isolating from Water Forms Which Agglutinate with Typhoid Serum. J. G. Adami and J. A. Chopin.
66 Bacillus Isolated from Water and Agglutinated by High Dilutions of Typhoid Serum. Oskar Klotz.
67 A Hitherto Undescribed Epizootic Among Rabbits and Rats, Caused by a Flagellate Micrococcus. Oskar Klotz.
68 *Study of Chronic Infection and Subinfection by the Colon Bacillus. George A. Charlton.
69 Study of the Blood of Normal Guinea-pigs. Samuel Howard Burnett.
70 *Dysentery Bacillus Group and the Varieties Which Should Be Included in It. Wm. H. Park, Katherine R. Collins and Mary E. Goodwin.
71 Morbid Anatomy and Etiology of Avian Tuberculosis. Veranus A. Moore.

55. **Crotalus Antivenin.**—Flexner and Noguchi have succeeded in obtaining a form of antivenin for rattlesnake poisoning. The modification of venom by means of heat reduces or abolishes the activity of the venom at the expense of the hemorrhagin and, possibly, other locally acting principles. In order to produce an antitoxin for crotalus venom, an attempt was made to transform the locally active principles of this venom into toxoid modifications. That this can be effected is shown by the manner of action of rattlesnake venom that has been treated with hydrochloric acid and iodin trichlorid. By these agents it is deprived of a large part of its toxicity, while it still preserves the power to set up antivenin formation in the rabbit and dog. That an antivenin of considerable activity against rattlesnake venom can be produced in this manner, the experiments prove. Crotalus antivenin is without appreciable antitoxic power over cobra and daboia venoms, and of imperfect antitoxic power against water-moccasin venom, in accordance with the different constitutions of these venoms, the predominance of neurotoxins and hemolysins in comparison with hemorrhagin.

64. **Bacteria in the Normal Mesentery.**—In this article Nicholls describes his method of determining the occurrence of bacterial forms in the normal mesentery, and his means of identifying them as such. The studies appear to prove that in healthy animals the phagocytes pass out constantly to the mucous surface of the intestine, and return loaded with food particles, fat, bacteria, etc., which they deposit in the various organs. One path of entry is certainly through the lacteals and lymphatics and another may be through the radicles of the portal vein. Bacteria are soon acted on by the fluids of the body so that they can be recognized in the tissues in all stages of degeneration and disintegration. This fact is opposed to the theory that the epithelial surfaces afford protection against the entry of bacteria into the organism. The real condition is that the normal organs are not actually, but only potentially, sterile; bacteria are carried into them, but in health undergo a fairly rapid destruction.

68. **Chronic Infection by the Colon Bacillus.**—The conclusions of this experimental research by Charlton are given as follows:

1. In these experiments there has been developed a state of advanced anemia, not quite comparable with any of the classic forms seen in man. In some respects it resembles pernicious anemia, namely, in the very great diminution in the number of erythrocytes, the marked poikilocytosis, and the appearance of nucleated red corpuscles. 2. On the other hand, it differs from pernicious anemia in the fall of the amount of hemoglobin being parallel with the decrease of the red corpuscles; in the absence of a distinct and extensive Quincke's siderosis; in the absence of any clear evidence of inflammatory or other disturbances of the digestive tract, and of well-marked changes in the bone marrow. 3. In the advanced stage of this anemia a diffuse degeneration of the spinal cord was set up, affecting the posterior and lateral columns of the cord, in the lumbar and dorsal regions. This degeneration consisted in a fatty degeneration of the myelin sheaths of the fibers and certain changes, pigmentary, in the nerve cell bodies of the gray matter. The ventral columns of the cord and the blood vessels were unaffected. 4. Similar conditions of anemia and spinal cord degeneration could not be produced by injecting killed cultures of the colon bacillus, nor by filtered cultures. When the living cultures were acted on by pepsin, and injected intravenously, they did not differ materially in their action from the original living cultures.

70. **The Dysentery Bacillus Group.**—As a result of their studies and experiments, Park, Collins and Goodwin hold that there are at least three distinct types of bacteria that are factors in epidemic dysentery, or they may be divided into two groups—the true Shiga group and the group of mannite fermenters, the latter being divided into two types; first, fermenting mannite alone in peptone solution, the other in maltose and saccharose also. The agglutinating characteristics of these bacilli and their susceptibility to immune sera are also studied, the mannite and maltose types being more closely allied to each other than to the Shiga type.

New York State Journal of Medicine, New York.

June.

72 Cystitis: Some General Considerations. Irving S. Haynes.
73 The Selection of Apparatus for Generating the Roentgen Rays. Arthur Holding.
74 Graves' Disease. Ernest Valentine Hubbard.
75 Ergot in Surgery. Alfred T. Livingston.
76 Interesting Cases of Malaria Which Simulated Appendicitis. W. J. Hunt.
77 *Preparation of Cumol Catgut. Douglas C. Moriarta.
78 Remarks on the Treatment of Gonorrhea. G. Morgan Muren.
79 Strychnin Poisoning, with Reports of Two Cases. Annetta E. Barber.

77. **Cumol Catgut.**—Moriarta believes it unsafe for an operator to depend on commercial sterilized catgut in his surgical work, even if the same method is used by the manufacturer that is suggested by the surgeon. All catgut, in its commercial condition, contains bacteria, though the bacteria present have various degrees of virulence; some catgut contains no pathogenic bacteria. Whatever method be employed, it is essential that the gut is made sterile, that its integrity is not diminished, and its tensile strength maintained. Cumol catgut complies with all these requirements, and the only objections are the time and apparatus required for its preparation, the experience necessary, and the risk from fire, as cumol is highly inflammable. The apparatus required is a cumol boiler, an oven, two gas stoves, and a sterilizer in which to sterilize the retaining tubes. It is also desirable to have an autoclave in which to sterilize the cotton to be used in stopping the tubes and a boiler for sterilizing gloves and forceps. The catgut is cut and tied into bundles, as desired, but must not be tied tightly. It is then dehydrated in the oven for two hours at 100 C. At the end of this period place the catgut immediately into cumol heated at 100 C. Raise the heat to 165 C. and keep it there for one hour. The vapor of the cumol should be conducted out of doors by means of rubber tubing. Then expose the catgut to a temperature of 100 C. for two hours, when it is ready to be put in tubes. This must be done under the strictest antiseptic precautions, so that the catgut will remain sterile. Moriarta emphasizes the following points:

1. Purchase only cumol that has a boiling point of 165 degrees C.
2. Arrange the capacity of the cumol boiler that a quantity can be prepared at once.
3. Do not tie the catgut tightly, or it will be brittle where it is tied.
4. Place the catgut in the wire bucket, which has been previously lined witsh asbestos paper, so that the gut can not touch the metal; if it should do so, it will be brittle where it comes in contact with the metal.
5. Place the wire bucket containing the catgut in the oven when dehydrating the catgut.
6. Be sure that the catgut is thoroughly dehydrated, and if a very heavy gut is used, it should be left in the oven two and one-half hours, or the product will be brittle.
7. Have the cumol heated to 100 degrees C. when dehydration is finished, so that the bucket can be placed immediately in the cumol at the same temperature it was in the oven, or the catgut will be brittle.
8. Be sure that the rubber tubing, adjusted to the boiler, connects either with a chimney or runs out of doors, as the vapor of cumol will ignite, as explained before, from the flame under the boiler.
9. Boil the catgut one hour; have the oven heated to 100 degrees C., that the wire bucket and catgut may be at once transferred to the oven to drive off the cumol retained from boiling.
10. Perfect asepsis must be observed when placing the catgut in the retainers.

American Journal of Insanity, Baltimore.

April.

80 The Development of Insanity in Regard to Civilization. Robert Jones.
81 The Blood in Epilepsy: Experiments on Animals. F. Savary Pearce and L. Napoleon Boston.
82 Was He a Paranoiac? C. A. Drew.
83 *The Treatment of the Morphin Habit by Hyoscin. J. M. Buchanan.
84 State Epilepticus: A Clinical and Pathologic Study in Epilepsy. (Continued.) L. Pierce Clark and Thomas P. Prout.
85 Some Metabolism Studies. With Special Reference to Mental Disorders. Otto Folin.
86 Chemical Findings in the Cerebrospinal Fluid and Central Nervous System in Various Mental Diseases. Isador H. Coriat.
87 Report of a Second Case of Dementia Precox, with Autopsy. William R. Dunton, Jr.
88 Case of Chorea Insaniens, with Report of Autopsy. Isabel A. Bradley.
89 Intracranial Psammo-sarcoma Without Paralysis. Walter D. Berry.

83. **Treatment of the Morphin Habit by Hyoscin.**—Buchanan uses the hydrobromate of hyoscin hypodermically in doses of from 1/200 to 1/50 of a grain in the treatment of the morphin habit. The dose should be very small to begin with, 1/200 of a grain, and increased gradually to 1/100 of a grain. As morphin and strychnin are antidotes for hyoscin, no fear need be felt of producing disastrous effects. He has never seen any bad after-effects from its use. His plan of treatment is as follows: The patient is kept under observation for a few days, and the amount of morphin and cocain reduced to what will keep him comfortable, although this is not necessary. The night before beginning the use of hyoscin, 6 to 8 gr. of calomel, in combination with some vegetable cathartic, are given, and this is followed by a saline the next morning. The usual morning dose is given, but when the patient calls for morphin in the afternoon hyoscin is substituted, and from this time for thirty-six to forty hours the patient is kept under the influence of the drug, 1/200 to 1/100 gr. being given every two or three hours, according to the condition of the patient, but never enough to stupify him completely. Keep the patient in bed and supply him with a day and night nurse, so as to keep him under constant surveillance. If the pulse becomes weak or irregular, strychnin may be given, and, if necessary, a little morphin or codein is added. If there is need for a hypnotic, he gives trional or chloral hydrate, with bromid of soda. Large doses of the latter, given for a few days preceding the treatment, will allay nervousness. The after-treatment is the same as in other methods—tonics, nourishing diet and rest.

Archives of Ophthalmology, New Rochelle, N. Y.

May.

90 Sarcoma of the Choroid with Destructive Hemorrhage. F. H. Verhoeff.
91 Case of Empyema of the Right Frontal Sinus, of the Right Sphenoidal Sinus, of Both Antra of Highmore, and of the Ethmoidal Cells of Both Sides. A. L. Whitehead.
92 Hemorrhages in the Eye, Present at Birth. Edward B. Coburn.
93 Paralysis of the Associated Lateral Eye Movements, Presumably Due to Acute Polioencephalitis Superior, Ending in Recovery. H. Gradle.
94 Hereditary Ectopia Lentis, with Reports of Cases. G. Griffin Lewis.
95 Etiology and Pathology of Corneal Cysts, with Report of a Case. E. L. Oatman.
96 Hysterical Iridoplegia and Cycloplegia, with Report of a Case. Mortimer Frank.
97 *Report of a New Method for the Application of Local Anesthesia in Operations on the Eyeball and Eyelids, Especially in Trachoma. J. Guttman.

97. **Local Anesthesia in Ophthalmology.**—Guttman describes a new method of local anesthesia in operations on the eyeball and eyelids, especially in trachoma. The method is as follows: One or two drops of a 4 per cent. solution of cocain, or 1 per cent. holocain, are instilled into the conjunctival sac within about three minutes. The skin of the lids, especially the eyelashes, is washed with soap and water. He then fills a Pravaz syringe holding 25 to 30 minims with the following solution: Sodium chlorid, 0.2; cocain, 0.05 (for very sensitive patients, 0.1); distilled water, 100; a fine No. 27 needle, one-half inch long, is screwed on to the syringe, which must be perfect. Anesthetize first the upper lid; turn the cartilage with a roll forceps so as to turn the retrotarsal fold toward the operator. Insert the point of the needle carefully near the upper margin of the cartilage in an oblique, almost horizontal, direction as superficially as possible, just deep enough for the opening of the needle to be covered. An assistant pushes the piston of the syringe, and as soon as four or five drops of the solution are injected a grayish-white wheal is formed, and the needle is withdrawn. This procedure is repeated until the whole lid has been anesthetized. As a rule, 15 to 25 drops will suffice for each lid. With the conjunctiva thus anesthetized, the trachoma granules become very prominent and can be attacked with the

roll forceps more thoroughly and more systematically than by an other method. The lower lid is anesthetized in the same manner, and, inasmuch as turning of the cartilage is unnecessary, the process is much more simple. In operating on the eye-bulb for squint, etc., the solution is injected into the bulbar conjunctiva, a few drops sufficing. In operations on the external surface of the lids, infiltrate the conjunctiva as well as the outer skin. In order that edema may not mask the field of operation too much, due care should be exercised not to inject more solution than is needed.

Medical Standard, Chicago.

June.

98 The Powers and Limitations of Therapeutics. Wm. E. Quine
99 Autointoxication and Its Treatment. Heinrich Stern.
100 Smallpox: A Clinic. (Continued.) Heman Spalding.
101 Farm Inspection. J. C. Cook.
102 *Pregnancy and Appendicitis. Charles B. Reed.
103 *Tuberculosis in Children: Report of Two Tuberculous and Two Non-tuberculous Cases Illustrating Points in Diagnosis. Robert H. Babcock.

102. **Pregnancy and Appendicitis.**—Reed believes that appendicitis complicates pregnancy oftener than published reports indicate; that its effect on pregnancy can not be definitely measured, for many severe cases do not interrupt the pregnancy, while in others a much milder attack will produce this result. Many favorably situated cases form abscesses which are opened without consequent reaction, and even the perforated form, if uncomplicated and not too stormy, may act on the genitals like the symplex; but the appearance of complications, either local, systemic or metastatic, may be marked by uterine contractions and the expulsion of the fetus, living or dead. The question arises, is it desirable to produce abortion or premature labor? It should be answered, definitely and unhesitatingly, in the negative. The induction of labor is an operation fully as serious as the removal of the appendix; hence, if one must be chosen, why not the latter? In the majority of cases the uterine contents are not disturbed, and the mother is relieved from imminent danger. Make the diagnosis early, if possible, and operate at once without regard to the time of the pregnancy.

103. **Tuberculosis in Children.**—That tuberculosis in children under 10 years of age is a more frequent occurrence than is supposed usually, says Babcock, is shown by statistics. According to Cornet, Simons, Schwer and Bolz, of 2,447 autopsies on children under 10 years, dead of all diseases, 22.93 per cent. showed some form of tuberculosis. Mueller found 23.36 per cent. out of 426 autopsies. Jacobi states that in 1,045 autopsies tuberculosis was found in 14 per cent. In young children the primary seat of tubercle is in the bones, joints and lymph glands, the lungs becoming affected eventually. The symptoms often are very deceptive, and it is important to weigh the findings carefully and to make an accurate clinical examination, especially of the lymph glands of all regions, before making a diagnosis. Several cases are cited illustrating the necessity of very careful interpretation of symptoms.

Wisconsin Medical Journal, Milwaukee.

June.

104 The Diagnosis of Pneumonia in Children. W. H. MacDonald.
105 Dermatitis Exfoliativa Neonatorum. Arthur J. Patek.
106 *Actinomycosis Hominis. Report of Two Cases. Reginald H. Jackson.
107 *Hydrotherapy in the Treatment of Pneumonia. C. P. Farnsworth.

106. **Actinomyces Hominis.**—After a résumé of this subject, Jackson reports two cases, occurring in farmers, that were treated surgically. The tumor was removed with a knife and its site curetted freely. The surface was cauterized with a 10 per cent. solution of zinc chlorid and packed with iodoform gauze. Large and increasing doses of potassium iodid, up to 3 drams daily, were administered internally. The general health has improved markedly, there has been a very noticeable increase in weight, and the hemoglobin percentage has risen from 65 to 90.

107. **Hydrotherapy in Pneumonia.**—Farnsworth defends the use of hydrotherapy in the treatment of pneumonia, and cites 25 cases of varying severity that recovered under this treatment.

St. Paul Medical Journal.

June.

108 *The Operation for Mammary Cancer. Warren A. Dennis.
109 Surgical Treatment of Chronic Empyema of the Antrum of Highmore. C. E. Bean.
110 *Homicide by Picrotoxin Poisoning. Hubert C. Carel.
111 Adduction in Diseases and Injuries of the Hip. Alex R. Colvin.
112 Artificial Dilatation of the Cervic Uteri, with Demonstration of a New Dilator. Frederick Leavitt.
113 Pertaining to the Disposal of Sewage. H. M. Bracken.

108. **Mammary Cancer.**—Dennis comments on the inefficiency of local applications, hypodermic injections and the Röntgen ray in the treatment of mammary cancer, and that at the present time a cure or prolonged immunity can be obtained only through the use of the knife. The Halstead operation holds first place among surgical procedures, and Dennis details the technic of the operation at length. He summarizes his paper as follows:

1. Cancer of the breast is at first a local disease. 2. Metastases occur in only 24 per cent. of cases during the first year. 3. The complete operation has demonstrated that local recurrence can be prevented in from 74 to 82 per cent. of cases, even when many have gone a year or more. 4. The conclusion necessarily follows that if all cases were operated on within the first year we might reasonably expect 75 per cent. of permanent cures, and if within six months, a considerably higher percentage. 5. It is the duty of every physician to embrace such proper occasions as offer to educate the laity as to the dangerous probabilities inherent in every breast tumor and the necessity for early and complete surgical treatment.

110.—See editorial July 2, 1904.

Northwestern Lancet, Minneapolis.

June 15.

114 The Prophylaxis of Ophthalmia Neonatorum. George H. Thomas.
115 Non-valvular Heart Sounds. J. G. Cross.
116 A Study of the Effect of Borax and Boric Acid on the Human Body, with Particular Reference to Their Use as Food Preservatives. Charles F. Dight.

Medical Fortnightly, St. Louis.

June 10.

117 The Test-breakfast in Diseases of the Stomach, with Report of Cases. Charles D. Aaron.
118 The Importance of Diagnosis of Diseases of the Rectum. W. H. Stauffer.
119 The Prevention of Tuberculosis. George Brown.
120 Testimonies of Ancient Sepulchres on the Question of Paleolithic Man in the Western Hemisphere—A Contribution to Paleo-American Medicine. Albert S. Ashmead.
121 A Few Factors Concerning the Action of Antiseptics. Hermann Prinz.

Archives of Pediatrics, N. Y.

June.

122 The Feeding and Care of Children After the First Year. Rowland G. Freeman.
123 The Albumin Content of Whey. C. G. Grulee.
124 Umbilical Cord Hernia. Martha Wolstein.
125 Stomatitis in Impetigo Contagiosa. Edward F. Cushing.

Chicago Medical Recorder.

June 15.

126 The Evolution of the Modern Operation for Entroplum of the Upper Lid. F. C. Hotz.
127 Eye Signs of Brain Tumor. William H. Wilder.
128 Neurologist or Ophthalmologist? E. J. Gardner.
129 Eye Signs in Migraine. Charles H. Beard.
130 *Removal of Pin from Lung, per Vias Naturalis, with Bronchoscope and Tube Forceps. E. Fletcher Ingals.
131 Case of Traumatic Injury of the Neck, Followed by the Formation of a Tumor of the Larynx; Operation; Recovery. John Edwin Rhodes.
132 Etiology of Acute Bronchitis. Edson B. Fowler.
133 One Reason for Preferring Urethrotomy to Dilatation in the Treatment of Strictures of the Membranous Urethra. Charles C. Miller.
134 Pyelonephritis with Pregnancy. Oscar J. Price.
135 The History of Tuberculosis and of the Discovery of the Tubercle Bacillus. Melchior Whise.
136 Supracondyloid Femoral Fracture with Complications. John E. Owens.

130.—This article appeared in THE JOURNAL, xlii, p. 1141.

Annals of Otology, Rhinology and Laryngology, St. Louis.

March.

137 Wood's Metal Casts of the Ear. George E. Shambaugh.
138 Syphilis of the Cartilaginous Septum. J. L. Goodale.
139 Case of Infective Thrombosis of the Lateral and Sigmoid Sinuses. Ewing W. Day.
140 Laryngeal Stenosis from Post-typhoid Perichondritis, Tracheotomy, Thyrotomy, Intubation—Exhibition of Two Patients. Ewing W. Day and Chevalier Jackson.
141 *Cholesteatomatous Disease of the Tonsils. Norval H. Pierce.
142 Observations on the Action of the Crico-thyroideus and Thyro-arytenoideus Internus. Jorgen Moeller and Joh. Fred. Fischer.
143 Report of a Case of Chronic Purulent Otitis Media, with Thrombosis of the Lateral Sinus; Radical Operation; Excision of Internal Jugular Vein; Recovery. Edward B. Dench.

144 Cholesteatoma with Report of a Case. William H. Dudley.
145 Lobulated Nasal Polypus Completely Obstructing Both Channels, Weighing 255 Grains. Linn Emerson.
146 The Application of Conservative and Radical Surgery to Chronic Nasal Accessory Sinus Disease. R. B. Canfield.
147 Case of Primary Involvement of the Jugular Bulb, Following an Acute Otitis Media, with Operation and Recovery. J. F. McKernon.
148 Laryngitis Hypoglottica Acuta. Charles W. Richardson.
149 Tinnitus Aurium; Etiology. W. Sohler Bryant.
150 Aneurism of Thyroid Artery. George F. Cott.
151 Spontaneous Discharge of Cerebrospinal Fluid. George F. Cott.
152 Case of Labyrinthine Disease, with Remarks. John K. Sterrett.
153 Lithemic Nasopharyngitis Due to Systemic Disturbance. J. A. Stucky.
154 Treatment of Ear Diseases and of Aural Vertigo in Particular with Lumbar Puncture. J. Babinski.
155 Case of Aphthous Laryngitis. E. J. Moure.

141.—This article has appeared elsewhere. See THE JOURNAL, xlii, title 64, p. 1594.

Illinois Medical Journal, Springfield.

June.

156 Address, Illinois State Medical Society. Relation of Our Societies to Political Boards. Carl E. Black.
157 The Powers and Limitations of the Physician as Distinguished from the Surgeon. Wm. E. Quine.
158 Clinical Experiences in Surgery of the Gall Bladder and Ducts. A. J. Ochsner.
159 Gallstones—Past, Present and Future. J. L. Wiggins.
160 Cholecystitis. M. L. Harris.
161 Case of Internal Hernia Into the Recto-colic Fossa. Albert E. Halstead.
162 Idiopathic Dilatation of the Esophagus. James B. Herrick.
163 Cystic Tumors of the Ovary. Geo. W. Newton.
164 Case of Mastoid Operation Embracing Some Unusual Features. H. W. Chapman.

Transactions of the Chicago Pathological Society.

March 14.

165 A Method of Microscopic Observation by Means of Lateral Illumination. D. J. Davis.

Richmond Journal of Practice.

May.

166 Observations on Puerperal Septic Infection. Charles Jewett.
167 Fractures of the Skull. J. Shelton Horsley.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 18.

1 *The Reaction of Protoplasm in Relation to Chemotaxis. J. O. Wakelin Barratt.
2 *Unique Case of "Floating Kidney," in Which Nephrorrhaphy Was Successfully Performed; the Kidney Was Within the Peritoneal Cavity and Had a Mesonephron. David Newman.
3 *A Case of Leukanemia with Great Hyperplasia of the Spleen and Prevertebral Hemolymph Glands and with Increase of Connective Tissue in the Bone Marrow. F. Parkes Weber.
4 Note on the Antihemolytic (Hemosozic) Properties of Normal Urine. Marc A. Ruffer and M. Crendiropoulo.
5 The Deterioration of Vision During School Life. Ettie Sayer.
6 Observations on an Epidemic of Scarlatina. Bertram Thornton.
7 The Surgical Treatment of Abdominal Aneurism. R. Chas. B. Maunsell.
8 Case of Permanent Closure of the Jaw Resulting from Infantile Paralysis. W. Edward Meads.

1. **Reaction of Protoplasm to Chemotaxis.**—Barratt's paper deals with the influence exerted on cell protoplasm by acids and alkalies acting under conditions which imitate or exaggerate those under which the phenomena of chemotaxis are produced. The animal used in the experiments was *Paramœcium aurelia*. He found that an exposure of paramecia to acids or alkalies of a concentration sufficient to kill in twenty or thirty minutes does not affect the staining reaction of the organism. Prolonged exposure to acids or alkalies of higher concentration causes the well-known appearance of "accentuation" of basic and acid staining respectively, but this is a change affecting protoplasm after death, and, therefore, is a different order from that occurring in relation to chemotactic phenomena. Paramecia killed by the constant current resembled paramecia killed by acids and alkalies of minimum lethal concentration in respect to the absence of any alteration of staining reaction. The protoplasm of paramecia killed by mineral acids or by alkalies of low concentration gives no evidence of acid or alkaline reaction with methyl orange or phenolphthalein. Organisms killed by the constant current do not exhibit any acid or alkaline reaction.

2. **Nephrorrhaphy.**—Newman reports a unique case of floating kidney in which nephrorrhaphy was performed successfully. The patient, a lady, aged 37, complained of "abdominal distress." The right kidney was freely movable, and could be pushed well beyond the middle line in front down into the pelvis and upward under the ribs; but when it was once reduced to its normal position it remained there, and could not be readily disturbed unless the patient walked about for some time. Deep inspiration sometimes forced it downward, when it would shoot suddenly from the margin of the thorax toward the umbilicus. On palpation, the whole organ could easily be caught up in the hand and its form traced. On examining the kidney through the operative wound it was found to have a distinct mesonephron. There was no fatty capsule. Four sutures were inserted into the kidney, and the depth of the wound packed with iodoform gauze. The patient made an uneventful recovery.

3. **Leukanemia.**—Weber reports a case which seemed to combine certain features of pernicious anemia with those of a "mixed-cell" pseudoleukemia, in a man, aged 58. There was no history of malaria, but the patient acknowledged specific disease. The red blood corpuscles numbered 1,800,000, and the white cells 3,000 per cmm.; hemoglobin, 25 to 30 per cent. of the normal; poikilocytosis was present. The leucocytosis was due to the marked increase in the small and large lymphocytes, which comprised 59 per cent. of the total number of white cells. The polynuclear leucocytes were diminished in number almost one-half. Myelocytes and erythroblasts (normoblasts, microblasts and megaloblasts) were seen. There was also polychromatism and leucopenia. The main features of the case were progressive waxy pallor and asthenia, with maintenance of subcutaneous fat; changes in the red cells similar to those occurring in true pernicious anemia; absence of true leukemic changes in the blood; presence of slight myelocythemia and inverted proportion of lymphocytes to polymorphonuclears; no abnormal amount of pigment in the urine; pathologic changes in the hemopoietic tissues similar to those occurring in "mixed-celled" leukemia or pseudoleukemia; hyperplasia of connective tissue in the bone marrow from the shaft of a long bone; hyperplasia of the spleen and prevertebral hemolymph glands; absence of enlargement of ordinary lymph glands; absence of any reaction in sections of spleen, liver and kidneys for free iron, such as is found in pernicious anemia.

The Lancet, London.

June 18.

9 Deaths in Childbed: a Preventable Mortality. W. Williams.
10 Lymphatics of the Larynx and Their Relation to Malignant Disease of that Organ. P. R. W. de Santi.
11 *Etiology of Scurvy. M. Coplans.
12 Treatment of Tabes Dorsalis and Its Prognosis. M. Faure.
13 *Hour glass Contraction of the Uterus. T. Rendall.
14 Analytic Examination of Urine. A. H. Allen and A. R. Tankard.
15 Nephrectomy After Injury. H. T. Cox.

11. **Scurvy.**—Coplans reports the results of his study of a number of cases of scurvy occurring among Europeans and natives at a military camp. The subjects of these cases presented during life spongy, bleeding gums, lassitude, anemia, breathlessness on exertion, followed later by lameness, associated with synovitis and hemorrhages, with brawny indurated swellings in one or both of the lower limbs. The urine was slightly acid. There was marked poikilocytosis. There were no nervous lesions. Death resulted from cardiac failure, and on postmortem the blood was found to be fluid; there were subserous, submucous, subpleural petechiæ. The heart was thin and pale, the right side dilated, and there was excess of serous fluid in the pericardium. He believes that scurvy in adults is not brought about by the absence of any particular kind of food from the dietary, but is more probably a specific infection of bacterial origin. The food used in the camp investigated was of the same quality and kind as that used in other camps, in which there was no scurvy. In the Middleberg camp, where the scurvy existed, the sanitary conditions were very poor, and many of the patients were either old or the subject of some neuroses. The infection appears to occur through the mouth, the general system being involved later and secondarily. Food may act as a vehicle under conditions of dirty

storage or dirty preparation, and, considering that the disease prevailed in inverse proportion to the standard of personal hygiene of the individuals affected, its infectivity would seem to depend on the unsanitary habits, and, perhaps, the unwholesome occupation of those who were its victims.

13. **Hour-Glass Contraction of the Uterus.**—Rendall reports seven cases of this kind that occurred in the last two hundred cases of labor that he attended. When the woman lies on her left side, and hour-glass contraction supervenes, the fundus is high up in the left hypochondriac region and hardly can be felt. As soon as the contraction occurs, and the palpating hand perceives it at once, the uterine cavity must be explored for the purpose of removing the placenta. Chloroform should be given to mitigate pain, if its use is not contraindicated. The explanation of this abnormal muscular contraction is that in a small proportion of cases the placenta can not be detached at once by these muscular efforts, and the retracting longitudinal muscular fibers, meeting the unexpected resistance, and exhausted by their recent prolonged efforts, relapse into a state of inertia. The circular fibers, however, below the placental site, acting simultaneously, find no resistance to their endeavors and contract firmly, thereby perhaps exerting an inhibitory action on the retractive longitudinal element below them.

The Practitioner, London.

June.

16 Mediterranean Fever in Egypt. F. M. Sandwith.
17 *The Dietetic Treatment of Diabetes. Robert Hutchison.
18 Sarcomata of the Alimentary Canal; with the Report of a Case. Edred M. Corner.
19 *Leucocyte-Counts in 83 Cases of Appendicitis. The Limitations of Leucocytosis as an Indication for Laparotomy. Herbert French.
20 A Simple Method of Estimating the Number of Leucocytes in the Blood; and Leucocytosis Considered as a Guide to the Diagnosis of Appendicitis. Maurice Cazin and Edmond Gros.
21 A Review and Study of Some Recent Writing on Arthritis and Kindred Disorders. F. J. Poynton.
22 Review of Recent Neurologic Literature. Wilfred Harris.
23 Surgery of the Gasserian Ganglion. Donald Armour.
24 Acute Necrosis of the Lining Membrane of the Urinary Bladder. C. W. Dean.

17. **The Dietetic Treatment of Diabetes.**—Hutchison lays down the following dietetic treatment for diabetes: It is not safe to feed a diabetic patient up to the limit of his powers of assimilation. In mild cases allow two ounces of bread, with abundance of carbohydrate-free foods, and continue such a diet as long as weight and general condition of the patient remain satisfactory. Twice a year subject him to a period of perfectly strict diet in order to give the carbohydrate-assimilating functions a complete rest. In severe cases, when the patient excretes more carbohydrate than he takes in, it is necessary to determine the presence of oxy-butyric acid in the urine before restricting the diet. If, on the addition of a few drops of solution of perchlorid of iron, the urine assumes a dark port-wine color, any change of diet must be made very gradually, for such a patient always is in danger of coma. The carbohydrates should be reduced slowly, and bicarbonate of soda should be administered in quantities of from ½ to 1 ounce daily. If there is no improvement, it is best to abandon all attempts at a rigid diet and allow a definite quantity of carbohydrates in the form of bread and milk. If the perchlorid reaction is negative, the strict diet may be prescribed without anxiety. Begin by eliminating sugar and all the grosser forms of carbohydrate; then the farinaceous food; then bread, and, finally, milk, each article being replaced as it is withdrawn by a carbohydrate-free substitute. The return of assimilative power may be tested by allowing a weighed quantity of bread; but, as a rule, the failure of assimilative power is progressive. If coma sets in, the best article of diet is skimmed milk, given freely, either plain or mixed with Vichy water, to which bicarbonate of soda may be added. Alcoholic stimulants should be used freely, as alcohol lessens the destruction of proteids, which are the source of the acid poisons that produce the coma. In elderly persons absolute strictness of diet is less necessary. If no complications are present, it is sufficient, usually, to stop the consumption of sugar altogether and to restrict that of starchy foods. Many such patients, especially the obese, are improved greatly by an all-around reduction in the quantity of food consumed. Alcohol should be used with caution, especially in the form of beer. If complications develop, more rigid dieting is necessary.

19. **Leucocyte Count in Appendicitis.**—French discusses the value of leucocyte counts in appendicitis as an indication for operation, and concludes as follows:

The value of leucocytosis in relegating a given case of appendicitis to its proper group, and in deciding whether an operation should be performed, is apt to be overrated. Its value is even less than that deduced by other observers from the figures they have found. Many cases with 20,000 leucocytes have resolved spontaneously; many with 15,000 or less have had pus present. At the same time leucocyte counts are valuable in certain cases. In no case where the leucocytes have reached 35,000 has pus been absent. A rising count is of more importance than the absolute number. At best, leucocytosis is but one clinical sign among many. By itself it may mislead, but taken in conjunction with the pulse rate, the temperature and the general condition of the patient, it is an additional sign which may be of the greatest value in diagnosis.

Journal of Tropical Medicine, London.

June 15.

25 *Filariasis and Yaws in Fiji. R. de Boissiere.
26 Analysis of 2,739 Bantu Out-patients. N. MacVicar.
27 Notes on 1,784 Cases of Malaria. L. M. Hope.
27½ Trypanosomiasis in Man. G. R. Ruata.

25. **Filariasis and Yaws.**—De Boissiere says that the former is extremely prevalent in Fiji, and that the individual adult who has not been attacked in some way by this disease is the exception. The most common manifestation is the condition of varicose groin glands, with occasional attacks of filarial fever, which is frequently mistaken by the laity for malaria. The treatment consists of absolute rest in bed, milk diet, hypodermic injection of antipyrin, 7 gr., and sodium salicylate, 10 gr., given twice in twenty-four hours, the injection being made in the lower part of the thigh. An ointment containing guaiacol and menthol is rubbed in over the affected groin, and sometimes a lotion containing menthol and spirits of wine was applied freely to the inflamed areas. This treatment, as a rule, is a most satisfactory one. The tertiary manifestations of yaws are ulcers, known locally as "vidi koso," which may attack any portion of the body in any number. They are almost always very foul and fetid, and, unless treated, may last many years; pains in the bones and joints, called "sasala"; ulceration of the throat, known locally as "kanailoma"; lupoid ulcerations of the face and nose; gummata in the subcutaneous tissues or in the muscles; enlargement of the tibia; synovitis; dactolitis, and "soki," the local name for a small granuloma often affecting the soles of the feet and occasionally the palms of the hands. Potassium iodid, in doses of gr. 10 to gr. 20, three times daily, produces most brilliant results. Mercury is less useful, although in some cases the addition of 15 to 30 minims of liquor hydrargyri perchloridi to each dose of the iodid has appeared to be of great benefit. For the associated anemia, the syrup of the iodid of iron is better than the iodid of potassium. Local treatment often hastens a favorable issue. The ulcers are scraped, then cauterized with zinc chlorid (gr. 40 to dram 1 of water), and dusted with iodoform. A menthol-iodin-glycerin paint is useful for the ulcerations in the throat, and for the lupoid-like ulcers of the face and nose salicylic and mercurial ointments are useful. For the immediate relief of localized pain, the repeated application of small fly-blisters appears to be of service. The relationship of yaws to syphilis is a most intimate one. Both appear in three successive stages, and there is a remarkable similarity of the tertiary manifestations. The effects of treatment, especially in the tertiary stage, where the similarity between the two is greatest, are very much the same. Fijian yaws appear to confer an immunity against syphilis. On the other hand, there are differences between the two diseases, such as the mode of infection, the character of the secondary eruptions, the rare occurrence of tertiary frambesial affections of the nervous system, the affection of the permanent teeth, etc. Some of these differences may be accounted for by saying that at one time syphilis and Fijian yaws must have been intimately related, and that such intimacy was so great that these two diseases must have developed from a "parent form" common to both. During the course of their evolution certain specific differences appear to have developed, and so account for the fact that Fijian yaws is, at least, a close "first cousin" to syphilis to-day.

Bulletin de l'Académie de Médecine, Paris.

28 (LXVIII, No. 22.) *Etude statistique sur la mortalité cancereuse. Foucault.
29 Sur l'hygiène de l'alimentation des enfants du premier age. Porak.

28. **Prevalence of Cancer in a Forest Region.**—Visitors to France will remember the forests near Paris, in the center of which lies the town of Fontainebleau with 14,000 inhabitants. Foucault has been making a statistical study of the cases of cancer that have occurred there during the last forty years, to determine whether the environing forests have had any influence in its occurrence. Cancer has been the cause of 7 per cent. of the total deaths, that is, 759 out of 11,048. In examining the so-called cancer houses he noted that they were always badly ventilated, with little, if any, exposure to the sun, in the lower and damper parts of the town, the dampness maintained by the building materials and defective drainage of sewage and rain water.

Presse Médicale, Paris.

Last indexed page 83.

30 (I, No. 38.) *Combined Method of Treating Strictures and Chronic Inflammations of Urethra. P. Philippe.—Nouvelle méthode combinée pour la cure des rétrécissements et des inflammations chroniques de l'urètre.
31 Technique et indications de l'électrolyse circulaire des rétrécissements de l'urètre (strictures of urethra). H. Minet and J. Aversenq.
32 *Traitement de l'incontinence d urine (variété infantile) par la faradisation du sphincter urétral. Genouville and Compain.
33 (No. 38.) *To Disguise the Taste of Oils. Boissel. Abstract.
34 False Floating Kidney. M. de Langenhagen.—Le faux rein flottant.
35 (No. 40.) *Des mesures exactes en radiologie. Mensurateur de Gaiffe (Gaiffe's radiometer). A. Zimmern.
36 Origines et tendances de la chirurgie contemporaine. P. Reclus.
37 (No. 41.) *Emploi du peroxide de zinc en chirurgie. Chaput. Abstract.
38 Le teinture d'iode dans le traitement de la tuberculose pulmonaire. Delearde. Abstract.
39 Les sarcomes du vagin dans l'enfance (in children). A. Le Dentu.
40 (No. 42.) Les troubles de la sensibilité. Les prurits. F. Trémolières.
41 Report of French Obstetrical Congress. (First part in No. 39.)
42 (No. 43.) L'insuffisance respiratoire. Traitement par la gymnastique et la rééducation respiratoires. G. Rosenthal.
43 De la radio-activité des eaux de Plombières (of Plombières waters). E. Hamaide.
44 (No 44.) *Le massage du coeur (of heart). M. D'Halluin.
45 *La ligature élastique du poignet dans la sphygmomanométrie radiale (ligature of wrist). R. Bayeux.
46 (No. 45.) *To Remove Picric Acid Stains. Abstract.
47 La question des séborrhéides. R. Sabouraud.
48 Physiologie du courant électrique. Ses propriétés. L'Intensite. A. Zimmern.
49 (No. 46.) *La Spondylite syphilitique ou mal de Pott syphilitique. Froelich (Nancy).
50 Action diastasique et énergie primaire de la matière vivante (of living matter). A. Martinet.

30. **Combined Method of Treating the Urethra.**—Philippe combines slow and gradual negative electrolysis of the urethra with external application of the continuous or alternating current, and lavage of the urethra with carbonic acid gas, heated to 45 degrees C. and passed through cotton impregnated with essence of clove and cinnamon. He describes the reasons for the peculiar efficacy of this combination and its results in practice. Carbonic acid is remarkable for its power of dialysis. It passes through membranes, etc., ten times more rapidly than air, and in Gautier's hands has been more successful than any other measure as an adjuvant for the cure of varicose ulcers, torpid, rebellious wounds and suppurations of the middle ear. The gas enters the narrow cylinder, which is inserted in the urethra, and passes along over an electric lamp of sixteen candle-power, and thence through cotton impregnated with the disinfecting essences, thus emerging heated to 45 degrees C. and charged with the essences which it carries into the remotest crevices.

32. **Faradic Treatment of Urinary Incontinence.**—This method of treatment is particularly effectual in children and especially in those who have had incontinence from the earliest infancy. Of 40 subjects, 55 per cent. were cured and 63 per cent. of the children between 6 and 12 years old. The sittings numbered from 5 to 8 in the "congenital" cases, while the others required 6 to 16, with the exception of 5, who had 20 to 29 sittings. Improvement during the first week—even if slight—is a favorable sign that a cure will be attained finally. The electricity may be applied directly to the sphincter or to the region. All but 20 per cent. of the subjects were improved or cured, and in 16 a complete cure was realized in a maximum of 16 sittings.

33. **To Disguise the Taste of Oils.**—In an effervescing fluid medium oil becomes coated with bubbles which isolate it completely in a capsule, as it were, so that the oil does not come in contact with the tissues while it is being swallowed. It can thus be given in beer without its being tasted, but better still is a powder which Boissel has compounded. It causes violent effervescence when mixed with water, while it is simple, harmless and inexpensive. It is merely a combination of gum arabic, licorice, lactose and althea. The effervescence lasts for some time.

35. **The Gaiffe Measure for Radiology.**—An isolated milliampere meter is introduced into the circuit in such a way that it measures the quantity of *x*-rays emitted. By a further device the resistance of the tube for a given voltage can be determined and maintained at this point. No interrupter is needed.

37. **Peroxid of Zinc in Surgery.**—Peroxid of hydrogen is not durable and after the oxygen has been liberated nothing remains but water, and water is destructive to the cells. Chaput thinks that peroxid of zinc combines all the advantages of peroxid of hydrogen with none of its drawbacks. It has the same properties as zinc oxid, but with an additional molecule of oxygen, which it yields readily, especially in contact with the tissues. He has applied it to recent and old wounds, burns and torpid lesions. Gauze medicated with it aids in the healing, at the same time suppressing odor, as he found in 10 cases in which it was used as a dressing after colpotomy. He has found it always an energetic antiseptic, neither irritating nor toxic, keeping well and easily sterilized.

44. **Massage of Heart.**—D'Halluin reviews the history of the attempts to revive the arrested heart by massage, and relates personal experiments in this line, both with massage alone and with intravenous injection of adrenalin or intra-arterial injection of Locke's artificial serum. He was able to resuscitate with the adrenalin a dog that had been asphyxiated for thirteen minutes, but the amount injected—1/10 mg. per kilo—was probably too large, as the animal died two hours later. Intra-arterial injections cause such distension of the right heart that it interferes with resumption of the heart's pulsation. This suggests the possibility that the heart might be catheterized by way of the jugular, and the oxygenated venous blood reinjected into an artery. This would realize a kind of auto-infusion. In experimental research, massage of the heart has established its efficacy, but the results on man have been practically *nil*, with the exception of Haag's and Starling's experiences. The principal cause of the failure seems to be the production of a fibrillary trembling under the influence of the massage. Perhaps this may be obviated by Batelli's technic, introducing one electrode into the rectum with the other, consisting of two small discs, applied over each ventricle. Artificial respiration is started and the heart is massaged at the same time. As the oxygenated blood enters the coronaries the fibrillary tremor is observed, but it can be arrested by turning on the current (240 volts) for a second or two. It can also be arrested by an intravenous injection into the jugular of 1 gm. of potassium chlorate. By combining the massage with artificial respiration, the myocardium is relieved of its intoxication, and rhythmic pulsation recommences after an interval of ten to forty-five minutes, and sometimes longer. The massage of the heart induces an actual circulation, as it reanimates and maintains the bulbar activity. But the blood must still be fluid and the nerve centers relatively intact for it to be effectual. It should always be combined with artificial respiration.

45. **Ligature of Wrist as Aid to Sphygmomanometer.**—An elastic band slipped over the wrist enables the instrument to be used without an assistant.

46. **To Remove Picric Acid Stains.**—Apply a pinch of lithium carbonate to the spot on the skin or linen, and wet it. The spot will vanish at once if fresh, and in two minutes if the stain is older.

49. **Syphilitic Spondylitis.**—In this affection the spine is exceptionally straight instead of the normal lordosis. The vertebral body becomes larger in places and perforated by the soft gumma at others, while the process affects the various parts, especially the articular apophyses. A small tumor may be palpated instead of the hump of the tuberculous disease. Stigmata of syphilis, congenital or acquired, confirm the diagnosis. Persevering specific treatment is indicated—a cure was obtained in two years in one of the 2 cases reported. It is important to maintain the spine and head in a good attitude by an orthopedic apparatus.

Semaine Médicale, Paris.

51 (XXIV, No. 23.) Inadmissibility of the Mosquito Theory as the Sole Base for Etiology and Prophylaxis of Malaria and Yellow Fever. L. Chelnisse (Paris).—La théorie des moustiques peut-elle être admise comme base unique de l'étiologie et de la prophylaxie du paludisme et de la fièvre jaune?

52 Treatment of Nasal Hydrorrhea with Superheated Air. J. Grélety-Bosviel. Abstract.

53 Importance of Hair-growing Flaps for Regions Normally Covered with Hair. H. Morestin. Abstract.

Berliner klinische Wochenschrift.

54 (XLI, No. 22.) *New Hemostatic Derived from Spleen. T. Landau.—Ein neues, durch Autolyse der Milz gewonnenes Blutstillungsmittel (Stagnin).

55 *Surgery of Buccal Cavity. Brandt (Berlin).—Zur Chirurgie der Mundhöhle.

56 Fatal Hematemesis from Miliary Aneurism of Artery in Stomach Mucosa. H. Hirschfeld.—Fall von tödtl. Blutung in Folge miliaren Aneurysmas einer Magenschleimhautarterie.

57 Fall von Sinus pericranii. M. Litthauer.

58 Klinische Erfahrungen mit "Bioson," einer Eiweiss-Eisen-Lecithin Verbindung (compound of lecithin, iron and albumin). M. Heim.

59 (No. 23.) Surgery Fifty Years Ago and To-day. F. König.—Die Chirurgie vor 50 Jahren und die heutige Chirurgie.

60 *Ueber Phlebitis gonorrhoica. J. Heller.

61 *Aims, Progress in and Importance of Œsophagoscopy. G. Glücksmann (Berlin).—Ziele, etc., der Oesophagoskopie.

62 Process of Fatty Degeneration. G. Rosenfeld.—Der Process der Verfettung.

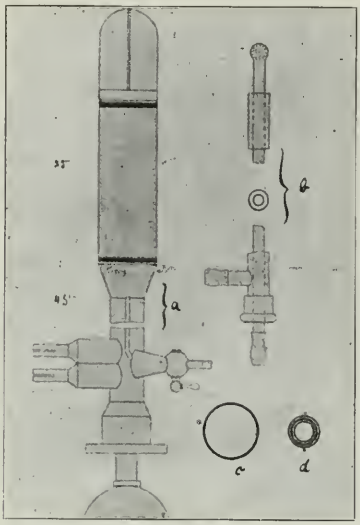
54. **Hemostatic and Tonic Derived from Spleen Substance.**—Landau found the spleen always exempt when the other parenchymatous organs were invaded by cancer metastases. This suggested the possibility that the spleen substance might have some value for the treatment of cancer. His experiments in this line have so far been completely negative, but he learned from them that the spleen substance contains so much iron with its albumin that in concentration and action it far surpasses all known artificially compounded preparations of iron. He consequently has been using it in the treatment of anemia, after establishing its entire harmlessness, and proposes to publish his results soon. In the meantime he announces that this research has led to the discovery that the spleen substance has a most remarkable hemostatic action. He, therefore, hastens to proclaim that the spleens of animals, after antiseptic autolysis, form an effective hemostatic. It does not act like adrenalin, but seems to influence the coagulating property of the blood and controls bleeding from the capillaries. No action was observed on the arteries nor when applied locally. Its chief scope will probably be in hemorrhagic gynecologic affections, in hemoptysis, gastric ulcer, and hemorrhage from any of the internal organs, but there is a prospect that it may prove useful also as a prophylactic before surgical intervention. It is the first organ product for use in therapeutics made according to Salkowski's technic of antiseptic autolysis. The fresh spleens of horses were the only ones used. The scraped pulp was mixed with double its volume of .91 per cent. salt solution, first rendered alkaline, and chloroform to supersaturation was added. The ingredients were thus 100 gm. pulp, 200 c.c. of .91 per cent. salt solution, 1 c.c. soda solution and the chloroform. It was set aside for twenty-four to forty-eight hours at a temperature of 30 to 37 degrees C. (86 to 99 degrees F.). It was then filtered and used or the filtrate was evaporated to one-fourth its volume or to a powder, which was then dissolved. The most effective preparation proved to be the one in which the original filtrate was evaporated to one fourth, then precipitated with alcohol and filtered. The residue was dried with alcohol to a powder which dissolved in water, forming a limpid, odorless and bright yellow fluid. The name of stagnin has been applied to the latter. It was injected into the muscles or subcutaneously in 59 gynecologic cases of hemorrhage, and almost invariably arrested the hemorrhage or at least checked it considerably. Later experiences indicate that the same effect, although not quite so pronounced, may be obtained from administration by the mouth.

55. **Surgery of the Buccal Cavity.**—Brandt gives a number of illustrations to show the technic of his methods of uranoplasty, staphylorrhaphy, etc., combined with the use of prothesis. One of his most ingenious plates consists of an artificial nose with a long peg projecting inward, used in a case of syphilitic destruction of the nose and palate. The plate holding the teeth and roof of the palate for the upper jaw has a similar long peg rising vertically from the back of the prothesis. It terminates in a ring at the top. The peg from the nose fits into this ring, at a right angle, each part thus holding and supporting the other. Photographs of a patient thus treated show that the functional and cosmetic result is very fine. Several other patients had coincident syphilitic and lupus lesions, requiring more extensive prothesis on these principles, the apparatus consisting of nose, part of the cheek and ear. The latter was held in place by a wig arrangement, but the nose was fastened by the peg perforating the palate and projecting into the apertura pyriformis nasi. In another patient the artificial eye and the jaw plate were fastened together by a rod passing from the orbit to the plate below. His prothesis for compensating unoperated cases of cleft palate consists of a plate, tourniquet and inflated rubber bulb, the latter closing the gap completely.

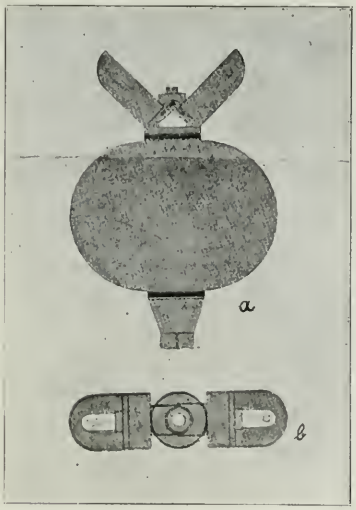
60. **Gonorrheal Phlebitis.**—Heller has found 24 cases in the literature resembling the one personally observed and described. It is the first one published in Germany. The veins in the legs are most frequently involved, the saphena being affected in 16 out of the total number and the femoral in 6. In 6 cases several vein systems were involved.

61. **Improved Technic of Esophagoscopy.**—Glücksmann has long been experimenting to perfect the technic of esophagoscopy, and the 8 illustrations he gives of the findings with his new instrument sustain all his assertions in regard to its remarkable efficiency. The esophagoscope should now come into current use, like the cystoscope, at the slightest suspicion of malignant disease. The electric lamp is introduced to the site of the lesion and the lumen of the esophagus can then be widened to five times its ordinary diameter, thus allowing detailed examination. His esophagoscope consists of a short, narrow cylinder and optic tube. The cylinder is connected with an electric light service and a bulb containing water. After the cylinder has been introduced to the point to be examined, water is forced into the rubber bag which forms the proximal part of the cylinder. This ring-shaped bag is then distended until its outline becomes that of a flattened sphere, pushing back the walls of the esophagus. The distal third of the cylinder is formed of a metal sheath, the halves of which open back like the calyx of a flower. In each half there is a small electric light, backed by a reflector, the whole short enough to escape contact with the walls of the esophagus when stretched apart by the distended bag above. His efforts to perfect esophagoscopy seemed to him almost an idle waste of time, as surgical intervention on the esophagus was fraught with such difficulties that it was seldom feasible. But the invention of Sauerbruch's air chamber for intrathoracal operating has stamped his work as extremely important and timely. It is now possible to examine the walls of an organ as readily as the bladder with cystoscopy and to operate on it with comparative ease. In every case of sudden decline with vague dyspeptic symptoms, the possibility of cancer of the esophagus should be borne in mind, and it should be visually inspected without delay. He adds, in conclusion, that all attempts at gastroscopy to date have been more or less a failure by all the known technics. In the illustrations *a* represents the part tapering into the tube which emerges from the mouth. It is

about 45 cm. long, while the part of the cylinder carrying the inflatable bag is 4 cm. in length. Mucus, saliva and blood can be rinsed out easily and rapidly by the little contrivance shown at *b*, the rinsing readily substituting visual inspection.



The entire procedure is so simple and free from inconveniences that he has been able to take four pictures at a single sitting in a patient submitting to esophagoscopy for the first time.



Centralblatt f. d. Grenzgebiete der Med. u. Chir., Jena.
Last indexed XLII, page 66.

63 (VI, No. 21.) *Beitrag zur Diagnose der Lithiasis pancreatica. D. G. Zesas (Berne). Critical review of the literature.
64 (No. 22.) *Liver Abscess. F. Perutz.—Der Leberabscess. (Commenced in No. 17.) Critical review.
65 (No. 23.) *Congenital Dilatation of Colon. O. Silberberg.—Ueber angeborene Colonerweiterung. Critical review.
66 *Tabetic Bone and Joint Affections. S. Adler.—Ueber tabische Knochen- und Gelenkserkrankungen. (Commenced in No. 22.) Critical review.
67 *Die operative Behandlung der Nephritis. W. Klink. (Commenced in No. 17.) Critical review.
68 (VII, Nos. 1-2.) *Chronic Rheumatic Affections in Children. L. Laufer.—Die chronisch rheumatischen Erkrankungen im Kindesalter. Critical review.
69 (No. 4.) Die Metamerie der Haut (of skin). O. Grosser. (Commenced in No. 1.) Critical review.
70 (No. 5.) *Adiposis dolorosa (maladie de Dercum). A. Weiss. (Commenced in No. 1.) Critical review.
71 (No. 7.) *Indications and Results of Total Extirpation of Spleen and Its Physiologic Action. R. Laspeyres.—Indikationen und Resultate totaler Milzexstirpation nebst Betrachtungen über die physiologische Wirkung derselben. (Commenced in No. 1.) Critical review.
72 (No. 8.) Talma's Operation for Cirrhosis of Liver, Its Indications and Results. D. G. Zesas.—Die Talmasche Operation bei Lebercirrhose, ihre Indikationen und ihre Resultate. (Commenced in No. 6.)

63. **Diagnosis of Stones in Pancreas.**—In a case recently under Zesas' observation the diagnosis wavered between biliary and pancreatic lithiasis. The secondary manifestations of the latter are glycosuria and steatorrhea, with dyspeptic troubles. In only 7 published cases has the diagnosis been established during life, in 2 instances by Leichtenstern. Zesas reviews 33 publications on the subject, including several from America. Pancreas colic commences either with an intense pain between the shoulder blades, radiating to the left thorax, and becoming localized in the epigastrium, generally in the middle or toward the left, or else the colic commences with a sensation of constriction and oppression in the epigastrium and left costal arch, radiating thence toward the spine as excruciating pain. The liver region is comparatively exempt. The calculi formed in the pancreas consist of calcium phosphates and carbonates with some organic matter, forming a soft or chalky, whitish gray sand or stone. Fatty stools are not constant and are a tardy, secondary phenomenon when observed. Glycosuria is one of the most frequent and most constant symptoms, due to injury of the pancreas from the stones.

64. **Liver Abscess.**—Perutz has sifted the literature on this subject during the last ten years—234 articles in all—and finds that the consensus of opinion is in favor of exploratory puncture as a harmless means of differentiating. He ascribes the etiology of liver abscess in tropical and subtropical regions to amebic dysentery in the majority of cases. Leucocytosis is a valuable differentiating sign and likewise radioscopy. A suppurative process secondary to cholelithiasis has a good prognosis, but this is not the case with abscesses in the liver when consecutive to appendicitis; they are frequently complicated with suppurative thrombosis of the portal vein, and the prognosis is unfavorable in general.

65. **Congenital Dilatation of the Colon.**—Silberberg reviews 25 communications that have been published on this subject and admits that our knowledge in regard to it is still vague. Treatment is mainly symptomatic—introduction of a tube to allow the escape of gases, high injections and purgatives, massage of abdominal walls, and electricity applied to abdominal muscles. An artificial anus would not insure a permanent cure, and few infants would survive so severe an operation as resection of the dilated bowel.

66. **Tabetic Bone and Joint Affections.**—Adler finds that the symptoms and course of tabetic bone and joint lesions are described in about the same terms in the 155 articles which he reviews. Surgical intervention is not advisable in most cases on account of the general involvement of the bones in the process, but should not be rejected for every case, although the after-treatment requires exceptional care to prevent decubitus and infection of the urinary passages, on account of the weakness of the bladder and the analgesia. Resection is indicated only in cases allowing the prospect that the patient can afterward get about. Supporting apparatus must be used even after resection, to prevent recurrences, as complete consolidation after resection is obtained only in a few instances.

67. **Operative Treatment of Nephritis.**—Klink classifies the cases reported in the literature, going over 155 communications. Fourteen different methods of operative intervention were followed in the 66 cases of supposed nephritis thus

treated. Of this total 32 were cured, 14 improved, 7 persisted unmodified and 13 died after operation. Out of the 8 cases of acute parenchymatous nephritis 6 were cured, and 5 were cured or improved in the 7 cases of chronic parenchymatous nephritis. Of 24 cases of chronic diffuse nephritis 5 were cured, 10 improved and 7 died. Of 27 cases of chronic interstitial nephritis 32 were cured, 14 improved and 13 died. The proportion of recoveries for these classes is thus, 75 per cent., 56 per cent., 21 per cent. and 63 per cent. The results, therefore, were best in acute parenchymatous nephritis, but this affection frequently subsides spontaneously. On the other hand, the proportion of 63 per cent. recoveries in the chronic interstitial variety may be regarded as a brilliant success, as the prognosis for these cases is otherwise bad. The cures in the 18 cases operated on for hemorrhage form a total of 66 per cent., while in the 35 cases in which the intervention was undertaken on account of symptoms of nephritis, 54 per cent. were cured and 8 patients were much improved.

68. **Chronic Rheumatic Affections in Children.**—Laufer reviews the 89 works on this subject that have appeared since Pribram and Johanessen's summaries. The number of remedies and medical measures is large, but the physician frequently finds that none of them prove effectual. Possibly the future will realize the hope expressed by Menzer that injections of serum may be able to modify the chronic, incurable cases in such a way as to render them amenable to treatment by transforming them into an acute, curable condition.

70. **Adiposis Dolorosa.**—Weiss describes the clinical picture of Dercum's adiposis dolorosa and comments that its course is extremely chronic and therapeutic influences uncertain. The pathologic findings, in connection with theoretical assumptions, suggest the participation of the thyroid gland in the etiology. His work is based on a bibliography of 45 articles.

71. **Indications and Results of Splenectomy.**—Laspeyres concludes from his critical review of 320 articles—1894 to 1903—on the physiologic action of the spleen and the history of surgical intervention, that the function of the organ and its significance for the normal organism are still shrouded in darkness. Two instances are on record of severe infectious disease in a splenectomized subject. One passed through typhoid and recovered. The other had a four weeks' pneumonia. Convalescence was slow and there was marked lymphocytosis without eosinophilia, persisting to a certain degree when examined a year later. Experimental research indicates that the spleen as a lymphocyte organ performs some important function in infectious diseases, but the authors take conflicting views in regard to it.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

73 (XXX, No. 23.) Ueber den Wert der Hemolysin-Bildung der Vibrionen für die praktische Cholera-Diagnose. Meinicke.
74 *Ueber den Mechanismus der Tuberkulin-Immunität. E. Loewenstein and E. Rappoport (Belzig).
75 Demineralisation und Tuberkulose. F. Steinitz and R. Weigert (Breslau). Conclusions negative.
76 *Molecular Concentration of Blood and Urine in Case of Bilateral Kidney Disease. F. Poly (Würzburg).—Bestimmungen der molek. Konzentration des Blutes und des Urins bei doppelseitigen Nierenerkrankungen.
77 Zur Kasuistik der Purpura cachectica. T. Voeckler.
78 Free Body in Both Knees with Habitual Outward Luxation of Patella. W. Bocker.—Fall von freien Gelenkkörpern in beiden Kniegelenken, etc., mit doppelseitiger habitueller Luxation der Patella nach auszen.
79 *Ueber eine neue Funktionsprüfung des Herzens (functional test of heart). M. Katzenstein (Berlin). (Commenced in No. 22.)
80 Aspirin und Karzinom (for symptomatic treatment). J. Ruhemann.
81 Ozena, heilbar durch Behring'sches Serum antidiphthericum. K. Tarnowski. 2 cases cured, 1 improved.
82 Einseitiger Nystagmus (unilateral). E. H. Oppenheimer.
83 Die Walderholungsstätte in Dessau (fresh air, day resorts for the tuberculous). W. Llermann.
84 Provision for Advanced Consumptives. Elkan.—Fürsorge für vorgeschrittene Tuberkulöse.

74. **Tuberculin Treatment and Immunity.**—This communication issues from the great Belzig sanatorium. The writers emphasize the fact that their experiences with the isopathic treatment of tuberculosis have been most favorable, and justify its adoption on a large scale. They followed the Gutmann and P. Ehrlich technic as modified by Goetsch, Moeller and Petruschky, allowing an interval of three or four days between the injections of the tuberculin. In case of a reaction they wait a week, but do not increase the dose. They commence with .1 mg. and terminate with 1,000 mg. of tuberculin. An evenly balanced mixture of toxin and antitoxin, injected into a normal subject, does not cause any appreciable reaction. On the contrary, when the evenly balanced mixture is injected into a subject rendered immune by isopathic procedures he responds with a production of antitoxin. The supersensibility of the tuberculous organism is the cause of the specificity of the reaction to tuberculin used as a diagnostic. The larger this diagnostic dose the easier the transition to immunity in continuing the tuberculin as a therapeutic measure. When the subject no longer reacts in any way to a dose which formerly caused a febrile reaction, then he is called immune, and the degree of immunity is expressed by the last dose tolerated without reaction. Of 189 cases thus treated 85 have been followed long enough to draw definite conclusions, after having reached an immunity represented by a minimal dose of 10 mg. Forty-eight were cases of closed tuberculosis and 35 of these have been cured, 9 essentially improved and 4 improved. Of 16 cases of mild, open tuberculosis 11 have been cured and 5 essentially improved. Of 21 cases of severe, open tuberculosis 6 have been cured, 9 essentially improved and 6 improved. These results and those observed in the balance of the cases treated corroborate the announcements in regard to the benefits to be derived from isopathic therapy in tuberculosis. See the article by Goetsch reviewed in THE JOURNAL of July 13, 1901, xxxvii, p. 150.

76. **Cryoscopy in Bilateral Nephritis.**—Poly found the molecular concentration of the blood normal in 3 cases of extremely severe uremia. In another case of bilateral nephritis he found the molecular concentration extremely high and thus persisting for twenty days, but with no appreciable symptoms of uremia, as also in another case. The freezing point of bladder urine multiplied by the amount of urine in the twenty-four hours, gives what Strauss calls the "Valenz," and this is diagnostically important, especially when compared for several days in succession. The "Valenz" rises as the freezing point of the blood returns to normal.

79. **New Functional Test of the Heart.**—The first part of Katzenstein's article was summarized in these columns last week, page 85. His test is based on observation of the manner in which the heart responds to the extra task imposed by transient compression of two symmetric arteries. If the heart is capable, it merely sends out a stronger wave, without increasing its beat. The blood pressure rises 5 to 15 mm. mercury while the beat is unaltered or slightly retarded. In case of a competent, hypertrophic heart the blood pressure becomes plus 15 to 40, the pulse the same or less. In case of slight insufficiency, the pressure does not rise, but the pulse remains the same or is accelerated. In severe insufficiency the pressure drops while the pulse is accelerated. In short, any increase in the pulse under compression of the iliac or femoral arteries for two and a half to five minutes indicates that the heart is below par. The subject should be reclining and in a tranquil mood.

Münchener medicinische Wochenschrift.

85 (LI, No. 19.) *Licht-Therapie nach Professor v. Tappeiner (phototherapy). Jesionek.
86 The Phenomena of Precipitation. M. Neisser and U. Friedemann.—Studien über Ausflockungserscheinungen. Beziehungen zur Bakterien-Agglutination.
87 *Ueber Hemoglobin-Untersuchungen in Fällen von chronischen Herz-Krankheiten (heart diseases). Schott (Nauheim).
88 Komplizierte Fremd-Körper-Perforation eines Traktions-Divertikels des Oesophagus. H. Marx.
89 Pneumonie, Meningismus und Aphasie. E. Doernberger.
90 *Einfluss des alpinen Klimas auf Nephritis und "Zyklische" Albuminurie. P. Edel.
91 Das Gipsbett zur Behandlung der Skoliose und Kyphose (plaster bed). R. Lammers.
92 *Die moderne Therapie des Ophidismus in Brasilien. E. v. Bassewitz (Porto Alegre).
93 Zur Kasuistik der chron. kontinuierlichen Magensaftfluss (gastrosuccorrhea). Reinhard.
94 Instrumenteller Beitrag zur chirurgischen Behandlung der Tonsillar-Abszesse. H. Ziegner.
95 Transportabler Sterilisations-Apparat für Verbandstoffe und Instrumente. Aronsacher.
96 Ein neuer zangenartiger Nadelhalter mit bündiger Sperrvorrichtung (needle holder with firm lock). M. Liese.

85. Tappeiner's Method of Phototherapy.—Painting the tissues to be exposed with a .1 to .01 per cent. solution of eosin enhances the action of light on the tissues. Jesionek uses diffuse sunlight or concentrated sunlight and also concentrated electric light. His experience has shown that a stronger solution actually prevents the therapeutic action of the light. Tappeiner's communications on this subject were reviewed in these columns, page 68 of the last volume.

87. Hemoglobin in Chronic Heart Disease.—Schott analyzes a number of cases in which the hemoglobin was rapidly restored to normal during a Nauheim course of baths and exercises, although in all there was some heart affection, muscular weakness, exophthalmic goiter or chronic myocarditis, with or without a kidney affection. He found that the proportion of hemoglobin returned more rapidly to normal in young and middle-aged subjects than in the elderly—other conditions being equal. Even when the latter feel subjectively much better under the influence of the treatment, yet the hemoglobin percentage still remains low. He has observed that excessive physical exertion, violent emotions or a febrile affection are able to reduce the proportion of hemoglobin very rapidly, in some cases even instantaneously. The rise in hemoglobin was very marked in some of the cases he describes. In a lad of 14 with aortic incompetency after polyarthritis, the hemoglobin rose from 55 to 78 per cent., the blood pressure from 105 to 118 mm. in thirty-five days, during which time twenty-four baths had been taken. In a man of 44 with debilitas cordis and dilatation of both ventricles, the hemoglobin rose from 75 to 85, but then dropped back to 80 in consequence of a febrile bronchitis.

90. Mountain Climate in Relation to Nephritis and "Cyclic" Albuminuria.—Edel relates that four nephritic subjects had long been under his observation and he went with them into Switzerland to a point about 4,080 feet above the sea. He found that the blood pressure rapidly rose even at rest, and went still higher during mountain climbing, and that this tendency persisted after a return to the plains. These observations were contrary to the favorable effect of Alpine trips on "cyclic" albuminuria. His experience has convinced him that a mountain climate is contraindicated in case of nephritis and of high pressure from any cause, but that the same cause which renders it injurious in these cases—the increased vascular tension—affects "cyclic" albuminuria favorably. It has also a favorable effect on subjects who present the appearance of "cyclic albuminuria" but without the albumin in the urine. The indications for the mountain climate are subnormal tonicity and too wide arteries, such as we find in exophthalmic goiter, for instance.

92. Treatment of Snake Bite.—Bassewitz comments on the efficacy of Vital Brazil's method of serum treatment of snake bites. It is made on the same principles as Calmette's antivenin, but with the snake venom found in Brazil, Calmette's serum not having any action on these snakes. It is impossible, however, to obtain it in remote districts without such a delay that the time for its action has usually long passed. The pharmacists of Brazil do not care to keep it on hand, as it is expensive and spoils readily. Consequently, notwithstanding that the serum treatment of snake bite has fully established its efficacy, yet the occasions in which it can be used are few and far between. For this reason Bassewitz recommends a mode of organ treatment which has proved invariably successful in his extensive experimental research. It is based on Fraser's discovery that the dried blood serum of a certain poisonous snake of India is identical with its antivenin, a substance obtained from the blood serum of immunized animals. Bassewitz' technic is to cut out the liver of the snake—which is usually killed after it has bitten, or can be killed. The liver is triturated with 50 to 100 c.c. of a 7 per thousand salt solution, and after the whole has been mixed it is filtered through two layers of filtering paper or through a corresponding layer of cotton, and is then injected into the flank or scapular region. Careful asepsis is necessary, as also all the usual precautions such as ligature of the limb above the bitten spot, scarification of the wound and sucking out of the poison, possibly using a cupping glass or any small glass. As a still further precautionary measure he recommends to drink the contents of the snake's gall bladder. It has been established that a large proportion of the snake poison is eliminated through the stomach walls, and ingestion of the bile per os thus brings its antitoxic properties directly into play.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

URIC ACID, an Epitome of the Subject. By Alexander Haig, M.A., M.D. Oxon, F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Cloth. Pp. 158. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co. 1904.

MEDICAL AND SURGICAL REPORT OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. Volume VI, January, 1904. Edited by Andrew J. McCosh, M.D., W. Gilman Thompson, M.D. Paste board. Pp. 331. New York: Trow Directory Printing and Bookbinding Co.

RADIUM, RADIOACTIVE SUBSTANCES AND ALUMINUM, with Experimental Research of the Same. By Myron Metzenbaum, B.S., M.D., Cleveland, Ohio. Paper. Pp. 24. Second Edition. Cleveland, Ohio: Babbitt & Crummell Co. 1904.

SEVENTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF OHIO for the Year Ending Dec. 31, 1902. Paper. Pp. 508. Springfield, Ohio: Springfield Printing Co. 1904.

ANNUAL REPORT OF THE BOARD OF HEALTH OF CITY OF WINONA, MINN. Year Ending March 31, 1904. Paper. Pp. 11. Winona, Minn.: Joseph Leicht Press. 1904.

MODERN MEDICINAL PRODUCTS. Paper. Pp. 30. For Gratuitous Distribution. New York: C. Bischoff & Co.

NEW PATENTS.

Pateuts issued from May 17 to June 7 ot interest to physicians:

760177. Atomizer. Isidor Brach, Philadelphia.
760102. Artificial limb. Wm. T. Carnes, Harmonsburg, Pa.
760061. Disinfecting apparatus. Gabriel Dubuis, Pimlico, London, England.
759882. Invalid bed. John Hall and H. A. Paddleford, North Monroe, N. H.
759885. Inhaler. John Q. A. Haughey, Battle Creek, Mich.
760395. Surgical instrument. Thomas A. Houghton, Rochester, N. Y.
759891. Drugists' mass divider. John W. Jackson, Weston, Mo.
760217. Truss. John E. Lee, Conshohocken, Pa.
760229. Bed pan. Christian W. Meinecke, Jersey City, and D. Hogan, Hoboken, N. J.
760248. Subcutaneous syringe. Louis Reich, Remda, Germany.
760018. Making medicated soaps. Rudolf Reiss, Charlottenburg, and O. Schmatolla, Berlin, Germany.
760253. Truss pad. Oliver C. Ross, Spokane, Wash.
760022. Abdominal supporter. Elise Schenkel Pforzheim, Germany.
760278. Pharmaceutic dispensing case. Elisha J. Thurman, Fenton, Mo.
761029. Apparatus for therapeutic purposes. Fred H. Brown, Los Angeles, Cal.
760421. Ophthalmometer. John E. Chambers, Chicago.
760615. Hernial truss. Frank M. Crolius, Minneapolis.
760458. Ophthalmic cabinet. Lewis C. Lawall, Richmond, Ind.
760735. Bed for invalids. Charles G. Radcliff, Carthage, Mo.
760823. Uterine supporter. Miriam J. Torrence, Indianapolis.
761199. Apparatus for producing an alternating magnetic field for therapeutic purposes. Ernst Buhtz, Berlin, Germany.
761369. Apparatus for diagnosis. Barbara J. Francis, New York.
761217. Rectal syringe. Emerson A. Gilbert, Jamestown, N. Y.
761235. Catheter. Irwin F. Kepler, Akron, Ohio.
761504. Surgical apparatus. John Kleinbach, Spokane, Wash.
761513. Manufacture of surgical bandages. John E. Lee, Conshohocken, Pa.
761122. Disinfecting apparatus. Robert J. Wilson, New York.
762121. Eye shade. Wm. S. Bevan, New York.
761821. Rimless trivalve vaginal speculum. Wm. H. Clark and T. S. Harper, Indianapolis.
761763. Apparatus for drying powders. Henri Croizier. Paris, France.
762031. Artificial leg. Walter Engels, Hamburg, Germany.
762032. Extracting juice from dried licorice root. Ferdinand Evers, Dusseldorf, Germany.
762039. Antiseptic attachment for telephone mouthpiece. James Freel, Ladysmith, Canada.
762256. Mixture for treating tuberculosis. Robert Schneider, Berlin, Germany.
762298. Artificial eye. Vincenz Fukala, Vienna, Austria-Hungary
762822. Fastening device for artificial limbs. Jamea E. Hanger, Washington, D. C.
762643. Appliance for treating disease. Eleanor A. Learman, Cleveland, Ohio.
762743. Cervical director. Charles W. McDade, Ceylon, Minn.
762832. Physical development apparatus. Kilion L. Minges, Rochester, N. Y.
762555. Combined brace and suspensory. Alexander C. Rankin, Chicago.
762366. Urethrotome. Wm. E. Washburn, Kewanee, Ill.
762603. Hypodermic syringe. Charles Witkowski, Boston.

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Address.

THE SURGEON'S HERITAGE.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON SURGERY AND ANATOMY, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, JUNE 7-10, 1904.

CHARLES A. POWERS, A.M., M.D.

DENVER, COLO.

My first duty is to thank the members of the Section for the honor which they conferred on me when they made me its Chairman a year ago. To be selected to preside over this body of representative American surgeons is indeed a distinction.

The career of the Section has been in all ways and at all times most creditable. Its age is nearly that of the Association itself. The Association dates from 1846, while the Section on Surgery first[1] organized on June 7, 1860. With the exception of the year 1863, it has been an active Section ever since. In 1860 Dixi Crosby was its chairman. Since then the following, among others, have served as its presiding officer: Henry J. Bigelow, A. C. Post, S. D. Gross, J. L. Atlee, Paul F. Eve, E. M. Moore, A. Garcelon, D. Hayes Agnew, H. H. Smith, Moses Gunn, W. T. Briggs, Hunter McGuire, Duncan Eve, Nicholas Senn, H. H. Mudd. Donald McLean, N. P. Dandridge, B. A. Watson, Theo. McGraw, J. McF. Gaston, J. F. Jelks, J. B. Roberts, Joseph Ransohoff, C. A. Wheaton, Reginald Sayre, W. L. Rodman, W. J. Mayo, H. O. Walker, A. J. Ochsner, DeForest Willard and James E. Moore. A distinguished company, to be numbered with which I feel proud, but unworthy.

As one reviews the names of these eminent surgeons, his train of thought leads, perhaps, to a consideration of the deeds of the early men among them, of their predecessors, and then, perchance, to the heritage which we are to transmit to our successors. No student of the history of medicine in America, as set forth by Roswell Park, F. H. Brown, S. A. Green, J. R. Quinan, the elder Gross, Mumford, Packard, Billings and others, can fail to be impressed with the spirit of devotion, of unselfishness, of never-failing courage which has at all times characterized the physicians and surgeons of our country. Our profession has always commanded the services of truly great men—seekers after the truth; men who accomplished far more than they thought, and who builded better than they knew. Until recent years no practitioner in America was a surgeon simply. Among our physicians were men who devoted much of their time to the study and practice of surgery. They were especially proficient in surgery, but they practiced as physicians as well. Indeed, as late as 1878, Gross said: "There is not a medical man on this continent who devotes himself exclusively to the practice of surgery." Physicians and surgeons they were, but truly great as surgeons were the Warrens, Physick, Mott, McDowell, Dudley, Gross, Gurdon Buck, Sims, Bigelow and their compeers. Do we realize how much we owe to them in character as well as in work? Do we appreciate the difficulties under which they labored, and do we cherish for them that reverence which is their due?

In a recent address before the Medical Department of the University of Liverpool, Sir Dyce Duckworth,[2] in speaking on "Reverence and Hopefulness in Medicine," said:

> The reverence I have now in my mind relates rather to the great men who have preceded us in our calling, and to the work and influences they have left as our heritage. A habit of reverence is, indeed, everywhere becoming, but I venture to think it is less manifested in these days than was formerly the case. An absence of reverence may be safely regarded as a symptom of decadence in manners. The spread of democracy and an extension of education need not necessarily entail bad manners, or even any lapse from the better ones of the past, but those who have reached my time of life can testify to a somewhat prevalent spirit of irreverence, and a tendency to a laxity of manners and conduct which was certainly less marked in our earlier years. Such conduct, if not immoral, is at least significant of bad breeding. Good manners never savor, as it is sometimes supposed they do, of servility. With Kingsley I will say that "reverence for age is a fair test of the vigor of youth, and conversely, insolence towards the old and the past, whether in individuals or nations, is a sign rather of weakness than of strength."

This is an age of active experimentation and research, and there is a tendency in such studies to engross the observer so fully with his own speculations and results that he is apt sometimes to overlook, or even disregard, the conceptions and work of those who have tried in former days to seek out truth. The marvellous aids with which modern science has furnished the investigator of to-day are apt to make him forget the slender equipment which was available for his predecessors and the difficulties of the problems which then faced them. He thus fails to realize the value and intensity of the mental acumen which alone carried them to such revelations as they made.

Samuel Johnson affirmed that "if no use be made of the labors of past ages, the world must remain always in the infancy of knowledge; if every man were to depend on his own unassisted observation for his knowledge of disease every man would be marvellously ignorant, and the science of medicine would stand still or cease to be." I venture to assert that if our surgeons read more of the work of the early masters their own views would be broadened and softened and made more

1. THE JOURNAL A. M. A., June 7, 1902.

2. British Med. Jour., Oct. 3, 1903.

tolerant. Deaver says that in the surgery of the day a vast amount of anatomic ignorance is concealed under a cloak of antiseptic detail.

I have alluded to the fact that these earlier men were both physicians and surgeons, but the enormous growth in the field of surgery during the past quarter of a century has resulted in its establishment as a distinct occupation coequal in importance, if you will, with internal medicine, and to it are attracted each year a large number of the brightest and ablest of our medical graduates. Indeed, where twenty-five years ago the medical service was preferred by hospital internes, the surgical side is now chosen. This brings to our ranks recruits of the highest order, and to these men are furnished for solution problems which may worthily engage the best minds.

In a recent number of a somewhat prominent lay periodical,[3] an editorial writer, under the caption, "From Priest to Physician," discourses on the conditions which attracted the ablest of the college men a century and a half century ago, and those which attract them to-day and will attract them in the future. The writer traces the changes which have taken place in undergraduate study, the lessened time given to the humanities, the increased importance attached to scientific training. He tells us how for many years the priests made up the majority of educated men, and how the clergy were in turn succeeded by the lawyers or the lawyer-statesmen. He says that men who are now in the middle period of life, and who are doing the hard work of the world, recall the day when the leading men of the college classes ceased to choose the ministry and went to the bar, for the lawyer, not so many years ago, was the one inevitably called on to take the lead in politics. The writer further says:

> In the meantime (this time of the domination of the church and then of the bar) science loomed large in the imaginations of men, and the colleges were forced to consider as important certain subjects—like chemistry, biology, physics—which they had neglected through the years before the evolutionists and their literary interpreters came into their deserved and beneficent prominence. The study of the laws of God as they are manifested in nature stimulated wide inquiry, and the strongest men, led as men always are, to seek for power and influence through the efforts which they love for themselves, sought for practical benefits to humanity by means of their favorite sciences. So medicine flourished. So the noble art of the surgeon advanced. Intrepid men dealt hardily with man and his body. They dived into it and discovered its inmost secrets. A century ago the work of the modern surgeon would have been denounced by the theologians, who then ruled mankind, as audacious intrusions into the exclusive jurisdiction of God. Two centuries ago, or, at the furthest, three, the man of science who would take out the viscera of a man, cut out their disease, and put them back, would have been fortunate to escape the stake or the block. But the audacious invader of the secrets of the body, the beneficent healer who, with his phial or his knife, lessens the miseries of humanity, diminishes or destroys pain, prolongs life and smooths its pathway to the grave—this is now the man who appeals most strongly to his fellow-beings. For him and his training the captains of industry are pouring out their millions, building him colleges and laboratories, endowing professorships, while the world at large hails him as the man of power and influence at a time when wealth is accumulating and when men are not decaying. More and more, very likely, we shall see the strong men of the college classes choosing medicine, although the time has not yet come for domination over the lawyer, who is now engaged in settling the direction and the form in which the captains of industry shall carry on their development of the world's wealth. The time seems to be coming, however, when the indefinite prolongation of human life, and the destruction of the enemies of human health—a work which almost suggests the creative power—will be the task that will call for and will receive the service of the best training of our colleges and universities—that is, when the appeal of medicine and surgery will be addressed inevitably to the best in every college class, just as once the call came from the ministry, and then from the bench and bar and senate house.

I believe that the forecast of this lay writer will be realized, that medicine and surgery will attract an increasing proportion of the ablest minds, and that of these, in turn, the larger number will embrace the surgical branch of our profession. And the central thought which comes to me as I write reverts to this heritage of ours which comes to us from these men of the past, and which we are handing over to the splendid men who are becoming our fellow-craftsmen.

It is not enough to say that the man who is to devote his life to surgery should be thoroughly grounded in physiology, anatomy, pathology and bacteriology; that after a service as a hospital interne he should work for years in the out-patient department, gaining by degrees a foothold in the ward work; that he should know well the modern languages, should cultivate early a taste for literary work, should be a student of drawing, mechanics and the like. To my mind the surgeon should have many of the intellectual qualities of the naturalist. He should be able not only to classify but to understand the various classifications. He should be broad outside of his surgical world. His mind should be receptive to the advances made in pure science. All advances made in the collateral sciences will help to forward surgery. Further, one advance opens the way for others, just as antisepsis made safe not only existing operations, but hundreds then unknown. Chemistry and biology constantly contribute to surgery, and to make the best use of such contributions the surgeon should be a man of broad scientific training. He should be trained to think scientifically before he begins his studies in medicine; and, further, the surgeon should have a judicial cast of mind, and should early train himself to choose wisely between the operative and non-operative, to decide what, in a given case, is truly conservative.

I believe that it is a common fault with the younger men to overestimate the operative side of surgery, a fault shared by many of us who are older. During the past few years operations have multiplied enormously. The blessings which they have conferred can not be estimated. But the field of surgery is far larger than can be seen through the operative glass, and without being led too far from our subject, I would ask whether we undertake our operative work with less of forethought now that it has become so very safe; whether care in diagnosis keeps pace with security in operating; whether we bring to a given case the degree of preparatory study which the case itself demands, and whether we carefully, patiently and laboriously work out a diagnosis before operating or too often trust to the operation itself to make the diagnosis for us? Billroth, in writing to a Russian surgeon regarding the fatal malady of Pirogoff, a palatal neoplasm, refused to operate or to advise an operation, saying:

> I am not that bold operator whom you knew years ago in Zürich. Before deciding on the necessity for an operation I always propose to myself this question, "Would you permit such an operation as you intend performing on your patient to be done on yourself?" Years and experience bring in their train a certain degree of hesitancy (Zurückhaltung). Every

3. Harper's Weekly, April 25, 1903.

year brings out clearer and clearer the shortcomings of our art.

This matter of operating without due study has recently been made the subject of able addresses by Estes and Coe, as well as by Bennett and others. Coe[4] says: "All of us who have served an apprenticeship in gynecologic clinics have arrived at the conclusion that there is a wide difference between the word 'cured' on a patient's discharge slip and her condition a few months or years after operation."

Bennett,[5] in an address, the charm of which is most delightful, given by him before the London Medical Society, says:

The working life of every surgeon may, I venture to think, be divided into three principal stages. In the first, or developmental, stage, the fascination and apparent simplicity of the operative treatment, presenting, as it seems to do, the prospect of a ready road to immediate and conclusive results, are apt to obscure wider and often more important issues in the way that a penny piece, if placed sufficiently near the eye, will obscure the sun. Toward the end of this stage those whose sense of infallibility is not too strong, begin, I fancy, to realize the truth of what may be expressed by an ancient classical adage, slightly modified: *Nemo repente fit chirurgus.* At about this time in the evolution of the surgeon the tendency shown rather later to operate less freely and apparently with less energy sometimes leads to the conclusion by those who are yet in the early stage of their development that this is due either to indifference or to an inability to keep abreast of the times, the real factor in the matter, which is the dictate of increasing experience, being overlooked.

In the second stage, the gathering of experience and the lessons of some failures and disappointments lead in the majority of men to maturer judgment and a better understanding of the proper relation of things. It is toward the end of this period that the greater number of surgeons begin to be rather less aggressive in the direction of the purely operative treatment and show indications of approaching it with more consideration than hitherto, an attitude which is the result, as I have already said, of increased experience and a more accurate knowledge of the real value of operations as such. It is at this time that a sober retrospect on the part of those whose sense of proportion is sound will, I am confident, recall to mind more instances than one in which an operation performed in all good faith had better, for the good of the patient and perhaps for the reputation of the operator, have been left undone.

With the third stage comes the inclination for the surgeon to confine himself to certain operations with which he feels himself most at home and thus to some extent his practice becomes eclectic. The increase of experience and a maturer judgment at the same time becoming more prominent characteristics, he is enabled to exert a far-reaching influence of the greatest value.

There is a fourth stage, of course, in the surgeon's life, when, happy in the contemplation of an honorable career well spent, although operations may be things of the past, there remains a never-failing judgment, the outcome of a vast experience, the importance of which it is impossible to overestimate, although I fear at times it is not altogether appreciated at its full worth by some of us.

In the presence of the attractiveness of the operative side of surgery, and perhaps to some extent under its influence, I think that many of us who are past the heyday of youth fail to pay sufficient attention to the non-operative cases. This is reflected in the paucity of such in our surgical wards. Certainly there has been a great change in this respect during the past twenty years, and it seems to me that in this way we are debarred from passing to our successors a great deal of that clinical knowledge which so aids us in formulating our surgical principles. True, the operative management has given a shorter road to recovery in such a constantly widening range of cases that it sometimes seems as though it were indeed our Alpha and Omega. Yet it is not. And it is not so much the operative skill and technic which leads to success as the judgment which determines what shall be done and the time of its performance. Again I quote from Bennett:

A comprehensive view of the matter generally as it stands justifies, I believe, a forecast that ere many decades have passed away the operating surgeon as we know him will be a far less imposing figure in the medical landscape than he now is, and that operations, excepting in the restricted degree which I have mentioned, may be looked upon with as little favor as suppuration is regarded by us now. It has been said that the basis of surgery is handicraft, and this, in a sense, is true; but surely it is a truth only half told, for apart from the issues to which I have referred there is lying behind a far greater thing, the knowledge of when to apply that craftsmanship of which everyone who now aspires to the practice of surgery should make himself a master. Nothing that has happened in the improvements connected with the practice of our art justifies, so far as I know, the modification by one iota of the edict of the great surgeon who, before advancing science had robbed operations of most of their horror, said, "The all-important thing is not the skill with which you use the knife but the judgment with which you discern whether its employment is necessary or not." In other words, those who attach too much importance to mere mechanical dexterity not only fail to reach the high-water mark of greatness, but entirely lose sight of the grand possibilities of their calling.

By this I do not in any way belittle the operative side, but I would emphasize the profound conviction that our work is attended with responsibility to a degree unequaled in any other calling, and that before proceeding to a given operation we must be able to say with Billroth that we would ourselves undergo the proposed treatment were we in the place of the patient. More than twenty years ago Gross said that surgery had reached its highest possible development, and that there was nothing beyond. To-day we realize that our art is changing constantly, and that the next decades may well bring changes as startling as the last.

Prophylactic surgery may be the surgery of the future; serum therapy and other therapy may narrow the operative field; but whatever course surgery may take its direction will be one of advance, for it is traditional with and inherent in our art and our workers to press steadily forward to the end that the lives of men may be made longer and happier. That is our heritage.

Temperamentally, the surgeon should be a man endowed with the finer sensibilities, courageous and hopeful. He is the one to whom is entrusted the real responsibility in the event alike of success or failure. To him is given the power to encourage all about him. Patients, pupils, nurses, all look to him for a hopeful word. To fulfill his highest mission the surgeon should be not only a man of the highest character, but of the most delicate feeling. His occupation is a profession and not a trade. The difference between the two has been defined in this way: In a profession service is first and wage second. The professional man has but one quality of service to render, and that is his best. That, too, is the surgeon's heritage, and he is to keep it free from commercialization and transmit it untarnished to his successors.

And so as we review the forecast "From Priest to Physician," we see that our mission has something of that of the priest, and that while our art is to attract to itself these, the ablest young men of the college

4. Medical Record, March 12, 1904.
5. Lancet (London), May 23, 1903.

classes, they in turn will bring to the work that devotion which has in all ages gone out from the strongest and best minds. So will the lamp of surgical knowledge be kept burning, and burn constantly with a purer, brighter, steadier flame.

Original Articles.

WILL THE LONG-CONTINUED ADMINISTRATION OF DIGITALIS INDUCE CARDIAC HYPERTROPHY?*

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Various authors make the statement that digitalis will cause cardiac hypertrophy, but I am not aware that experiments have been made which prove it. The assertion has its origin, no doubt, in the well-recognized clinical fact that cardiac as well as general improvement often follows the administration of digitalis in valvular heart disease. Notably is this true in mitral lesions with beginning dilatation. A case in point is here reported briefly:

A man, aged 34, suffered from repeated attacks of rheumatism followed in time by typical signs of mitral disease. He was entirely incapacitated for manual labor. Digitalis was prescribed in ordinary doses with the result that his edema and dyspnea were relieved and he was again able to take his place as a breadwinner. The patient observed that when the digitalis was stopped his symptoms tended to recur. Finding the remedy so helpful, he purchased tincture of digitalis on his own responsibility and continued to take it in gradually increasing doses over a period of three years, during the last year as much as forty-five minims four times daily. At no time did he suffer from cumulative symptoms and was able most of the time to perform the ordinary duties of a mechanic. Rapid failure of compensation came at last, however, with extreme dyspnea, anasarca and death.

Autopsy.—The necropsy revealed a beautiful specimen of *cor bovinum:* Weight in fresh state, 1,544 gm.; length, 24 cm.; breadth, 17 cm.; thickness, 12 cm. Greatest thickness of chamber walls: Right auricle, 2 mm.; left auricle, 1 cm.; right ventricle, 1.1 cm.; left ventricle, 3 cm. Inspection of the valves and orifices shows marked incompetence of the mitral leaflets. From this clinical history and the specimen the natural inference is warranted that the digitalis may have been in part responsible for this enormous hypertrophy. This, however, is not proven, for the incompetent mitral valves may have been the sole cause of the compensatory hypertrophy. Thus it is in any case of heart lesion in which the use of digitalis has aided the establishment of compensation. We can only assume that the agent, by increasing the output of blood, has improved cardiac nutrition and so led to hypertrophy. This case and the specimen suggested the following experiment, with the object of endeavoring to prove that digitalis will produce hypertrophy of the normal heart.

Twenty healthy Belgian hares, all females, were selected and divided into two groups of ten each, control and experimental, balancing the groups as nearly as possible in both total and individual weights. They were given the same food and environment. Two rabbits in each of the groups died, leaving eight experimental and eight control animals, on which the data of this report are based. The preparation of digitalis employed had been tested physiologically on frogs. The experiment extended over a period of 120 days, and the observations of interest noted are as follows:

Tolerance.—Great tolerance for the remedy was shown. Beginning with eight minims of the tincture of digitalis in twenty-four hours, the dose was gradually increased until, at the end of three months, each animal was receiving ninety drops daily. From such large dosage there became apparent loss of appetite and beginning failure of nutrition. The daily dose was then diminished to fifty minims. After three or four days they again began to eat well.

Change in Disposition.—The development of a vicious and carniverous tendency among the animals which took the digitalis was an interesting feature of the experiment. The animals were at first very docile. As the dosage of the remedy increased they began fighting and biting each other in a most ferocious manner. Numerous wounds were produced which required surgical attention. The two experimental animals which died were found in the morning mutilated and in part devoured. The control animals remained docile.

General Nutritional Changes in the Animals.—The animals were weighed both before and after the experiment. Weight of experimental group before beginning digitalis, 26.155 kilo.; weight at end of experiment, 25.664 kilo.; loss in weight of experimental animals, .491 kilo.; weight of control group at beginning of experiment, 24.704 kilo; weight of control group at end of experiment, 25.184 kilo.; gain in weight of control animals, .480 kilo. It will be noted that the experimental animals lost about a half a kilo. in weight while the control animals gained an equal amount. Other evidences of impaired nutrition in the experimental group were loss of appetite at times, lack of playfulness and diminished luster of the hair.

Cardiac Changes.—Comparative microscopic study of the musculature of the hearts of the two groups failed to reveal any distinctive differences. The organs were removed, the vessels clipped near the base, all blood expelled from the chambers and the total weight of each group taken. Total weight of experimental hearts, 77.76 gm.; total weight of control hearts, 74.13 gm.; difference in favor of experimental group, 3.63 gm.

CONCLUSIONS.

This difference in heart weight, when taken in conjunction with the general loss of weight of the experimental group and the gain of the control animals, warrants the conclusion that the digitalis did produce a slight degree of cardiac hypertrophy. But that the remedy is responsible for hypertrophy to any great degree in valvular heart disease seems doubtful.

DISCUSSION.

DR. D. H. BERGEY, Philadelphia—What particular evidences of malnutrition were manifested in these animals? Did the digitalis produce any distinctive alterations in any of the tissues, as shown by postmortem examination?

DR. WINFIELD S. HALL, Chicago—Dr. Wynn's paper gives us, as research men, a very beautiful example of a fundamental principle in a research—one that I make a point of instilling into my men and driving home—a principle which I am afraid, from the study of papers purporting to be research, is sometimes lost sight of. The principle is this: Where a variation in any function or structure arises from two or more variable factors, one must reduce his variables to one variable factor or he can not draw a conclusion. Dr. Wynn made the point that though it had been frequently stated that the administration of digitalis over a considerable period would lead to hypertrophy of the heart, we must not lose sight of the fact that the pathologic condition of the heart would naturally lead to hypertrophy also if left without the administration of digitalis. In order to settle that, he took an animal that did not have this pathologic condition and administered digitalis, with the results which he reported. The point I wish to bring out is concerning the necessity, in these research problems, of reducing them to the simplest conditions so that they will present only one variable factor.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

DR. FRANK B. WYNN, Indianapolis—Answering Dr. Bergey's question, so far as organic changes are concerned, there were none observable. I mentioned in the paper symptomatic evidences of failure in nutrition in the animals, loss of appetite and of playfulness. The two groups were near at hand and could be compared with each other. The experimental rabbits were not frolicking about as the other animals were, and most of all, perhaps, the physical evidence of failure of nutrition was most clearly manifest in the loss of luster of the hair.

PERNICIOUS ANEMIA AND ITS RELATION TO GASTRIC DIGESTION, BASED ON TWENTY-FIVE CASES.*

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The group of twenty-five cases reported in this paper represents about one-half of the private and hospital cases which have come under my observation during the past ten years. Unfortunately, the records of a number of cases are so faulty as to render them unavailable for careful analysis. In presenting these reports the aim is made to consider the disease from each of three standpoints: First, the general condition of the patient; second, the gastric digestion; third, the blood.

The stomach examinations, so far as relates to the chemistry, were made mostly by Dr. Allen Jones; the blood examinations by Dr. A. E. Wochnert. Nearly all of these cases were referred to me for diagnosis, and in many it became impossible to follow systematically the subsequent state of the digestion. As will be seen in the history of individual cases, the patient almost uniformly complained of dyspnea, weakness and digestive disturbance, sometimes relating to the stomach, at other times to the intestines. All of them presented the picture of marked pallor, associated with a more or less marked lemon-colored tint of the skin, differing from jaundice, and yet in some instances strongly suggesting it. In most the loss of weight was not great. In almost all cases the tongue was strikingly pale, usually showing a loss of epithelium, and therefore not coated, or but slightly so. A proportion of the cases suffered from marked gastric distress; others complained of no stomach trouble. In some there was anorexia, but in most there was a fairly good appetite, and in a few instances the appetite was increased. In all the gastric digestion was greatly depressed, and in the majority there was complete achylia gastrica, no appreciable digestion taking place in the stomach. A number of times I have seen moderate improvement in digestion at intervals corresponding with improvement in the state of the blood, but this does not apply to the secretion of gastric juice. In those cases of pernicious anemia in which the secretion of hydrochloric acid has disappeared, I have not seen it return, even when gastric motility has become apparently normal. The cases in which complete achylia gastrica was present did not differ, so far as the stomach examinations are concerned, from the ordinary type of achylia gastrica. From a careful history of these cases I am convinced that the achylia gastrica is not an etiologic factor in the development of pernicious anemia.

My reasons for reaching this view are: First, when in a given case the blood shows marked improvement for several weeks together, there usually appears evidences of improvement in the general nutrition, but, so far as I have observed, not in the gastric digestion. Possibly, if all cases had been studied with this in view for a prolonged period, some instances of improved gastric secretion, corresponding with betterment in the blood, might have been noted. However, in a few cases in which the condition of the stomach has been ascertained at regular intervals during several years, no change for the better was found, although at times the blood has made remarkable improvement.

Second, in a large number of cases of achylia gastrica which I have studied, many of which have been under observation during periods of several years, there has not been found in a single instance a change in the blood that was suggestive of pernicious anemia. In several cases of achylia gastrica, associated with diarrhea, there sometimes develops a severe secondary anemia, but the characteristics of pernicious anemia have been found wanting. In this respect my experience agrees with that of Riegel, Einhorn, and most others who have carefully studied the two subjects.

Third, in a few cases where the anemia was marked, there was not found a complete achylia gastrica, but merely hypochlorhydria. Since Austin Flint's original observation that there is an absence of gastric secretion in pernicious anemia, this relation has been constantly recognized; but it is apparent that the failure of gastric juice is the result of depression in the blood. It is not a cause of pernicious anemia, but, on the other hand, in these cases pernicious anemia is the cause of achylia gastrica. In most cases of achylia gastrica the motor activity of the stomach is exaggerated, as a result of which the stomach usually empties itself more quickly than normal. This rule holds true in those cases which result from pernicious anemia, but, according to my observation, not so often as in other cases of achylia gastrica. This is probably true for the reason that with the failure in the blood there comes about a failure in the strength of the muscular coat of the stomach, and in some cases there is the development of a real gastric atony and sometimes gastritis. Perhaps for this reason some patients complain of food stagnation and anorexia —conditions which are rarely observed in achylia gastrica from other causes. In some of the cases reported in this paper diarrhea was an occasional and troublesome symptom. It appears to me that it occurs less often in this group than in the same number of cases of achylia gastrica occurring without pernicious anemia. When present it is usually associated with excessive gastric motility and the disturbance of intestinal peristalsis by the untimely emptying of the stomach onward; also, the exaggerated motor impulse which empties the stomach is apparently carried over to the intestine, which influences result in the appearance of frequent liquid stools showing undigested food substances.

I am somewhat surprised, in reviewing these cases, to find so little evidence of marked cardiac disease. In those engaged in heavy manual work the heart was usually slightly dilated, and sometimes there was a relative mitral insufficiency, hemic bruits were often heard, and sometimes bruits de Diable, but the latter I have not found so commonly present as in chlorosis. There has been found no constant change in the liver, spleen or lymph glands. Often the liver has been found slightly enlarged, sometimes markedly so; the spleen sometimes increased in bulk, but rarely very large. No other striking features have been found present with sufficient frequency to warrant notice, with the exception of symptoms of spinal cord disease. Since Billings called atten-

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

tion to its frequency I have found it in the majority of cases. The personal history of the patient is remarkable in the fact of the absence of previous severe illness. Most of the patients insist that they had never before been seriously ill. The family histories were negative, so far as relate to pernicious anemia, and I do not know of an instance in which it has occurred in the second generation. The results of study of the urine have not been very notable in these cases.

Following this is a brief statement of each of the reported cases. A report of the study of the stomach examinations is inserted, and, as will be seen, they represent practically what is found in ordinary cases of gastric anacidity. I very much regret that the records of some of the stomach examinations have been lost, and the paper is more incomplete in this connection than I anticipated; nevertheless, the uniformity of the results is so evident that I feel the same conclusion may be drawn from these reports that would follow a much longer series.

Most of the patients had an incorrect idea as to the nature of their disease, some complaining of the liver, others of cancer of the stomach, heart disease, locomotor ataxia, and so on.

CASE 1.—G. K., German, aged 47, carpenter, married, family history negative; personal history negative until the beginning of the present illness, two years ago. Patient is weak, short of breath, has tinnitus aurium, numbness of the extremities, slow reflexes, gaseous pulse. First sound of the heart at apex is weak, with slight systolic bruit; aortic sound exaggerated; arteries sclerosed moderately; capillary circulation poor; skin pale, lemon tint; appetite fair, afraid to eat because of subsequent distress; tongue pale, shiny and tender; spleen not palpable. Treatment, Donovan's solution, etc. Improvement wonderful on two occasions. Died after an illness of four years.

Blood.—Red cells, 980,000; hemoglobin, 25 per cent.; megaloblasts, megalocytes, microcytes, poikilocytes marked; hemoglobin index high; leucocytes, 3,300.

CASE 2.—S. J. M., American, aged 45, physician. Family history: Mother probably died of tuberculosis; in other respects negative. Patient always well until present illness. Had great mental strain for a year, followed by weakness, dyspnea, and later by digestive disturbances. Pulse frequent, gaseous; heart normal in size, systolic bruit at apex, bruits de Diable. Appetite fair, tongue pale, bowels loose, often diarrhea; skin lemon tint and pale; occasionally slight cough; lungs normal; spleen not palpable. Three periods of marked improvement. Died two years and a half after beginning of illness.

Blood.—Red cells, 1,130,600; hemoglobin, 25 per cent.; macrocytes, microcytes and poikilocytes were numerous; megaloblasts and normoblasts; leucocytes, 2,933; polymorphonuclear cells, 84 per cent.

CASE 3.—A. S., German, aged 40, engineer. Good family history. The present is the patient's first illness; began a year ago, gradually losing strength; is now very weak, short of breath; digestion disturbed; pulse gaseous, weak; heart negative; anorexia; tongue pale; bowels constipated; skin very pale, lemon tint; liver and spleen negative; one period of marked improvement. Died after two years' illness.

Blood.—Red cells, 1,366,000; hemoglobin, 35 per cent.; macrocytes in great number; microcytes, poikilocytes marked; leucocytes, 2,400; polymorphonuclear cells, 54 per cent.

CASE 4.—J. M., American, farmer, aged 70. Family history good. Present illness began eight months ago. He was pale, weak, had dyspnea; pulse weak, somewhat gaseous; heart sounds weak, arteries sclerosed; appetite good; tongue pink; digestion bad; bowels loose; skin pale, sallow, sodden; liver and spleen negative, reflexes active. Made no improvement. Died a year after the beginning of the illness.

Blood.—Red cells, 1,248,000; hemoglobin, 30 per cent.; large number of microcytes, poikilocytes and megalocytes, no normoblasts; an occasional megaloblast; leucocytes, 3,800; polymorphonuclear cells, 68 per cent.

CASE 5.—Mrs. W. D. R., American, aged 45, patient of Dr. Benninghoff of Bradford, Pa., suffers from weakness, anorexia, dyspnea. A remarkable case, which I have studied for five years, and which is still under observation; has shown great oscillations in the blood counts—from a few over one million at the lowest to over four millions at the best, the hemoglobin ranging from 26 per cent. to 92 per cent. There have been four distinct relapses, followed by striking improvement in general health, still at no time has there been any evidence of gastric juice. The gastric motility has varied markedly with the condition of the blood. When the anemia is at its worst the stomach is found to empty itself almost immediately after eating, but when the blood is better the stomach retains the food for a longer period, and with this return of a more natural gastric motility the general nutrition improves. What relations exist between these facts I am unable to say, but it seems probable that the intestine is better prepared to carry on the digestion when the stomach discharges itself more slowly, and, therefore, when the intestinal peristalsis, especially in the upper part of the tract, is less disturbed. While I hoped for a return of the combined chlorids during these periods of improvement in the patient, I have been so far disappointed. Starch digestion is moderately well performed when the patient is doing well, but even this is greatly diminished when the blood count is very low.

Blood.—Red cells, 1,021,000; large number of megalocytes, few megaloblasts and normoblasts; hemoglobin, 26 per cent.; leucocytes, 3,200; polymorphonuclear neutrophiles, 60 per cent.

CASE 6.—A. M., aged 38, laborer. Mother died at 45 of unknown trouble, one brother from hemoptysis, one sister from hemoptysis, one of Bright's disease, and the third from sudden failure of the heart. The patient's previous history has been good. Complained that for some months he had been weak, and of late had shortness of breath; distress after eating, although he had a good appetite; lost somewhat in flesh, exact amount unknown. His pulse was weak and gaseous; arteries very compressible; heart rather enlarged; apex diffuse; hemic bruit heard over precordium; also bruits de Diable; râles at bases of both lungs; tongue pale, epithelium largely absent; bowels constipated; liver large, one inch below ribs; spleen and lymph glands normal. Patient's skin was dry, scaly, with bran-like exfoliations and characteristic lemon-colored tint. A letter from the patient March 28, 1903, reports that he had been at work since May last without the loss of a day and appears to be in fair health.

Blood.—Red cells, 1,199,000; hemoglobin, 23 per cent.; many microcytes, poikilocytes and megalocytes; normoblasts and megaloblasts. Leucocytes, 8,000; 50 per cent. polymorphonuclear neutrophiles.

CASE 7.—S. F., patient of Dr. Roos, Wellsville, N. Y., aged 60, merchant; negative family history; suffered from typhoid fever 25 years ago, subsequently well until 12 years ago, when he had a decline and gave up business. He improved again and was fairly well. Five years ago had what was apparently an epileptic seizure; since then has had several such attacks. Two months ago began to suffer greatly with his stomach, nausea, distress especially after eating, occasionally followed by vomiting. He now complains of great weakness; has a lemon tinted skin, suffers from nausea; the pulse is very weak; arteries not deeply sclerosed; heart dilated, with musical systolic bruit at apex; tongue pale; bowels constipated; liver large palpable below ribs; spleen and lymph glands negative. Former weight 150, now 138 pounds. A letter, March, 1903, reports that the patient was still living and in fair health.

Blood.—Red cells, 1,058,000; hemoglobin, 45 per cent.; megalocytes, microcytes, normoblasts; leucocytes, 8,400; polymorphonuclear neutrophiles, 66 per cent.

CASE 8.—Captain S., patient of Dr. C. W. Howe, lumber dealer, aged 70; served three years in Civil War; has suffered from rheumatic arthritis; for five years has had much disturbance with stomach, much worse for past two years; for a

year has vomited at times excessively; none for past three months; suffered from exaggerated salivation; suffers most from eating solid food; has weakness and dyspnea; is pale; has arteriosclerosis; pulse of fair tension; heart slightly large; aortic second sound exaggerated; tongue coated and flabby; bowels constipated; liver and spleen negative. He died in 1902, two and a half years after beginning of illness.

Blood.—Red cells, 1,100,000; hemoglobin, 40 per cent.; megalocytes, numerous; megaloblasts, 1; leucocytes, 4,463; polymorphonuclear neutrophiles, 46 per cent.

CASE 9.—C. J. M., aged 33, farmer; family history negative; patient had no previous illness; complained of weakness, dyspnea, faintness; pulse weak, gaseous; has hemic bruit over the heart; arteries very compressible; tongue is denuded of epithelium, pale; appetite capricious; bowels irregular with occasional diarrhea; skin lemon tint; liver and spleen negative. Dr. Shugert, of Tidioute, Pa., his physician, writes me that three months after the patient's visit to me he had so far improved as to resume his work, and that he has continued, with slight interruptions, to work ever since that time, and seems to be in very good condition. His work is out-of-doors, quite laborious, and he walks several miles a day. His color, June, 1904, is good, and the man is at work.

Blood.—Red cells, 2,118,400; hemoglobin, 51 per cent. Large number of microcytes, poikilocytes and megalocytes; one megaloblast; leucocytes, 12,334; polymorphonuclear neutrophiles, 55 per cent.

CASE 10.—H. B., English, aged 46, plumber, married; family history good; never sick until present trouble; complained of his stomach first one year ago; had chills with fever several days in succession eight months later. Present condition, weak, cachectic, losing flesh, dyspnea; pulse gaseous; heart of normal size; pulmonary second sound exaggerated; appetite poor; tongue pale; bowels irregular (constipation or diarrhea); skin pale, sallow, with lemon tint; spleen just palpable; mentality good; sleep undisturbed. Had several periods of improvement, some of them quite remarkable. Treatment, Donovan's solution, etc.; died three years after beginning of illness.

Blood.—Red cells, 1,250,000; hemoglobin, 40 per cent.; gigantoblasts, normoblasts, microcytes; poikilocytes marked; leucocytes, 4,000; polymorphonuclear neutrophiles, 70 per cent.

CASE 11.—B. P. B., aged 42, caterer, married; claims to have been well until four weeks ago, then began to suffer from progressive weakness and shortness of breath on exertion. No emaciation; marked lemon-tinted skin; tongue pale; appetite poor; bowels loose; pulse gaseous, frequent; apex of heart at the nipple line; systolic bruit at apex and heard in axilla; liver and spleen normal.

Blood.—Red cells, 949,333; hemoglobin, 35 per cent.; megalocytes, poikilocytes marked, normoblasts and megaloblasts; leucocytes, 3,240; polymorphonuclear neutrophiles, 63 per cent.

CASE 12.—J. K., telegraph operator, aged 33, single; present illness began within six months with weakness and dyspnea; marked pallor, with lemon-colored tint to skin; tongue pale; appetite fair; bowels very loose, with yeasty, dark colored stools; patient appears well nourished; pulse soft, about 100; temperature, 101 degrees; apex of heart diffused; systolic bruit heard over the base of the heart, with a loud venous hum of the vessels of the neck; liver a trifle full; spleen normal; reflexes somewhat exaggerated.

Blood.—Red cells, 1,127,000; hemoglobin, 31 per cent; macrocytes, microcytes and poikilocytes marked; normoblasts present; leucocytes, 3,900; polymorphonuclear neutrophiles, 75 per cent.

CASE 13.—J. D., aged 40, laborer; duration of illness not known; complained of extreme weakness and digestive disturbance; some dyspnea; has marked lemon tint to skin.

Blood.—Red cells, 1,352,000; hemoglobin, 25 per cent; poikilocytes, macrocytes, megaloblasts, numerous; leucocytes, 4,000; polymorphonuclear neutrophiles, not given.

CASE 14.—S. O., Freedom, N. Y., aged 46, excellent family history; patient had pneumonia when he was 21 years old, otherwise perfectly well until a year ago, when his health gradually declined; he complained of weakness, shortness of breath, disturbance of the stomach; pain above the pubes, relieved by the action of the bowels. His pulse was extremely weak, arteries thickened, the heart slightly enlarged, systolic bruit at the apex, the pulmonary second sound exaggerated. His appetite was good, at times craving; tongue smooth, denuded of epithelium, pale; bowels very constipated; skin pale, almost lemon tint; liver large, extending 1½ inches below the ribs; spleen and lymph glands negative; patient weighed 155 pounds, now 137. Patient was given the bichlorid of mercury for two months and made marked improvement; he had complete achylia gastrica. Two months later he was given potassium iodid; he suffered greatly from proctitis. After six months patient was not so well. During the following year he again made improvement under the influence of bichlorid of mercury, nux vomica and iron, and on the 9th of January, 1895, he was discharged as cured. During the following summer, 1895, he returned with all his former symptoms. This time the blood showed the characteristics of pernicious anemia. An incomplete examination made two years before showed 35 per cent. hemoglobin, the red corpuscles very large and deformed. This case possesses special interest for the reason that after passing through my hands he was treated by another physician, who claimed to have found the ova of ankylostoma, and furthermore he reported that the patient made great improvement under treatment by thymol. The stools were examined by Dr. Woehnert, who was unable to find the ova of ankylostoma, and the blood showed no eosinophilia. The case may be put down as not being one of ankylostomiasis. The patient died in 1900, eight years after the beginning of the attack, after at least three periods of distinct improvement. Not under my observation for the past three years.

Blood.—Red cells, 1,700,000; hemoglobin, 33 1/3 per cent.; megaloblasts, normoblasts, macrocytes, microcytes, poikilocytes; some leucocytosis; polymorphonuclear neutrophiles, 38 per cent.

CASE 15.—Mrs. I. J. S., patient of Dr. C. A. Ellis, Sherman, N. Y., aged 34. Patient had been ill for two and a half years, sometimes showing betterment, followed by periods of depression. Her chief symptoms were weakness and dyspnea. The pulse was weak and frequent; heart not indicative; blood vessels normal; liver and spleen negative; tongue almost colorless; appetite poor; bowels irregular. She died in February, five months after being discharged from the hospital after an illness of about three years.

Blood.—Red cells, 1,118,000; hemoglobin, 25 per cent.; microcytes, macrocytes, poikilocytes present; leucocytes, 6,000; polymorphonuclear neutrophiles, 75 per cent.

CASE 16.—B. W., German, aged 42, indoors, machinist; family history negative; personal history good; worked in an icehouse for 15 years; lost slightly in weight; present illness began two months ago with weakness, dyspnea on exercise, biliousness and slight edema of the ankles. There was a marked lemon-colored tint to the skin; tongue very smooth, with absence of papillæ; muscles flabby; pulse weak, small; lungs normal; heart of normal size, systolic bruit at apex; right heart slightly dilated, slight bruit de Diable; liver considerably enlarged; spleen palpable.

Blood.—Red cells, 1,560,000; hemoglobin, 30 per cent.; a few normoblasts; leucocytes, 2,600.

CASE 17.—J. L., aged 49, laborer; family history negative; patient has handled nitroglycerin for 25 years; no illness save that two years ago he froze his hands and feet while shoveling snow; has not been well since; complains of dyspnea on exercise; great weakness; numbness of extremities; lost 30 pounds in weight; has poor appetite; no cough or hemorrhage; heart of normal size, apical systolic bruit, no bruit de Diable; liver slightly enlarged, two inches below ribs; spleen not palpable; skin sallow and pigmented; tongue smooth and pale; bowels constipated.

Blood.—Red cells, 1,150,000; hemoglobin, 50 per cent.

CASE 18.—F. D., aged 47, farmer; patient of Dr. Tompkins of Randolph, N. Y. Father died of diabetes; in other respects family history is good. Patient had for years experienced severe bilious attacks with vomiting and sallowness, accompanied by chills and fever. Four years ago, after severe influenza, he had one of these attacks with jaundice, accompanied by general anasarca, at which time the scrotum was drained. He was very weak, but finally made great improvement and went to work. A year ago he had a second severe illness, with great weakness, lemon-colored tint and bleeding from hemorrhoids; marked anasarca lasting two or three months. This again disappeared and the man was able to return to work. During each of these attacks the liver was large. The present attack occurred in September last; became yellow, had chills and fever, great weakness; became nervous with dyspnea on exercise; bleeding from the hemorrhoids and moderate anasarca. Pulse was weak and gaseous; temperature from 98 to 102; respirations, 24 to 26. Heart was moderately dilated, systolic bruit at the apex and over pulmonary areas. Lungs were normal; arteries slightly sclerosed; had paresthesia in both legs, some weakness in gait; appetite was poor, with distress after eating; tongue was smooth and shiny; liver was very large, as also was the spleen; bowels were loose; absence of ova of parasites.

Blood.—Red cells, 640,000; hemoglobin, 30 per cent.; a few megaloblasts and normoblasts, with many large and small cells; leucocytes, 8,200. Patient made no improvement and died April 1.

CASE 19.—Mrs. C. H., aged 39; father died of cancer of the stomach; in other respects family history good; personal history good save that three months ago suddenly lost strength and color: had dyspnea on exercise, dizziness, bleeding from the nose; tinnitus; moderate anasarca, and some tremor and weakness in her extremities; pulse gaseous; temperature slightly raised; heart slightly enlarged; systolic apical bruit; bruit de Diable; blood vessels good; râles at base of both lungs; slight cough; mucous expectoration; stomach irritable; vomiting in the morning, and distress after eating; tongue was pale; had had diarrhea for two months; skin distinct lemon tint; some edema; regular but pale menstruation. Patient had steadily failed since first attack, with no improvement; now in critical condition.

Blood.—Red cells, 1,735,000; hemoglobin not taken; many normoblasts, megaloblasts. There were 5,000 leucocytes and 70 per cent. of polymorphonuclear cells.

CASE 20.—C. J. McN., aged 46, liquor dealer; family history negative; personal history good until the beginning of the present illness last summer, at which time he began to lose strength; became sallow; suffered from shortness of breath on exercise; had vertigo and diarrhea. His pulse was very soft; heart of normal size, with apical systolic bruit and systolic bruit at the aortic orifice and bruit de Diable; blood vessels were in good condition; lungs sound; appetite fair; moderate complaint of stomach; skin has the characteristic lemon tint.

Blood.—Red cells, 1,363,000; hemoglobin, 38 per cent.; macrocytes, microcytes, poikilocytes numerous; no nucleated cells; there were 8,000 leucocytes, of which 62 per cent. were of the polymorphous form. After the first month considerable improvement was shown. The patient is now undergoing a period of improvement.

CASE 21.—P. J. K., aged 35, cabinet-maker; family history negative; personal history, had been well previous to present illness, which began about 18 months ago with the usual symptoms of weakness, dyspnea on exercise, indigestion, occasional vomiting with constipation. The heart was of normal size; weak systolic apical bruit, but no bruit de Diable. The stomach contents showed complete achylia gastrica. He died in the spring of 1903 after an illness of little over two years, with one period of improvement.

Blood.—Red cells, 950,000; hemoglobin, 35 per cent.; many megalocytes and poikilocytes; there were four normoblasts and 10 macroblasts in one field. There were 2,500 leucocytes, of which only 15 per cent. belonged to the polymorphonuclear type.

CASE 22.—W. O'D., aged 48, lumberman; family history negative; personal history, had been well previous until two years ago, when he began to suffer from weakness, with vomiting, dizziness, dyspnea on exercise, edema of the extremities and numbness of the legs and feet. Had a marked lemon-colored tint; pale tongue; slightly enlarged liver; bowels loose. His heart was slightly dilated, pulse weak, but not gaseous. He had had one period of improvement. The urine showed a few hyaline casts, a trace of albumin; otherwise negative; stomach contents showed complete achylia gastrica.

Blood.—Red cells, 755,300; hemoglobin, 25 per cent; there were many macrocytes, microcytes, normoblasts and megaloblasts; leucocytes, 5,200; the white cells showed 73 per cent. of the polymorphonuclear form.

CASE 23.—Mrs. T. H. R., aged 41, farmer's wife; patient of Dr. Rich, Kennedy, N. Y. Family history good; personal history good; never been sick until present illness. Trouble began one year ago, suffering from weakness, dyspnea on exercise, some dizziness, but especially from paresthesia and some anesthesia of the extremities; some difficulty in walking. Appetite was good; pulse very weak, not gaseous. Heart was moderately dilated, no bruit; had had nose bleed once; little complaint of the stomach; had complete achylia gastrica; food present unchanged three hours after meal; tongue pale, but not denuded; liver large, two inches below ribs; bowels frequently loose; skin pale, but absence of lemon tint; urine scant, urea low. No period of improvement.

Blood.—Red cells, 1,964,000; hemoglobin, 40 per cent.; macrocytes, microcytes, poikilocytes abundant, with a few megaloblasts; lymphocytes showed 57 per cent. of the polymorphous form.

CASE 24.—B. J. H., aged 39, male, railroad engineer; family history negative; personal history, health uniformly good until a year ago, when he began to grow weak and suffer from his stomach. These symptoms have been progressive until the present time. Former weight, 225 pounds, now 184. He suffers from dyspnea on exercise, weakness, dizziness; the tongue is denuded and dry; appetite poor, gastric distress, occasional vomiting and constipation. He came supposing that he suffered from some disease of the stomach. His heart is dilated, relative mitral insufficiency and moderate bruit de Diable. Stomach shows achylia gastrica. Urine is negative. History of past luetic infection 20 years before. On Donovan's solution he made improvement during the first six months, but his trouble became worse and he died April 1, 1904.

SUMMARY.

Of the 24 cases here reported, the youngest was 32, the oldest 70; average, 45 years +; there were 20 males and 4 females; 13 had outdoor occupation and 11 indoor; the longest duration of illness was in one 5 years, the shortest 6 months, and fatal; 12 are known to be dead, 5 living, the others unknown; all had dyspnea on exercise; all suffered from faintness and weakness; 16 had gaseous pulse, 8 did not; 16 had heart slightly enlarged, 8 did not; 16 had systolic apical bruit, in 8 it was absent; 6 had bruit de Diable, in 18 it was absent; 8 had other bruit, 16 had no other; 22 had a distinct lemon-colored tint of the skin, in 2 it was absent; 15 had the tongue strikingly denuded of epithelium, 9 did not; 10 had good appetite, 7 capricious, and 7 anorexia; 18 complained of symptoms of stomach trouble, 6 did not; 10 had constipation, 8 diarrhea, and 6 irregularity of the bowels; in 11 the liver was enlarged, in 13 it was not enlarged, small in none; 1 had four periods of improvement, 3 two periods, 8 one period, and 8 no period of improvement. After my attention was called to the subject by Billings' paper, I found signs of spinal cord involvement in 6 out of 9 cases. Nine cases showed slight dilatation of the stomach; in 13 the gastric digestion was absent, in 8 it was very low, in the 3 others it was fairly good. Five showed evidences of gastric catarrh;

in the others it was absent. Six showed no acidity of the gastric contents, 1 (the highest) showed a total acidity of 46, one 26, and the average about 10. Four showed the presence of combined chlorids; in the others it was absent. One showed free hydrochloric acid, .05 per cent., one .06 per cent., and one .022 per cent.; in all the others it was absent. Six showed lactic acid present; in the others it was absent. Four showed other organic acids; the others, none. The acid salts were very low, 18 being the highest, 5 having none whatever; 7 showed biuret reaction; six showed rennet present, in the others it was absent. The digestion of starch was poor in all save two cases.

DISCUSSION.

DR. R. C. CABOT, Boston—Of 150 cases of pernicious anemia seen by me, five-sixths showed the absence of hydrochloric acid and yet digestion went on perfectly well. One is almost inclined to say that hydrochlorie acid is a luxury and not a necessity. In cases with poor digestion the trouble seems due rather to motor insufficiency of the stomach, and not to the absence of hydrochloric acid. It has been my experience that there has often been an absence of hydrochloric acid even during periods of improvement. There is also a curious lack of cardiac symptoms in some cases, even when we know that advanced fatty degeneration is present.

DR. MAX EINHORN, New York—While some time ago the opinion prevailed that pernicious anemia was due to atrophy of the stomach, recently this view had to be changed. This point has been brought up by Dr. Stockton and myself. There have been met many cases of pernicious anemia in which the gastric digestion is not impaired. Again, most cases of achylia gastrica do not show a condition of pernicious anemia. Pernicious anemia may be complicated with achylia gastrica and atrophy of the stomach. But the latter condition is not the cause, but rather the result of pernicious anemia.

DR. ALLEN JONES, Buffalo—I studied the gastric contents in these cases that Dr. Stockton has reported and I feel like confirming the view that pernicious anemia is not caused by achylia gastrica so far as we can tell. For a number of years after the idea was exploited that pernicious anemia was due to failure of the secretory functions of the stomach, it was found that achylia gastrica appeared without pernicious anemia more often than with it, and yet I felt like hesitating before stating positively that this condition of the stomach was not the cause of pernicious anemia. It is very gratifying to hear Dr. Stockton and others with larger experience than mine make this statement as a clinical fact. The point I wish particularly to emphasize is that in gastric work achylia gastrica without pernicious anemia is more often encountered than with it.

DR. WILLIAM OSLER, Baltimore—My experience agrees largely with Dr. Stockton's and Dr. Cabot's. It is wonderful to see, in the great majority of cases, when a diagnosis has been made, how rapidly these cases improve. There are certain cases in which from the outset the stomach symptoms so dominate the whole scene as to suggest that the profound and increasing anemia is due to the gastric condition. Such cases, though, are extremely rare. In a case reported some years ago the entire mucous membrane of the stomach was cuticular, similar to that found in the esophageal end of the stomach in a horse. I should like to ask Dr. Stockton if he has made any observations on the condition of the mouth, if oral sepsis had anything to do with it. I do not think it has in the majority of cases. We have had a large number of cases this spring, almost an epidemic of pernicious anemia, but in not one was the oral condition extreme. We are still "at sea" as to the exact pathology of pernicious anemia.

DR. J. N. HALL, Denver—Much has been said regarding the absence of hydrochloric acid. I have, in such cases, seen failure to improve when not administered and yet improvement was striking when hydrochloric acid was given in 25-minim doses. The absence of any excess of eosinophiles should be noted, as it generally indicates that we are dealing with pernicious anemia and not with a secondary anemia due to uncinariasis or other intestinal infection. Little has been said regarding treatment. It has long been thought that arsenic did good because of its antiseptic effect, and those who have laid especial stress on the frequent presence of pyorrhea alveolaris have thought that here the antiseptic effect was especially prominent, yet I have recently seen one patient improve wonderfully, so that he has resumed his practice, under the hypodermic use of one-half grain of cacodylate of sodium daily. He had utterly failed to improve under the long-continued use of Fowler's solution. If the arsenic did any good here it certainly was not through its antiseptic effect in the intestinal canal as when given by mouth. Pyorrhea was present in this case.

DR. GEORGE DOCK, Ann Arbor, Mich.—I agree with the remarks made concerning the condition of the stomach and its relation or lack of relation to the disease. I have had a great deal of experience with hydrochloric acid. I have treated these cases with hydrochloric acid, fresh air and diet. Many of them have done as well as those with Fowler's solution and as others treated without any medicine at all. I have seen many patients with advanced pernicious anemia get well temporarily under fresh air and the same sort of diet as given to tuberculous patients. These patients may take 40, 50 or 60 minims of hydrochloric acid, diluted, after meals. It has been my experience that if they could not take the acid well they did not do well. The effect of the hydrochloric acid does not seem to have to do so much with stomach as with intestinal digestion. The condition of the intestine predominates in nutrition. In all cases the condition of the intestinal digestion should be determined by an examination of the stools.

DR. CHARLES G. STOCKTON—I can not wonder, considering the strange capriciousness shown in this disease, at the conclusion reached by Dr. Cabot that hydrochloric acid is a luxury and not a necessity. However, I believe, perhaps for the first time, that I must take different ground from Dr. Cabot, as I regard hydrochloric acid as more than a luxury, though perhaps not a necessity. The fact brought out by Dr. Einhorn that in pernicious anemia we so often find serious atrophy of the gastric mucosa seems to me to answer the point raised by Dr. Osler, who suggests that in some cases the gastric atony may bear a causal relation to the pernicious anemia. I would like to ask Dr. Osler if he does not think that in view of the serious degenerations of other organs in pernicious anemia, it might easily account for the gastric atrophy, such, for instance, as he described some years ago in a case reported in conjunction with Dr. Henry; that this atrophy is more likely to be the result of the pernicious anemia than the cause of that disease. I am sorry to hear Dr. Osler make the statement, for it leads me to feel that I must be wrong in my view; nevertheless, my belief is strongly to the contrary. It seems to me that we should draw a distinct line between ordinary achylia gastrica with atrophy of the gastric mucosa and those cases of gastric atrophy which appear in the course of pernicious anemia. Attention has been called by Dr. Dock to the fact that these cases improve under hydrochloric acid, and I wish to say that I have universally given that remedy where patients could take it. In some instances improvement has followed, but it is difficult to say what actually does good in this disease. Formerly patients apparently did well under arsenic, and now we wonder why they sometimes do well without it. One patient whom I have had under observation for three years wrote me of his condition a month ago. He is still at work and under no treatment. However, there are cases that improve under hydrochloric acid, and this I can not deny. In some of my cases examinations of the stools have been made with negative results as regard evidences of parasites. I am sorry that more new knowledge has not been added by our consideration of this disease.

What to eat and what to drink will always be decided by national custom and individual preference, so far as the public is concerned, but both may be influenced in the right direction by the guidance of skilled medical opinion.—*Brit. Med. Jour.*

FALLING OF THE HAIR.*

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One of the least acceptable of the accompaniments of civilization is premature baldness. The fact is patent to all that as races advance in the arts and avail themselves of the refinements of civilized life, premature loss of hair is more and more in evidence. It is true that this is no hindrance to an active and useful life, but, nevertheless, it is a source of great annoyance to many who are afflicted.

The whole subject of the growth of hair is so little understood that it has been a lucrative field for the charlatan from time immemorial. Some of the greatest successes among patent medicines are the so-called hair tonics. We, as medical men, know that no single remedy can be used successfully in all cases, but many of us, I imagine, approach a case of alopecia with a vague sense of incompetency. True, we roughly differentiate the oily scalps and the dry—those affected by local diseases and those the result of general conditions—but even the best of us feel that we know none too much about the subject. It seems, therefore, worth our while to consider in what ways modern life is responsible for the increasing loss of hair, and in how far such causes may be removed or guarded against.

The most common cause of premature loss of hair is, without doubt, seborrhea and the resulting eczema. Seborrhea has been demonstrated to be a germ disease, caused by Unna's flask-shaped bacillus. Therefore, it is a communicable disease. When we consider the number of ways in which it may be spread we are appalled and reduced to wonder that the disease is not even more common than it is. Barber shops are probably chiefly at fault. It is only very recently that such places have been brought under the control of state boards of health, and even now they are often conducted in a way which is far from sanitary. In some states barbers are required to cleanse brushes and combs once in twenty-four hours, but while such provision is totally inadequate to prevent the conveyance of diseases from one customer to the next, it is a step in the right direction. The only measure which will effectually prevent transmission of the germs producing seborrhea is a law compelling the barber to provide a sufficient number of brushes so that, no matter how many customers he may have, it will be possible for him to disinfect each brush and comb before it is used a second time.

Barber shops, however, are only one medium for the transmission of this disease. The head-rests of dentists' and physicians' chairs, the hat-pegs at clubs, the backs of railroad seats, and the closer intercourse of members of the family are all possible means of contagion. It is true that this disease may be cured even after it has got well started, but it requires so great attention to detail and persistence in treatment for so long a period that, as a matter of fact, it rarely is cured.

Another common cause of premature alopecia is the practice of literary people, and of those who use artificial lights for other than literary purposes, of overheating the scalp by allowing the heat rays from their lights to be reflected on their scalps, a procedure which results in drying out the oil of the hair and interfering with its nourishment.

In connection with the subject of illumination, it is now a well-known fact that exposure to the *x*-ray will cause lanugo hairs and, if long continued, those of a sturdier growth to fall out. Such hairs, it is true, will be partially replaced by others, but the experience of many has shown that they do not come back as thick as before, and continued exposure may result in a very noticeable thinning of the hair. Now, the writer thinks he has noticed that the light from common incandescent electric-burners produces a thinning of the hair in some such mysterious fashion, entirely apart from its heating effect. For instance, he believes that those employed in stores lighted in this way are more generally bald, or partially so, than those employed in similar stores lighted in other ways.

Hair dyes and bleaches are certainly responsible for no small amount of baldness. It is probable that no one of them may be used for any considerable length of time without resulting in damage to the hair. I think we do not realize how extensively these preparations are used. Many of the so-called hair tonics contain lead salts, and are, therefore, merely dyes for the hair.

The practice of saturating the hair with water frequently is a damaging one. The hair is allowed to become dry by evaporation after this procedure, and is rendered stiff and brittle thereby. On the other hand, many people do not apply water often enough to the scalp. There is no other part of the body which is allowed by cleanly people to remain unwashed for more than a week, and yet there is no part of the body which furnishes so good a lodgment for dust, germs, rancid perspiration and filth of all kinds as the scalp. We are told by some professional hair dressers that the scalp should be brushed clean every so often, but it is inconceivable that it ever could be brushed clean. I suppose that everyone of us is astonished from time to time by the statement of some dainty-looking woman that she rarely washes her hair more than once in a month or two. I believe that the shampoo should be taken often enough to keep the scalp clean. If the patient be a man who travels much on the railroad, or rides in automobiles, or one who works in dusty places, he may have to wash his head every day or two in order to keep it clean; and, on the other hand, if the patient be a woman who rarely goes out of the house and is not exposed to dust, a washing once in two weeks may suffice, but I conceive that a fair average would be once a week.

All that we can expect to accomplish in the way of a shampoo is cleansing, so that I can not see the advantage of any special shampoo. Soap and water, well rinsed off after they have served their purpose of dissolving oil and dirt, are sufficient. True, some soaps are better for this purpose than others. Castile soap for white or gray hair, and tar soap for dark hair are as good as anything that can be used. After the shampoo I think it is important that the hair should be rapidly and thoroughly dried. This may be accomplished by using two or three hot towels.

Heredity plays an important rôle in the subject we are considering, and yet a person whose predisposition is strong for early baldness may stave off the inevitable for a long time by proper attention to the rules of hygiene here laid down.

The danger of contagion in barber shops has already been spoken of, but there is another danger which is often overlooked. It arises from the practice of allowing a barber to put various kinds of his preparations on the scalp. Many of the egg shampoos and cacao butter

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shampoos will become rancid if kept up for any length of time, and when rancid they can not fail to act as irritants. Stiff hats by their pressure interfere undoubtedly with the circulation of the scalp and conduce to baldness. This merely needs to be mentioned, as it is already well known.

There are several curious things about the hair which are not easily explained. One is the commonly observed thickness of the hair of consumptives. Why any such wasting debilitating disease should result in increased growth of hair is hard to understand. On the other hand, many febrile and wasting diseases, such as typhoid fever and pneumonia, cause the hair to fall out. It is another curious thing that psoriasis, with its thick accumulation of scales pressing as they must on the hair roots, often causes but little loss of hair, even when persistent for a long time, whereas, seborrhea with its much smaller amount of scaling will usually cause the hair to begin to fall early.

Now, we might tabulate the causes of the loss of hair with an attempt to arrange them in the order of their frequency about as follows:

1. Dandruff.
   - Seborrhea sicca.
   - Eczema seborrhoicum.
   - Tricophytosis.
   - Favus.
   - Psoriasis.
   - Eczema squamosum.
   - Lupus erythematosus.
2. Heredity.
3. Fevers.
4. Improper hygiene.
5. Syphilis.
6. Alopecia areata.
7. Ulceration of follicles.
   - Traumata.
   - Sycosis.
   - Folliculitis decalvans.
8. Stretching of scalp by tumors (wens.)
9. Myxedema.
10. Chronic metallic poisoning (mercury, etc.)
11. Some rare diseases (pityriasis rubra.)

In the foregoing scheme dandruff is assigned the post of honor as being the most fertile source of alopecia, and when it is considered how many pathologic conditions are called by this name, it is small wonder that it should stand at the head. But even if we exclude from this title all diseases but seborrhea sicca and eczema seborrhoicum, dandruff would still be far and away the most common cause, and it is with this limitation that the term dandruff is henceforth used.

An easy deduction, then, is that every person who suffers from dandruff should get rid of it, if he wishes to preserve his hair as long as possible. This may be accomplished in various ways, but the most satisfactory method known to the writer is as follows: The dandruff is at first loosened by vigorous brushing with a rather stiff brush, and then a shampoo is ordered, for example, quinorcin soap.

After the scalp has been thoroughly cleansed by the shampoo, the following formula is to be used:

℞ Acidi salicylici 1
Sulphuris præcipitati ..... 2 | 5
Unguenti aquæ rosæ 25

M.

The patient is directed to part the hair, and then to rub in a small portion of the ointment along the part, working it well into the scalp at the roots of the hairs. Then another part is made parallel to the first, and more ointment rubbed in. Thus a series of first longitudinal and then transverse parts are made, until the whole scalp has been well anointed. Done in this way, it is not necessary to smear up the whole shaft of the hair, but only to reach the hair roots and the sebaceous glands, where the trouble is located. This process is thoroughly performed for six successive nights, and the seventh night another shampoo is taken. The eighth night the inunctions are commenced again, and this program is continued for six weeks. In almost every case the production of dandruff is checked completely after six weeks' treatment, and the hair, which may have been falling out rapidly before, begins to take firmer root. To be sure, many hairs which are on the point of falling when treatment is begun, will fall anyway, and it may even seem for a time as if the treatment were increasing the hairfall, on account of the mechanical dislodgment of such hairs, but this need never alarm one.

After six weeks of such treatment, the shampoo may be taken less frequently—say once in a fortnight. Yet when one thinks of it there seems every reason why the scalp, which offers such an easy lodgment for dust and dirt of all kinds, and which itself is casting off effete products surely as rapidly as the rest of the body, should be washed at least as often as the other parts of the body.

By such treatment, then, we have removed all dandruff, and by the reducing action of the sulphur on the sebaceous glands, have checked its further production for a time. But seborrhea is ultimately due to some one or more of a variety of causes, as follows:

Overproduction of sebum is due.
- 1. To the skin itself.
  - a. Natural tendency.
  - b. Poor nutrition.
    - Anemia.
    - Chlorosis.
    - Struma.
  - c. Hypernutrition (puberty.)
- 2. To reflex action.
  - a. From genito-urinary organs.
  - b. From digestive tract.
    - Constipation.
    - Indigestion.
    - Toxins.
  - c. From nose.
  - d. From brain (mental troubles.)

It need only be remarked here, that the most complete success in treatment can only be attained by reaching and removing the ultimate cause of the seborrhea, and that by far the most frequent of such causes is constipation, or some other gastrointestinal derangement.

Next to dandruff, perhaps the most common cause of early loss of hair is heredity. In some families all the male members, or all who resemble one particular ancestor, lose their hair early. Dark-haired families and races, as a rule, become bald earlier than those with light hair. At first thought, it would seem as though nothing could be done to prevent premature baldness when heredity is the cause, but this is a mistake. Careful hygiene of the scalp (which will be considered later) will often counterbalance hereditary predisposition for a number of years, and even after the hair has actually begun to fall, proper stimulation will, to a certain extent, and for a limited time, often restore to the hair its pristine thickness and strength. Any of the rubefacients may be prescribed for this purpose for daily use, such as croton oil, 1½ per cent.; tincture of cantharides, 15 per cent.; oil of cinnamon, 40 per cent.; tincture of capsicum, 15 per cent.; oil of mustard, 1 per cent., or any one of a dozen others. Tincture of capsicum is one of the best, and for a routine prescription the following has served me well:

℞ Resorcini 5
Tincturæ capsici 15
Olei ricini 10
Alcoholis q. s. ad 100
Olei Rosæ q. s.

M.

It is recommended that the stimulant be changed from time to time, so as not to rely on any one to the exclusion of the others. Jaborandi, oxygen gas, quinin and other agents have enjoyed a great reputation as hair producers for a time, and have then taken their proper position as aids, but not specifics, in restoring the hair.

It is a well-known fact that after many fevers, especially those accompanied by great depression, such as pneumonia, typhoid, puerperal or scarlet fever, the hair is very liable to fall out during convalescence. This is brought about in a variety of ways: In scarlatina the hair papilla shares in the general desquamation; in typhoid and the other fevers, the baldness may be the result either of the excessive seborrhea, which often accompanies these diseases, or may be caused by the general lowering of nutrition of the body. Unless the hair-fall be accompanied by considerable dandruff (in which case the above-recommended treatment should be vigorously employed), the ordinary hygiene of the scalp will result in a restoration of the hair in most cases, but the employment of moderate local stimulation, with the use of good general tonics, will hasten this end. It seems to me unwise to cut the hair of ladies short in these cases, because the baldness is practically never complete, and a certain proportion of the hairs will retain firm root. These may be augmented by a switch made of the hair which has fallen out, until the new hairs shall have grown long enough to do up well. In this way all of that oftentimes most annoying short-hair period is avoided.

When improper hygiene is given as a frequent cause of falling of the hair, it is with a due appreciation of the fact that savage tribes which devote little or no time to the care of the scalp are often characterized by a most bushy growth of hair, even to advanced old age. This means only that they have made up in some directions for their lack of care in others. An active life in the open air, conducive to a proper performance of all functions and to a general vigor of the system, as well as free ventilation for the scalp and an avoidance of pernicious modes of dressing the hair, are some of the reasons why a good head of hair is preserved under such conditions.

Fashion dictates that the hair of men should be kept cut pretty short, and of women never cut at all. Probably a mean between these two ways (*in medio tutissimus ibis*) would be best—say about as long as a football player wears his; for women's hair very often becomes frayed out and ragged at the ends, and men's hair is not allowed to grow long enough to serve its purpose as a protector against changes of temperature. The farmer, musician and artist decline to be governed by fashion in this respect, and as classes, have generally well-preserved hair.

The advice has been given to part the hair for a time on one side and then on the other, the idea being that if the part is invariably made in one place it tends to grow so wide before long as to constitute true baldness. This must be very rarely the case, for most individuals have their hair parted on one side from childhood to old age, and yet baldness is almost always symmetrical on the two sides. Women should avoid, in dressing the hair, any arrangement which causes constant tugging on any of the hair roots. In other words, it should be done up rather loosely. If this necessitates more frequent attention in order to keep it looking neat, so much the better for the hair.

Syphilis is such a well-known cause of alopecia that many men, on applying for relief from falling of the hair, hasten to assure us that they have never had any private disease. This assurance is unnecessary, as the syphilitic alopecia is generally very characteristic. The hair looks as if it had been nibbled off here and there, leaving tufts of normal length between the bald spots. These occur on all parts of the scalp alike, differing in this respect from other alopecias, and what is still more characteristic, the eyebrows often share in the nibbled appearance. This kind of alopecia is not permanent, but may last for months. Mercurial treatment internally, and ammoniated mercury ointment rubbed in to the scalp every night, will shorten the period greatly. The head should be shampooed at least once a week during this treatment. Destructive syphilitic lesions of the scalp sometimes produce patches of baldness which, in this case, is of course irremediable.

As for the other causes of premature loss of hair, they are so plainly diagnosed, and the prognosis and indications for treatment are so evident, that they are introduced here merely for the sake of completeness, and will not be further discussed.

In conclusion, it may be stated that the object of this paper has been to call attention to the great variety of causes which may produce falling of the hair, and to show that no treatment is liable to be successful unless based on a proper analysis of the case.

DISCUSSION.

Dr. Ludwig Weiss, New York City—A physician who had infected himself while operating, and also had a long illness with the resultant general infection, suffered after recovery with general absolute alopecia, but he regained his hair within two years. That seborrhea is an incurable disease, as Unna believes, is true, but it is incurable in a minor degree, fortunately. If it were really as it is regarded theoretically we would see a much larger number of baldheads than we now do in assemblies. Barbers are the main cause of the dissemination of baldness and other parasitic skin diseases. Pennsylvania has done pioneer work in this respect. The state of New York and the city of New York have issued regulations to barbers which are, however, as far as I know, mostly a dead letter. It would be easier for each individual to have his own outfit, his own brush, and not depend even on the brushes which have been disinfected by the barber. As has been stated here, seborrhea causes more alopecia than psoriasis. I think that is explained in this way: The sebaceous glands, as we know, serve to grease the hair within the follicles, while the lubrication of the skin is dependent mostly on the color glands. In psoriasis there is more hyperkeratosis present, which, however, does not extend down into the follicle, therefore the hair root is not checked, and this practically explains why in a severe sickness the hair does not fall out as in seborrhea. I have noticed that when an extracted hair bulb presents a dry, black appearance then another new growth can not be expected. I have not ascertained whether or not this is a pigmentosis of the hair bulb, but it seems to me a necrosis of the hair bulb due to the bacilli invading the hair root.

Dr. J. B. Kessler, Iowa City, Iowa—I do not think any dermatologist has as much trouble in caring for any other class of cases as he does with seborrhea or baldness. In almost any medical class, of forty or fifty, before they are through with their senior year one-fourth will apply to the dermatologist for treatment for this trouble, but I think as we progress we will have fewer people with baldheads. Why? Because it has only been in recent years that dermatology has been taught in our medical schools to any extent, and particularly where the students have been required to pass an examination on the subject. The result has been that most students, crowded for time in the last few months of their senior year, let go of what is called the superficialities and take the so-called "full chairs," and they go out to practice internal medicine or sur-

gery, the vast majority not knowing anything about treating seborrhea or diseases of the scalp. So far as hereditary alopecia is concerned, I think it is a difficult question to determine. You ask a patient if his father or his grandfather was bald, and he may say yes, or supposing he says no, that is no argument that the father or grandfather did not have seborrhea. It is very hard for a son to remember or for his father to tell him whether he had disease of the scalp. He simply remembers he was not bald, but that is no argument that he did not have seborrhea sicca. It is very difficult to determine whether an old hereditary baldness played any part in a recent case of seborrhea. In reference to cleansing the scalp, as mentioned in the paper, it has always been a question with me whether mental work had not a great deal to do with hereditary baldness. As you are aware, there are in each of your respective towns or cities coal haulers, for instance, or people who do that kind of work, whose scalps I do not believe have been cleansed from the time their mothers washed them until they die, who have an abundance of hair, baldness being the great exception. This makes me believe that there is something in mental strain, causing congestion and pressure on the hair bulbs. This, in my opinion, has something to do with premature falling of the hair.

DR. E. L. COCKS, New York City—I have half a dozen cases at the hospital with complete baldness due to *x*-ray treatment. The first was a case of alopecia areata and the *x*-ray was used to help it, how I do not know. The result was general alopecia. The second case was psoriasis. The *x*-ray removed the psoriasis and also the hairs. This was a year ago and the hairs have just commenced to reappear. The third case was that of a young man, aged 21, an epileptic. All other methods of treatment having failed to diminish the number of attacks, the *x*-rays were applied to the crown of the head. A few days after the third application he noticed that the hair was coming out in bunches. I saw him six months later, at which time there was complete alopecia. At the present time there is no sign of the hair returning. He has placed the case in the hands of his lawyer and I hope ere it comes to trial a new crop of hair may adorn his head for his own glorification and that of the *x*-ray therapeutist. Some say that where hairs come out they will come in as before, but that has not been my experience. The fourth case was syphilitic alopecia, and a mistake was made in the diagnosis, the physician thinking it was alopecia, but not due to syphilis. The result was the same. I think we ought to be more particular in giving instructions to the patient. We tell them to take this or the other ointment and use it, but in very few cases is it used as it should be. In order to treat the scalp properly we need a retinue of nurses, and unless we do treat such cases properly they will drift into the hands of the charlatans, and if they do I feel that we have ourselves to blame for it.

DR. A. RAVOGLI, Cincinnati—Seborrhea is one of the most effective factors in the production of alopecia, especially seborrhea sicca, when masses of scales containing a fatty substance are formed, covering nearly the entire scalp. In such cases there is great loss of hair. Sometimes we have a seborrhea that is scarcely perceptible, a very mild case, but it is often more dangerous because the patient does not take any care and then the hair begins to fall, and when the hairs have once fallen it is difficult to do any good. Another point: Sometimes we see patients who have never had real seborrhea, only a mild seborrhea oleosa. The scalp is usually clean, and yet they are losing their hair. I have found that these are the people who, on account of their business, usually wear hats continually, and I believe lack of circulation and the moisture which results from constantly wearing the hat has a great deal to do with the production of alopecia. In the treatment I have already pointed out that the use of formalin, a 2 per cent. solution in alcohol or eau de cologne, has given me good results on account of its antiparasitic properties, and sometimes also its stimulating effect on the circulation of the scalp.

DR. R. A. MCDONNELL—A number of cases of alopecia due to exposure to the *x*-ray have come to my notice. In some cases where patches have been produced there was isolation of parts that ought to be isolated, but loss of hair was brought about, over exposed parts, and in those cases, so far as I have observed, there has been no recurrence amounting to anything. I think it is stated by Bulkley and others with experience that the hairs do not come back as strong or in as great numbers as before. So far as the use of lotions to cure seborrhea is concerned, it has seemed to me that you can not get results. An aqueous solution will pass over the seborrhea like water from a duck's back. Formalin in alcohol might dissolve off the outer layer of the sebum but would not go where it is needed. It seems to me it needs something greasy or oily that will mix with the sebum and thus reach the sebaceous glands.

RADIUM AND ITS THERAPEUTIC POSSIBILITIES.*

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There is at the present time very general interest in the question of the therapeutic use of radium. It may also be added that there is very hazy knowledge as to what has actually been done with it. I have, therefore, thought that it would be worth while to consider the subject now in so far as is possible with the facts which are before us. Let me say at the outset that I have made no attempt to review all of the literature on this subject. I have only attempted to consider such authentic literature as seemed to me to have some bearing on the problem which I have undertaken to consider, viz., the therapeutic possibilities of radium. While the public press is teeming with vague and sensational accounts of the use of radium in disease, actual tangible facts are surprisingly few in the authentic literature of the subject. There does, however, seem to be enough data at command to warrant one in hazarding a pretty definite answer to the problem under consideration.

PROPERTIES OF RADIUM.

Radium is an element which belongs in the group of alkaline earths along with barium, calcium and strontium. As all the world knows, it was discovered by M. and Mme. Curie. Its elementary character was determined by spectrum analysis by M. Demarçay, who found that it gave a definite spectrum. Its atomic weight, as determined by the Curies, is about 225. Its atomic weight, therefore, is greater than that of any other known elements except thorium (231) and uranium (239). It is not known in the metallic state. It is obtained usually in the form of the chlorid or bromid of radium, and in the impure salts it is combined chiefly with barium chlorid or bromid. As suggested by the Curies, the activity of radium is expressed in units, the radioactivity of uranium being taken as the unit of measure. The activity of pure radium bromid is of 1,500,000 to 1,800,000 units.

The therapeutic interest in radium is dependent on the fact that it is an apparently spontaneous source of energy, and that some of this energy produces changes in living tissues. In any consideration of the therapeutic possibilities of radium, therefore, the properties of its radiations must have attention. These properties are the more interesting because they are peculiar to the group of substances of which radium is the most powerful and the type.

Radium gives off three kinds of rays: α rays, β rays, and γ rays.

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THE α RAYS.

The α rays are believed to be a stream of positively charged particles of matter of about twice the size of the hydrogen atom. The amount of energy and the mass of these rays is enormously greater than those of the β rays and γ rays. The α rays have a positive electric charge and are deflected by the magnet. The velocity with which they are projected is approximately 20,000 miles per second, much less than that of the other rays, and their penetrating power is very slight. The α rays are a form of radiation new to us.

THE β RAYS.

The β rays consist of a stream of negatively charged particles (electrons) of about 1/1,000 the size of the hydrogen atom. They are deflected by the magnet, but owing to the difference in their electric charge they are deflected in the opposite direction from the α rays. They are projected at approximately the velocity of light. They correspond exactly in all their characteristics to the cathode rays of Crookes, and there is every reason to believe that the two are identical in character. When they strike a solid in their path, in all probability they generate x-rays.

THE γ RAYS.

The γ rays differ from either of the others in that they are apparently vibrations of the ether without mass. They travel with enormous velocity, and, like x-rays, are not deflected by the magnet. In their physical characteristics, so far as determined, they are identical with the x-rays from a hard tube.

Ninety-nine per cent. of the energy in radium radiations is found in the α rays, and 1 per cent. only in the β and γ rays. The amount of energy in the β rays, moreover, is much greater than that of the γ rays, perhaps ten times as great—Williams estimates it as being fifteen times as great—so that in the γ rays there is probably not more than 1-10 per cent. of the entire energy represented in radium radiations.

The α rays have very slight if any actinic properties. The β and γ rays are highly actinic, and this is of particular interest in our consideration, because these actinic properties are probably solely responsible for the effects on living tissues which are produced by radium. The β rays and the γ rays, like x-rays, affect the molecular structure of sensitive silver salts in a manner indistinguishable from that of light, and they produce changes in tissue cells analogous to those produced by x-rays.

Radium radiations, further, excite phosphorescence and fluorescence in certain substances, these substances being those in which similar phenomena are excited by light and by x-rays. They cause ionization of gases and thus render them conductors of electricity, so that electrified bodies in their presence are discharged as shown by the discharge of the electroscope in the air in the presence of radium. They all penetrate to a greater or less extent solid substances, but in this respect they differ enormously, the penetration of the γ rays being approximately 10,000 times as great as that of the α rays and 100 times as great as that of the β rays. Their relative penetration, according to Rutherford, is as follows:

α rays are cut down to one-half value in passing through a sheet of aluminum .0005 cm. thick.

β rays are cut down to one-half value in passing through a sheet of aluminum .05 cm. thick.

γ rays are cut down to one-half value in passing through a sheet of aluminum 8. cm. thick.

According to Williams, β rays are not effective on tissues at a greater depth than one-half inch, while γ rays from pure radium will pass entirely through the human body. The penetration of α rays is so slight that they will not pass through the glass tube or the thin sheet of mica which form the usual containers for radium.

In addition, radium gives off what Rutherford has called an emanation, which is capable of inducing radioactivity in other substances. This emanation is in the nature of a luminous gas. It can be confined within the walls of a closed receptacle, and it is condensed by intense cold—150 C.

Radium also gives off heat. Pure radium maintains its temperature at about 1½ C. above the surrounding atmosphere; it emits heat at the rate of about 100 calories per gram per hour.

Finally, radium apparently gives off the recently discovered gas, helium.

Some of these properties have no interest for us in a consideration of the therapeutic possibilities of radium. For example, the facts that radium gives off heat and perhaps the gas helium, the most inert substance known, are of no importance to us, nor is the fact that it is a spontaneous source of electric energy; we already have satisfactory methods of producing heat and electricity, and so far as we know we do not need helium.

The interest which attaches to it pertains to the properties of the rays which it gives off and to its emanation. The gaseous emanation from radium does not come into consideration in the clinical experiments which have thus far been made, for the reason that the radium in these experiments has been in closed containers, which prevent the escape of the emanation. The fact, however, that the emanation from radium produces radioactivity in other substances has been used as a basis for the attempt to render substances radioactive, and then to utilize this radioactivity as a therapeutic agent. No facts as to the value of this highly ingenious application of radioactivity exist, and it is not probable that the small quantity of radioactive energy that can be thus imparted will prove of any definite value in therapeutics. I believe this suggestion will prove to be only a bizarre idea. Shoddy has suggested the inhalation of this emanation in the treatment of diseases of the respiratory tract. Nothing definite has been determined along these lines.

Of the three kinds of rays from radium the therapeutic interest attaches to β rays and γ rays. The penetration of the α rays is so slight that they do not influence the tissues below the most superficial cells, and in all the clinical experiments which have been made with radium thus far the effect of the α rays must be thrown out of consideration for the reason that they do not penetrate the walls of the glass and mica containers in which the radium has been held. The β rays, which correspond to the cathode stream, have relatively a slight penetration and are absorbed by the first half-inch of the tissues. The γ rays alone penetrate deeply into the tissues. Thus the effect of the β rays will be obtained only in superficial tissues, while the γ rays can penetrate all of the tissues, and accordingly produce more or less effect on them. As very few of the γ rays are absorbed by the skin, and about all of the β rays are absorbed by it, there is no reason to doubt that the effects upon the tissues which have thus far been observed, including the necrotic burns, are the result of the β rays. In addition, according to Williams, the quantity of β rays given

off from radium is fifteen times as great as that of γ rays, and this relative preponderance of β rays still further influences the relative importance of these rays in the production of the effects on tissues. Indeed, the quantity of energy obtainable in the γ rays from any mass of radium preparations now in existence is so small that it would seem that any appreciable effect on tissues from the γ rays is impossible. For example, the quantity of energy represented by the γ rays from 100 milligrams of pure radium bromid is almost infinitesimal in comparison with the quantity of energy in the x-rays from a very hard tube, and yet we all know how the tissues will stand the bombardment of the highly penetrating x-rays from a very hard tube. Leaving out of consideration all other facts except the relative quantity of energy represented in the β and γ rays, if we wish to get a reaction in the tissues from γ rays an exposure must be given about fifteen times as long as that necessary to produce a reaction by the use of the β and γ rays combined.

A consideration of the foregoing properties of the different forms of energy given off by radium seems to indicate that in their actinic properties, and in their effect on living tissues we have to do with agents strikingly similar to x-rays. Now, what do the histologic and clinical facts thus far obtainable show?

GROSS EFFECTS ON LIVING TISSUES.

When the skin is exposed to radium there first appears an erythema; if the process goes beyond erythema, there develops a livid dermatitis; if it progresses further, vesicles develop upon the surface, the cells that are most affected undergo necrosis and indolent ulcers are produced. The process may not go beyond an erythema or congestion. If so, the erythema or congestion, first diffuse and later sharply circumscribed, becomes less marked and finally fades out. Scaling of the epidermis occurs, and at last a pigmented area is left to mark the site of the reaction. If the process goes on to the formation of ulcers the lesions that occur are very indolent. In the burns which M. Becquerel and M. Curie produced on their own persons the ulcers did not heal for about two months, and the duration was longer in the case reported by Hallopeau. All this is, of course, very strikingly like x-ray burns. Indeed, most of the descriptions which have been given of radium burns and the changes produced by radium in skin lesions might with perfect accuracy be applied to similar x-ray reactions.

Mackenzie Davidson has described a peculiar reaction which occurred in the course of the treatment of a case of carcinoma of the face with radium. In this case, after a long exposure to radium, an attack of what appeared to be erysipelas developed, with a temperature of 105, nausea, vomiting and prostration. A second similar attack occurred in the same patient, with a temperature of 103 after another long exposure. That these attacks were probably not true erysipelas is shown by the fact that culture experiments made from the serum, the blood and the secretion from the burn were negative. The explanation of these phenomena is probably a toxemia resulting from the absorption of cells rapidly degenerating, as the result of a very acute radium reaction.

According to Scholtz, the incubation period of radium burns is twenty-four to forty-eight hours, much shorter than that of x-ray burns, but an examination of the literature does not bear out this statement. The burn on Curie's person developed fourteen days after exposure, and Becquerel's developed ten days after exposure. In Halkin's experiments on young pigs, to be described later, the diffuse livid color developed eight days after the first exposure; the microscopic effects were most marked at the end of twenty-five days; after thirty-eight days the area showed only diffuse pigmentation and a few scales. In another of Halkin's experiments the first effect showed fifteen days after the first exposure. In the cases of epithelioma and lupus which have been treated with x-rays, the effects apparently developed usually from three to eight days after exposure. In a carcinomatous ulcer reported by Exner and Holzknecht, the lesion healed seventeen days after the first exposure, and twenty-nine days after the first exposure all trace of it had disappeared. It would seem, therefore, that the incubation period of radium burns is not strikingly different from that of x-ray burns, and with greater experience we may find that the difference is even less than appears at first glance.

EFFECTS ON THE EYE.

Radium produces luminous effects on the retina even when the eyes are closed. This is due either to fluorescence of the tissues of the eye, or to direct effect on the optic nerves, probably to the former. This effect has been taken advantage of by Javal, London and others in experimenting on the blind with radium. In his experiments Javal found in two cases of blindness in which there still remained a slight perception of light, that the patients perceived a light sensation when radium was held before the eyes. In two other cases of blindness, one due to optic atrophy and the other to glaucoma, both patients being absolutely blind, there was no perception of light from exposure to radium. London's results are to the same effect. Blind subjects who still retained a slight perception of light perceived a visual sensation when radium was applied to their eyes. In those totally blind the results were negative. Other observers have obtained the same results.

EFFECTS ON THE NERVOUS SYSTEM.

The effects on the nervous system are interesting and have been studied chiefly in young mice. London found that mice exposed to a strong preparation of radium were killed. There was first redness of the ears and blinking of the eyelids, then drowsiness, slowness of movement and feeble response to stimuli. This was followed by paralysis, then coma, and finally death. The symptoms developed about the third day of exposure, and the animals died on the fourth or fifth day. Along with these nervous symptoms were well marked effects on the skin. The hair and epidermis were loosened and the subcutaneous tissue was greatly congested. Similar experiments have been made on mice by placing the radium in actual contact with the surface. In a young mouse, one month old, in which a tube of radium was placed under the skin over the vertebral column, paresis occurred at the end of three hours, ataxia after seven hours, tetaniform convulsions and death in twelve to eighteen hours. Mice three to four months old died with the same symptoms in three to four days; those one year old died in six to ten days; guinea pigs, eight to twelve days old, died with similar symptoms in six to eight days. Adult guinea pigs and rabbits treated in the same way did not show any nervous troubles, but died with skin lesions some weeks or months afterward. An adult rabbit, in which a tube was placed under the dura for eight hours, developed a hemiplegia on the third day. It is probable that the difference in results in these

experiments in young animals and in adults is due to the fact that the cartilages and soft bones of the young offer little resistance to the radiations from radium, while the well-developed bones of the cranium and spine of adults offer an effectual barrier to the α and β rays.

In brief, the symptoms are: First, depression of the central nervous system, followed by arrest of the functions of the cerebrospinal system, and then death. The explanation of these nervous symptoms lies doubtless in the disintegration of the nerve cells produced by the Becquerel rays.

MICROSCOPIC EFFECTS ON TISSUES.

The microscopic changes produced in tissues by radium have been studied by Exner, Scholtz, Halkin and others. The studies of Halkin are the most elaborate and are particularly interesting because they were made on young pigs and can be compared with the very thorough study by Scholtz of x-ray burns produced experimentally in pigs. Halkin's studies, epitomized as briefly as possible, are as follows:

He used for experiments to determine the action of Becquerel rays on the skin guinea pigs and young pigs, the cutaneous structure of the latter corresponding very closely to that of the human skin.

Microscopically, there was no change from the normal one day after exposure. After three days the first changes were evident, these consisting of increased prominence of the capillaries of the upper part of the corium. After five days the capillaries were noticeably dilated, but there was no change visible in their walls and no surrounding infiltration. After seven days a slight infiltration was visible around the vessels, and there were some leucocytes in the connective tissue, and all of the capillaries and small vessels were much dilated and filled with blood. The cells of the intima were swollen and their nuclei were larger than normal. As yet no change had appeared in the epidermis. Twelve days after the first exposure the changes in the blood vessels were still more marked. There was much degeneration of the cells of the vessel walls, which were markedly vacuolated, and some of which had dropped off into the lumina. Pigment cells in the corium were much more numerous than normal. In the center of the affected area the connective tissue of the corium was degenerated. There was marked vacuolation of the cells and the connective tissue was infiltrated with leucocytes. The entire palisade layer of the epidermis showed numerous vacuolations. The protoplasm stained with difficulty, the nuclei were fragmented and the boundary between the epidermis and the cutis was indistinct. A few leucocytes were present in the epidermis. After twenty days there was present a condition of ulceration. The horny layer of the epidermis was raised up, broken into flakes and contained some nucleated cells. The rete malpighii had almost entirely vanished, being represented only by one or two rows of irregularly swollen cells with faintly stained nuclei. The only remains of the palisade layer was a mass of cell remnants and fragmented nuclei. There was much more pigment present than normal, lying among the fragmented cells. The corium presented in a more advanced degree the changes already described. There were only a few leucocytes to be found in the exudation. The hair follicles showed the same degenerative changes as the epidermis, but to a less marked extent. After twenty-four days the dilatation of the blood vessels was advanced to such an extent that they were represented by large spaces through which hemorrhage had taken place into the tissues.

From this series of observations it is evident that the Becquerel rays affect at the same time all of the elements of the skin, epithelium, connective tissue and blood vessels. The effect on the vessels appears first, but there is no reason to look upon this as the cause of the other phenomena.

Halkin has also exposed areas of lupous tissue to the Becquerel rays. Here, both in the normal and in the lupous tissue, there was cellular degeneration, dilatation of the vessels and hemorrhage. The changes appeared, however, only in the most superficial layers of the skin, and the deeper portions were unaffected, not the slightest change being visible.

Time does not permit me to compare here with these studies of Halkin's the studies of Scholtz on x-ray burns in young pigs; but comparison would be interesting and instructive on account of the striking similarity of the findings. Indeed, one description might almost be substituted for the other, so closely do they agree, and the two studies seem to leave little room for doubt that the histologic changes produced in tissues by x-rays and those produced by radium are almost identical in character. The chief difference, indeed, is the greater depth of the x-ray effects. There is the same inflammatory reaction, the endarteritis and the degeneration of the affected cells. And doubtless the explanation of the changes is the same. The living cells are susceptible to the actinic energy of Becquerel rays, as they are to the actinic energy of x-rays, and under the bombardment of this energy their structure is at first disturbed and then disintegrated. And in my opinion, although we have no microscopic studies on which to base the statement, the explanation of the disappearance of epitheliomata and similar growths under Becquerel rays is the same as after x-ray exposure. The tumor cells are as susceptible as the healthy cells to the actinic effects of Becquerel rays, but they are of lower resistance, and their structure is disintegrated, and they degenerate before the healthy cells are so violently affected.

EFFECT ON BACTERIA.

According to the meagre experiments thus far available, Becquerel rays have bactericidal properties. Aschkinass and Caspari found that three hours' exposure to radium killed the bacillus prodigiosus in cultures. Pfeifer and Friedberger found that cultures of typhoid and cholera bacilli exposed at one cm. distance from radium were killed, and Henry Crooks reports similar results on various bacteria exposed to Becquerel rays.

THERAPEUTIC APPLICATION.

Now, what are the therapeutic possibilities which are held out to us by these various properties of Becquerel rays? In a general way, I think there can be no doubt that the therapeutic indications for the use of Becquerel rays lie along the same general lines as the therapeutic indications for the use of x-rays.

Perhaps Becquerel rays have greater bactericidal properties *per se* than x-rays, but x-rays do indirectly cause the destruction of bacteria in living tissues, and I doubt very much if it will be proved that there is any material difference in this respect between these different forms of energy.

The effect of Becquerel rays upon the nervous system may possibly in future have some therapeutic application—he would be a bold man who would deny any possibility to such an agent—but it is not easy to see any practical application of this property at present. The skull and spine present an effectual barrier to all of the

radiations from radium except γ rays, and the effect of γ rays is so slight that we are practically precluded from producing any effect upon the central nervous system by radium, without removing the bony envelope covering the area which we wish to affect. But even were it possible for us to get the effect of Becquerel rays upon any part of the central nervous system, I know of no conditions except new growths in which the application of the agent offers any present possibilities.

It is hard to see what application can be made of the fact that in persons who are partially blind a visual sensation can be produced by Becquerel rays. The experiments thus far simply indicate, what we already know, that the opacities which interfere with the passage of light and thus prevent its producing a sensation upon the retina, do not interfere with the passage of Becquerel rays, so that Becquerel rays can produce their normal effect on the retina of these subjects.

The probabilities thus seem to be that the field of usefulness of Becquerel rays will be in the destruction of bacteria, in the influence which they have on the metabolism of cells, and in the capacity which they have for causing destruction of cells of low resistance; in other words, along the same lines along which lies the usefulness of *x*-rays.

A consideration of the clinical applications which radium has thus far had lends further probability to this position.

CLINICAL RESULTS.

Aside from the use of radium in malignant neoplasms, it has been given a very limited trial in a few cutaneous diseases.

Acne.—Williams reports that he has treated one case of acne by exposing each pustule to the radium through an opening in a sheet of lead foil. These applications were followed by healing of the pustules.

Eczema.—Williams, in two cases of eczema, gave two exposures with some improvement.

Psoriasis.—Williams, in two cases of psoriasis, used radium over some small areas, which healed a few days after the exposure. Holzknecht also has reported beneficial results from radium exposures in psoriasis.

Lupus.—A number of cases of lupus successfully treated with radium have been reported by various observers, including Danlos, Scholtz, Holzknecht, Davidson, Williams, Blandamour, Abbe and MacIntyre. The results are of the same character as those gotten from the use of *x*-rays, and seem to indicate that we now have a third method added to those at our command for the treatment of this disease. But there is no evidence that it is better than either *x*-rays or ultra-violet light, and, according to Halkin's experiments, the lack of depth of the effect on the tissues would indicate that it is not so efficient as either of these other methods. In some of the cases a successful result has been produced by only one exposure, so that there may be a possibility of greater rapidity of results with radium than by other methods.

Keloid.—Williams has treated two small keloids in one patient, one with radium, the other with *x*-rays. He has had improvement in both lesions, but this has been more rapid in the one treated with radium.

Telangiectases.—Holzknecht has exhibited a case of flat vascular nevus in which at points of application of radium there had been a reaction followed by destruction of the blood vessels, so that at these points there were islands of skin of normal white color.

In the very limited trial which radium has had in the foregoing affections the results are apparently the same that are gotten from the use of *x*-rays. From what we know of the effect of radium on tissues, and bearing in mind the similarity of this effect to the effect of *x*-rays, I believe it will be found that radium has a distinct field of usefulness in some of these cutaneous diseases. In chronic intractable eczemas, in psoriasis, in lichen planus and in similar chronic inflammatory diseases of the skin there are good theoretical reasons for expecting benefit from the effect of Becquerel rays. In acne, too, there is a possibility of usefulness of this agent, and perhaps in sycosis, though if it is to be useful in these conditions it would seem necessary to be able to treat the cases by general exposures rather than by attempting to give an exposure to each individual lesion. In lupus there are certainly good grounds, both from theoretical considerations and from definite results already obtained, to attempt the use of radium. In keloid and nevus there is good ground to hope for the usefulness of this method of treatment. With Holzknecht, I believe from theoretical considerations that radium probably offers us a better method of treating vascular nevus than we have either in *x*-rays or ultra-violet light.

Epithelioma.—The successful treatment of epitheliomata with radium has been reported by a number of observers—among others, by Sichel, Scholtz, Davidson, Williams and Abbe. Including with epithelioma rodent ulcer, Williams has reported twenty-eight cases treated with radium. About half of these cases are healed and half show improvement more or less great. Most of the cases reported by the various observers are small epitheliomata, such as offer no difficulty of treatment by *x*-rays, and the results do not indicate that radium is either more or less efficient in these cases than *x*-rays. Williams has reported a case of epithelioma of the lower lip which has shown greater improvement under radium than under steady exposures to *x*-rays, and Mackenzie Davidson has had a similar favorable experience in an epithelioma successfuly treated with radium, which had resisted both Finsen's and *x*-ray treatment. On the other hand, MacIntyre has reported a case of epithelioma which was not affected by exposures to radium, but which was cured by *x*-rays, although the radium used in the case produced burns on normal skin with much less exposure than was given the epithelioma. There are, in addition to the cases of moderate severity referred to above, a few severe cases of cutaneous carcinoma treated with radium which reflect distinct credit on this method of treatment. The following case of Davidson's is one of these: There was an extensive carcinoma on the right side of the face in which the right cheek had been destroyed, the tongue and teeth laid bare, the upper and lower lips destroyed to within an inch of the middle line, and the hard and soft palate extensively invaded. After vigorous exposures for some time there was on two occasions the development of an erysipelas-like reaction, which was followed by great improvement. At the time of the report the discharge was greatly lessened and not at all offensive, the tongue was clean and the patient could speak distinctly. Cicatrization was going on slowly but steadily. Both *x*-rays and operation had failed in this case. The improvement in this case is not unlike that which has been noted under *x*-ray exposures in numerous equally severe similar cases, but the fact that *x*-rays had failed in the case is to be borne in mind, and the improvement under radium after the failure of *x*-rays should be allowed due credit.

Carcinoma.—In carcinomata beneath the skin the reports indicate that radium will clean up small subcutaneous nodules, but there is nothing to indicate that it will be anything like so efficient an agent as we already have in *x*-rays for any but the most superficial growths.

Davidson has treated several cases of carcinoma with radium with no good results, and he epitomizes his experience with the statement that "the conclusion forced on us is that with the present method of application radium is of no use whatever in carcinoma."

Reed has caused the disappearance of subcutaneous nodules of recurrent carcinoma of the breast by exposures to radium, and Williams has treated three cases of recurrent carcinoma of the breast with improvement.

On account of its convenience of application, radium may have a field of usefulness, in the palliative treatment at least, of carcinomata in the cavities of the body, and benefit has been seen in carcinoma of the rectum, of the uterus, and of the esophagus.

Carcinoma in the Cavities of the Body.—In two cases of cancer of the uterus Abbe found the symptoms much ameliorated, with marked loss of cancerous cachexia as the result of treatment with radium, and he saw similar improvement in cases of rectal carcinoma.

Cleaves has had great improvement from the combined use of radium and *x*-rays in uterine carcinoma.

I also have seen apparent benefit from the insertion of a tube of radium into the cervix uteri in carcinoma of the uterus.

Carcinoma of the Esophagus.—Exner has very ingeniously used radium to overcome impermeable strictures of the esophagus. He introduced the radium imbedded in dammar and fastened to a No. 16 bougie. In five cases the stricture became enlarged, and the dilatation persisted after the treatment was stopped. The increased permeability of the stricture, he thought, was due to the necrosis of the tissues under the influence of the radium. Of course, this treatment should not be undertaken without due consideration of the possibility of perforation.

I think it possible that radium may be used to advantage in similar manner by insertion into tuberculous and other sinuses, and into the substance of malignant growths, as has been suggested.

Sarcoma.—Radium has had a very limited application in sarcoma. Abbe has briefly referred to one giant cell sarcoma of the jaw, under treatment with radium, which has shown noticeable improvement.

Exner and Holzknecht have demonstrated a case from Professor Gassenbauer's clinic, Vienna, of melano-sarcoma of the left humerus. Three years before a sarcoma had been removed, and after eight months several subcutaneous dark colored nodules had been noticed. A section from one of these proved them to be melano-sarcoma. Nodules exposed to the point of producing dermatitis disappeared, their place being revealed only by depressed cicatrices. In another case of melano-sarcoma they had similar success in removing cutaneous metastases with radium.

Cleaves has reported a sarcoma of the left cheek which has been improved under radium exposures.

SUMMARY OF RESULTS.

The results which have been obtained from the use of radium in cutaneous carcinomas, epitheliomas and rodent ulcers are certainly interesting, and show, I believe, that we have in the use of radium another efficient method of treating small cutaneous carcinomas with radiant energy. And if that is so, there is certainly the best possible reason for making every effort to determine the full limit of usefulness of radium in these conditions. Whether radium or *x*-rays will prove the better agent for the treatment of cutaneous carcinomas without metastases, which are now so well treated with *x*-rays, only future experience will show. I do not believe that radium or any other method can possibly give better results than are now gotten in most cases of this sort from the use of *x*-rays, but with improved technic as a result of greater experience it may be found that radium will prove the more convenient and the more easily applied of the two agents. If it shall be proven by future experience that radium is the better method of treatment, I believe its superiority will be found to rest on unessential questions of convenience and ease of application, rather than on any essential superiority. Possibly in epithelioma, and, indeed, lupus and other conditions that ordinarily yield to *x*-rays, some of the very rare cases which fail to yield to *x*-rays may be found to yield to radium, as already found in one of William's and one of Davidson's cases.

Doubtless also we will find cases which will not yield to radium, and these cases may be among the very large proportion that yield to *x*-rays. Indeed, exactly this has happened already in a case of MacIntyre's which yielded to *x*-rays after a strong preparation of radium had failed. Thus the two agents may be of value in supplementing each other in certain cases which prove insusceptible to one or the other. According to William's experience, and this is confirmed by some other reports —the improvement in epitheliomas and certain other conditions which yield to *x*-rays and to radium, is more rapid under radium than under *x*-rays, but our data are not sufficient yet to allow any definite conclusions upon this point. The length of treatment with *x*-rays, and doubtless with radium, is largely dependent on the manner in which the exposures are given, and the question of rapidity of cure, therefore, is in part a matter of technic.

The attempts at treatment with radium of malignant neoplasms beneath the surface are not encouraging, and on theoretical consideration I do not believe that we may expect much usefulness from radium in the treatment of any sort of malignant growths beneath the surface. I believe that in this particular we will find radium distinctly less valuable than *x*-rays. On the other hand, radium, I believe, will have a definite though limited field of usefulness in the treatment of lesions situated in inaccessible locations where it is difficult or impossible to apply *x*-rays, but where radiations from radium can be applied readily. For example, in carcinoma of the uterus, of the rectum, and of the mouth, the application of radium offers no difficulty, and if it proves an agent of even slight efficiency in controlling the growth of malignant neoplasms it surely has a field of usefulness in malignant growths in the less accessible cavities of the body. This is shown already in its use in carcinoma of the rectum, of the uterus, and of the esophagus. I think I may say that I have found it distinctly of value inserted into the cervix in uterine carcinoma, and I have certainly found it valuable in the treatment of lesions in the mouth that were impossible of direct exposure to *x*-rays. Radium also offers a possible advantage over *x*-rays in the accuracy of dosage which its use makes possible when we have definitely determined its range of activity. With a given preparation of radium we can

give a definite dose of the radiations, the only varying factors in the exposure being the distance from the lesion and the duration of the exposure. Such accuracy, of course, is impossible with *x*-rays. That this advantage will prove of material value in the hands of experts I think questionable, since the *x*-ray exposures can already be given with sufficient accuracy as to dosage for all practical purposes. On the other hand, *x*-rays have a very important advantage over radium in the quantity of energy at our command. The amount of energy available in a well-excited *x*-ray tube is enormously greater than that emitted by any quantity of radium now obtainable or likely to be obtainable.

GENERAL CONCLUSIONS.

To sum up, then, the situation, in my opinion, is about as follows: Radium produces effects upon the tissues closely analogous to if not identical with those produced by *x*-rays. The indications, accordingly, for its therapeutic uses are along the same lines as those for *x*-rays, viz., in certain inflammatory diseases of the skin, like eczema, psoriasis, lupus erythematosus and lichen planus. In certain bacterial diseases of the skin, like acne, sycosis, lupus vulgaris and blastomycosis. In certain diseases where we wish to cause destruction of tissues of low resistance, as in lupus vulgaris, carcinoma and sarcoma.

These are exactly the indications for the therapeutic use of *x*-rays, and future experience alone can determine which of the two agents will prove of the greater practical value in meeting these indications. In some respects I believe radium will prove superior; in the far greater number it seems to me that *x*-rays will have the larger field of usefulness. In the treatment of lupus and cutaneous carcinoma, we have sufficient experience to give us a fairly accurate technic in the use of radium. For its use in affections other than those which are sharply circumscribed to small areas, the technic has not yet been developed.

It is probable that Becquerel rays will be efficient only to a very limited depth. This conclusion is based, first, on the fact that the greatest effect on the tissues is produced by the β rays, which have a relatively slight penetration, and, second, on the studies made by Halkin on the effect of radium on tissues. On account of lack of depth of effect it is not likely that radium will be as effective as *x*-rays against lesions of more than half an inch in thickness or subcutaneous in situation. Becquerel rays have theoretical advantages over *x*-rays in the accuracy of dosage which will be possible after we have obtained experience in their use. They also have advantages in their ease of application at inaccessible points. They have a disadvantage in the relatively small quantity of energy available, and in the limitation accordingly of any single efficient exposure to a very small area.

It is highly improbable that the use of radium is going to be of epoch-making importance in therapeutics. It supplements and it may add materially to the methods now at our command for using actinic radiant energy in therapeutics. If it becomes less expensive and obtainable in relatively larger quantities, it may supplant to a limited extent the use of *x*-rays and ultraviolet light, although in my opinion this is not probable. At the present time it is not an entire substitute for either of them, and is to a very great degree less efficient than *x*-rays in its general therapeutic usefulness.

Finally, the therapeutic possibilities of radium have, in my opinion, rather been overstated than understated in the foregoing estimate.

DISCUSSION.

DR. WILLIAM T. CORLETT, Cleveland, Ohio—I have seen the effect of radium in Cleveland and can corroborate some of the statements made. It does have an effect on certain structures in certain diseases of the skin, lupus and epithelioma especially, but so far as I have been able to see has less effect than that produced by the *x*-ray. Certain cases in Cleveland have been treated as was the following: A case of lupus vulgaris was treated with the *x*-ray successfully at first, but there came a time when the *x*-ray failed to produce any further effect and then it was supplemented by treatment with radium, and for a time apparently with marked benefit. There was a reaction which kept up for a certain length of time, so that the disease was decidedly better than when the *x*-ray was discarded, but continued treatment failed to produce any further favorable effect. It was thought it might act as a stimulant to the effect of the *x*-ray. Those of you who have had experience know that a point is frequently reached when further treatment is useless. I had an opportunity of seeing these cases subjected to the Finsen light when benefit from the *x*-ray failed and those cases usually went on satisfactorily. You can see cases in Finsen's laboratory of lupus vulgaris where there came a stage of the treatment when the Finsen light failed to have further effect and the *x*-ray applied would complete an apparent recovery. So we thought in Cleveland that radium might serve this purpose, but so far our experience has been rather disappointing.

DR. JAY F. SCHAMBERG, Philadelphia—In the Philadelphia Polyclinic we have employed radium in a limited number of cases of cutaneous diseases. Most were carcinoma of the skin; some were extensive and perhaps we should not have expected any favorable result from the use of radium. In several other cases, however, the extent of the growth was limited. The radium employed was said to be of 1,400,000 activity, made by Tschamer of Hamburg. In only one of the patients treated was there any definite reaction from the radium. The applications were made by contact with the skin. In the last patient, treated a few weeks ago for a small superficial epithelioma of the side of the nose, there was a very distinct reaction after perhaps five or six treatments of one hour each, given about twice a week; the reaction was followed by a superficial necrosis which, after healing, was followed by a very great softening of the induration. At the present time the epithelioma is considerably improved, but will require further treatment.

While we may have in radium a remedy which permits of accuracy of dosage, there must be considerable difference in the reaction of the skin of different individuals to this remedy. In a patient with blastomycosis of the skin radium was applied for 15 treatments, one hour each, without the least reaction being visible. In another patient, the case just referred to, after five treatments there was a very distinct alteration of the skin. It seems to me that in radium we have an agent with a very restricted field of usefulness. We know that the penetrating power of radium is extremely limited. We attempted at the Polyclinic to photograph the hand of a cadaver with the particle of radium mentioned and exposed the hand twenty-four hours; at the end of this time the plate was developed and showed merely a shadowgraph of the entire hand without distinction of the bone structures. I therefore agree with Dr. Pusey that the amount of energy which is given off from radium is extremely small and not to be compared with the great quantity of energy radiated from an excited Crookes tube. If radium is to acquire a place in the therapeutics of cutaneous and other diseases it will probably find its most fertile field of usefulness in inaccessible mucous cavities. It is possible that radium of high activity may be advantageously employed in the deep recesses of the nose, mouth, vagina or rectum, but up to the present time no wonderful results have to my knowledge been obtained. Indeed,

I do not know that radium has cured any conditions that would not have yielded to other approved methods of treatment.

The public press is largely responsible for the highly colored and exaggerated accounts of the therapeutic virtues of radium. Newspaper articles have excited the popular mind to a state of expectancy which practical results have not justified. The physical properties of radium far transcend in interest and importance its virtues as a remedial agent. Physicians should be very slow to advise the application of radium for the relief of conditions which can perhaps be better treated by safer and more efficient methods.

Dr. L. Duncan Bulkley, New York City—I entirely agree with the conclusions Dr. Pusey has drawn. I have been observing radium in the New York Skin and Cancer Hospital clinic for six months. We have had a dozen or more cases submitted to its application. Unquestionably radium has a powerful effect on the tissues; in several cases we got burns quite as marked as with the *x*-ray, only of small size, because the application of radium only covers a small area. So there is no question that it can have a powerful effect if the applications are made long enough. We began with an application of 15 minutes' duration on a boy 13 years old who had had lupus on the cheek since early childhood. I was enthusiastic, having read the accounts in the French journals six or eight months ago, and I spoke of it in the clinic and insisted that we would have this boy well after half a dozen applications. After three months the lupus was still there. The boy was a pay patient that I had sent to the hospital, and I did not feel justified in carrying out further experiments with him. He was then exposed to the *x*-ray for six or eight months, and when I saw him a week ago we could barely perceive one or two little points, the majority of the surface being smooth and to all intents he was well. We tested several other cases of lupus with the same result. I think, however, as Dr. Pusey said, radium is going to be a valuable addition to our armamentarium in the application to inaccessible cavities. We have had at the hospital several cases of epithelioma within the buccal cavity thus treated. In one case the man with epithelioma beneath the tongue, in front, declining operation, was treated by radium, and certainly the disease melted down nearly half. Another case of epithelioma of the tongue, far back toward the tonsil, which would have required a very formidable operation by surgical means, was melted down in the same way. The effect of radium in that case was certainly marvelous. I think we are only beginning to study the subject, but Dr. Pusey's paper is very timely in view of the extravagant statements in the newspapers and what the French have said in the skin journals. I think, however, that we have never seen such results as they claim to have produced.

Dr. M. L. Heidingsfeld, Cincinnati—On what exact distinctions do scientists base their division of Alpha, Beta and Gamma rays? Is it a purely arbitrary and empirical division, based largely, as noted in the paper, on the varying degrees of facility with which some of these rays penetrate interposed layers of resistance? It appears to me that the exact nature of these rays is still an unsolved problem, much the same as their analogous and apparently somewhat closely allied *x*-rays. A more rational explanation would be that they consist of minute radioactive material particles, driven with intense but with varying degrees of velocity and penetrative power.

Dr. William Allen Pusey—I think that the general experience corresponds to what I have gathered from the literature and to my own experience. I believe we must make some allowance in the difference in our results for the fact that there is a very great difference in the activities of the preparations of radium available. The German radium bromid, of which Dr. Schamberg spoke, is highly active, but I do not think that even it will give such marked effect as some of the preparations of radium of the Curies. As to the use of radium of seven, ten or twenty thousand units activity, it is relatively so weak that its application must be very long to obtain any effect. I agree with Dr. Schamberg that there is probably a very decided difference in the susceptibilities of different individuals to radium radiations. I have also attempted to use in conjunction with radium other radioactive substances. Dr. Schamberg has used uranium. I have tried thorium nitrate and oxid, which are more active than uranium and comparatively cheap, but I have not seen any definite effects from them.

ACNE KERATOSA.*

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Under the varying designations of acne keratosa, acne cornée, keratotic acne, keratosis follicularis contagiosa and acne sebacea concreta, a peculiar glandular affection of the skin has been recorded by a few observers. I have had occasion to study two cases during the past winter, and the accompanying notes are based on them. The literature of the affection is scanty; I have been able to find but 11 cases in all. Crocker and Jamieson[1] describe 4, J. C. White[2] 2, and Du Castel,[3] Giovannini,[4] Hallopeau,[5] Hallopeau and Macrey,[6] and Tenneson and Leredde[7] one each. On these, the descriptions in the text-books of Thibierge,[8] Jarisch,[9] Kaposi[10] and others are based.

Some even of these few cases are open to doubt. Thus those of White seem to have been cases of Darier's disease; psorosperms were afterward demonstrated in them by Bowen. In spite of the paucity of recorded material, however, I can not think that the affection is so very rare. Cases are very liable to be regarded as instances of ordinary acne, molluscum contagiosum or warts. This happened to my own before they came under my observation.

A study of the recorded cases shows very plainly that the designation "acne keratosa" has been applied to lesions different in kind, but alike in the facts that the eruption consisted of isolated acuminate lesions surrounding the glandular orifices of the skin, and with corneous accumulations in the openings. At least three types have been distinguished.

The first and simplest is that described long ago by Hardy,[11] where yellowish-gray or blackish prominences, acuminate and firm, and one-half to one millimeter in diameter, appear on the skin. The integument surrounding the tumors is normal; pressure on it causes the extrusion of the central corneous mass, and the follicular orifice remains patent until renewed corneous formation occurs. The lesions may be isolated, disseminated or grouped; they appear especially on the face around the nose, but are also found on the trunk and limbs. Though they cause no functional troubles, they are chronic in their course and very rebellious to

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

1. Crocker and Jamieson: British Journal of Dermatology, January, 1899, and August, 1901.
2. White, J. C.: Journal of Cutaneous Diseases, June, 1899.
3. Du Castel: Monatshefte für praktische Dermatologie, vol. xxxiii, p. 439.
4. Giovannini: Gazetta Medica di Torini, No. 41, 1899.
5. Hallopeau: Annales de Dermatologie et de Syphiligraphie, 1899.
6. Hallopeau and Macrey: Monatshefte für praktische Dermatologie, vol. xxii, 1896, p. 77.
7. Tenneson and Laredde: Annales de Dermatologie et de Syphiligraphie, No. 4, 1895.
8. Thibierge: La Pratique Dermatologique, Besnier, Brocq and Jacquet, vol. I, p. 251.
9. Jarisch: Die Hautkrankheiten, Vienna, 1900.
10. Kaposi: Pathologie und Therapie der Hautkrankheiten, Vienna, 1893.
11. Hardy: Lecons sur les Maladies de la Peau, 1865, p. 108.

treatment. They are seen at all ages, but occur especially in the young. Their cause is entirely unknown.

The anatomy has been studied by Leloir and Vidal.[12] They found that the process was essentially a pilar folliculitis, with considerable thickening of the corneous epidermis of that structure. In the midst of the corneous accumulation were stainable epidermic cells, showing that the process of keratinization was incomplete. The hairs were strangled in the cell accumulation, and there were slight signs of inflammation in the surrounding tissue. Leloir and Vidal regard this type of the affection as a folliculitis, and not an acne, since the hair sacs, and not the sebaceous follicles, are the parts affected.

A second type is that described by Tenneson and Leredde[7] under the rather inappropriate name of acne cornée exanthematique. The lesions were similar to those of the first type, but the eruption was much more general and grouped or polycyclic in arrangement. The microscope showed thickening of the corneous layer at the orifices of the sebaceous glands, forming a true crater around the hairs, but the follicles and glands themselves were not affected. The case was evidently closely related to true acne.

Finally, the cases recorded by Brooke[13] under the name of contagious follicular keratitis differed from those heretofore mentioned, in that they developed spontaneously in several children of a family, appeared to be contagious, and progressed rapidly and spontaneously to recovery.

Crocker's four cases[1] resembled those of the first type in some respects, and especially in their early stages. But when the corneous plugs were removed by scratching, on account of the irritation that they occasioned, the lesions continued to enlarge, there was renewed corneous formation, and there finally resulted large, even nail-sized marginate excoriations covered with horny masses. Healing was very slow; the lesions lasted for months, and showed great tendency to return *in situ;* and in one of Crocker's cases the disease had lasted forty years. There was difference of opinion as to the results of the microscopic examination, Crocker holding that the hyperkeratosis began in the sebaceous glands, while Jamieson thought it pilar in origin.

Du Castel's case[3] was of the second variety, for the characteristic lesions were grouped in plaques on the arms, neck, chin and legs. Both the reporter and Darier claimed that the hair follicles were the seat of the disease; it was a follicular keratitis, rather than a corneus acne in the restricted sense of that term. Giovannini's[4] case was similar clinically, but the sebaceous glands were atrophied and filled with cells identical with those of the malpighian layer. On the basis of his examination the author is inclined to regard the affection as an atrophy of the sebaceous glands, with the hyperkeratosis as a secondary phenomena.

In the case reported by Hallopeau,[5] the concretions were found to be seated in both the sebaceous glands and the hair follicles. Chemically and microscopically, they were composed mostly of fat. J. C. White's cases,[2] as above stated, were finally recognized as true psorospermoses. That of Tenneson and Leredde[7] showed generalized grouped lesions, mixed with those of ordinary acne. The microscope demonstrated their sebaceous origin. As did Giovannini,[4] these authors recognized an atrophy, probably from pressure of the gland lobules. Hallopeau and Macrey[6] failed to find Unna's acne bacillus in their case.

In the present state of our dermatologic knowledge, it seems to me that the multiplication of disease types by emphasizing minor clinical or anatomic differences is a service of very doubtful value. We are overwhelmed with the mass of observations and astray in the desert of terminology. The time for classification, for simplification, for synthesis, has evidently arrived, and we anxiously await the advent of the new Hebra who will bring order out of the chaos.

In view, therefore, of the essential clinical identity of the lesions in all these cases, we can disregard variations of arrangement, or even of precise anatomic origin. We have an eruption composed of acneform lesions, non-suppurative and but slightly inflammatory, with the formation of hard plugs composed chiefly of keratinized epithelial cells in the gland orifices, probably locally contagious, and tending after a time to spontaneous recovery. This is a definite clinical entity.

Fig. 1.—Acne keratosa. Lesions in various stages of development.

Of my own two cases one has been under observation during the past winter, and has been studied with some care. The second case has only recently appeared, and as the lesions are precisely similar to those of the first patient, I shall confine myself chiefly to this latter.

CASE 1.—A. B., aged 12, Dec. 13, 1903. Since his second year the lesions of which he complains have come on his face head and hands; they have never appeared anywhere else. They come and go slowly; sometimes they are more and sometimes they are less numerous; but he has never been entirely free from them. They cause no subjective sensations save a little itching. Each lesion appears as a minute red spot, which gets larger and larger. Then there appears a black mark on the top, which is hard, and which reappears when it is scratched off. Nothing ever comes out of them. After increasing to a certain size the lesion slowly "dries up" and goes away, leaving a stain. Then others come out in different places.

The patient is a perfectly healthy lad; he has had measles and some tonsillar trouble. There are two other children, neither they nor any other members of the family have had anything of the kind.

12. Leloir and Vidal: Comptes rendus de la Societe de Biologie, April, 1882.

13. Brooke: La Pratique Dermatologique. Besnier, Brocq and Jacquet, vol. I, p. 252.

Examination.—The lesions present are mostly round, acuminate, hard nobules, slightly erythematous at their bases, and varying in size from less than a pinhead to a large pea. Each one shows a more or less brownish or blackish horny concretion in its center. This is recognizable with a magnifying glass even in the very minutest of them; and it can be felt as a hard, pointed projection even where it is hardly visible to the naked eye. In the larger and older rounded lesions the corneous plug is the size of a small round pea; the outer layers are brownish-black; the central portion is black, pointed, sometimes curved, and projects a millimeter above the surface of the skin. Firm pressure on the base of the tumor effects expression of the plug; a gaping glandular orifice is left behind. There are no acne lesions of the ordinary kind anywhere, nor is there any serum or pus in any of the efflorescences. (Fig. 1.)

There are some lesions present, however, of different appearance. They are oval or crescentic areas, with slightly indurated and erythematous margins similar to the smaller lesions, and with large, somewhat elevated, dark colored, hard,

Fig. 2.—Acne keratosa.

horny accumulations in their centers. Removal of these central masses, which are but moderately adherent, leaves an excoriated depression behind. Some of these lesions are quite large; one of them is over half an inch in size. The patient says that generally when the spots reach pea size, and the central concretion falls or is scratched off, retrogression begins; but sometimes the lesions continue to grow. The central accumulation may be removed and may reappear a number of times, and it may be several months before definite healing occurs. (Fig. 2.)

All the lesions are on the hands and face; there have in the past been some on the scalp, but never any on any other part of the body. On the back of the right hand there are 15, together with some superficial stains and scars marking the sites of former efflorescences. On the back of the left hand are 12; on each cheek, 3, and there is 1 on the center of the forehead. Palms and soles are free and have always been so, nor have the feet ever been affected.

Microscopic Examination.—During the next few weeks I excised a number of lesions for microscopic examination. A peculiar circumstance was the fact that sometimes, and apparently oftenest when the excision was confined as closely as possible to the affected nodule, and included no healthy skin, the resultant lesions assumed all the characters of the larger efflorescences described above. The edges became a little hard and red, a blackish corneous accumulation appeared in the

Fig. 3.—Acne keratosa. Nodule with partially extruded plug.

center, and the usual slow course of extrusion preceded the final healing.

Sectioning presented unusual difficulties. No matter how carefully the material was hardened, the corneous central plug was an almost insurmountable obstacle to the preparation of satisfactory sections. In almost every case the plug was displaced during the manipulations, and when a perfect

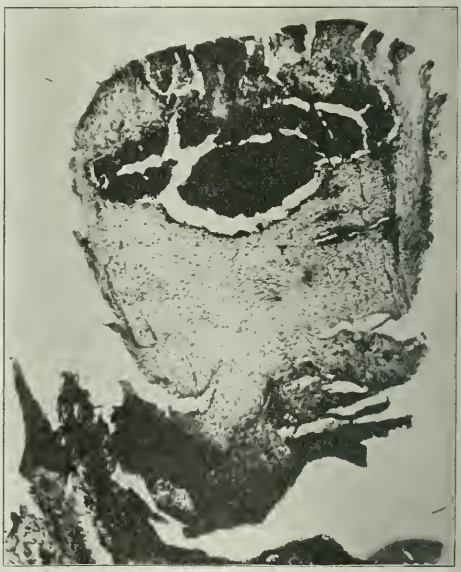

Fig. 4.—Acne keratosa. Corneous plug, showing persistence of the epithelia.

section was obtained it was usually too thick for microphotographic purposes or even for satisfactory examination. The accompanying prints show the best that I could do.

Briefly stated the anatomic features of the lesions were as follows: The corneous layer in the region surrounding each sebaceous gland was greatly thickened, forming a crateriform mass, with more or less sloping edges. The thickening was

most marked in the upper part of the follicle, and was thinner in the lower. The sebaceous cells themselves could only be distinguished in the deepest parts of the follicles; they were atrophic and flattened, evidently from pressure. In none of the specimens could any hair structures be found.

In the smallest and earliest lesions the dilated follicle formed an irregularly oval sac, broad above and pointed in its deepest portion. In the larger and later lesions the sac was broad and crateriform. (Figs. 3 and 4.) And in every case the sac was occupied by the keratinized mass that is characteristic of the disease. There were some migratory cells in the connective tissue around the walls of the sebaceous glands, but in general the evidences of inflammatory action were but slightly marked.

The corneous plug itself was composed of a mass of imperfectly keratinized corneous cells. (Fig. 5.) Throughout its mass the protoplasm and nuclei could be stained, showing that the process of keratinization was incomplete. In the upper central part of each fully developed plug, however, was a small

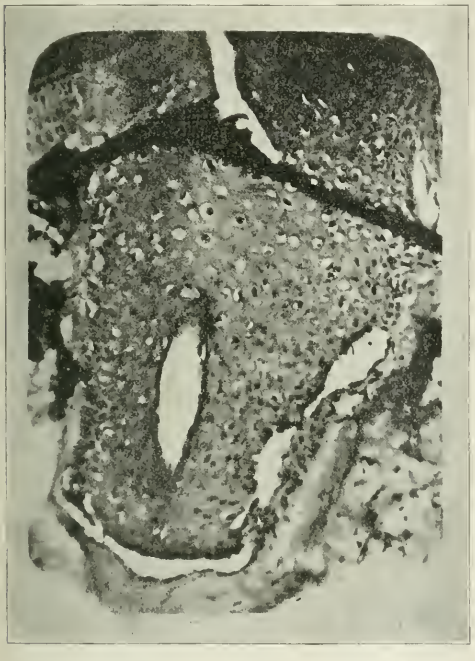

Fig. 5.—Acne keratosa. Deep portion of corneous plug, showing degenerated cells resembling psorosperms.

mass of cell material that seemed to have undergone a complete change, and in which no persistence of cell structure could be demonstrated. No necrotic hairs or their remains, as claimed by Tenneson and Leredde, were found in any of the plugs.

Differential Diagnosis.—The anatomic picture resembles that of ordinary acne and comedo in some respects; but it differs in the absence of the small-celled perivascular infiltration surrounding the follicular epithelium that marks the inflammatory nature of the acne lesions, and the comedo plugs are not composed entirely of imperfectly keratinized corneous cells. It is as characteristic in its way as is the clinical picture of the affection.

I might add that the larger oval and crescentic lesions that were exceptionally noted were found microscopically to be exactly similar to the smaller ones.

The cases, therefore, were true hyperkeratoses of the sebaceous glands, without any demonstrable pilar involvement. We are entirely in the dark as to its cause.

In both the cases that came under my observation the affection was confined to the backs of the hands and the face, a fact that inclines me to believe that a contagious element of some kind, spread by direct local transfer, was its cause.

144 West Forty-eighth Street.

MESENTERIC EMBOLISM AND THROMBOSIS.

A STUDY OF TWO HUNDRED AND FOURTEEN CASES.

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(*Concluded from page 114.*)

DISCUSSION OF SYMPTOMS AND PHYSICAL SIGNS.

Pain.—Five cases were found in which no symptoms referable to the abdomen were present. In 157 cases accurate data as to the pain were given.

	Per cent.
General abdominal pain	51
Pain in epigastrium	8
Pain about umbilicus	7
Pain in lower abdomen	4
Pain in right hypochondrium	4
Pain in upper abdomen	4
Pain in hypogastrium	3
Pain in right iliac fossa	3
Pain in right side of abdomen	2
Pain in left hypochondrium	1
Pain in left side	1
Pain absent	8
Pain radiating	4

In two cases pain radiated from right to left hypochondrium, while one case of each of the following was met: From navel to bladder; from vulva to navel; from right iliac fossa all over abdomen; from bladder to cecum and umbilicus; and from the epigastrium to the right side of umbilicus. In most cases the pain is sudden in onset, and usually constant and dull, with colicky exacerbations of extreme severity. The intermittent character comes out strongly in some instances, while in others it is less evident. The causation of the pain is generally admitted to be due to the intestinal contraction. Borszéky[37] so considers it, and refers to the experimental work of Kader.[32] Schnitzler,[38] however, maintains that in cases of the intermittent recurring character, such as have just been mentioned, the pain is identical with that described by Charcot in the so-called intermittent claudication. We have here an artery which has become much reduced in caliber by the endarterial process, but which under good heart action is wholly competent. Lessening of blood pressure by heart weakness, however, causes a local anemia in the area supplied by the diseased vessel, which in turn gives rise to the pain called by Schnitzler "intermittent anemic dysperistalsis." A case of Schnitzler and one of Lepine[39] well illustrate this type.

Nausea and Vomiting.—This is usually present following the pain. When the onset of the disease is more gradual, this may or may not be present. According to the severity and duration of the process, the vomitus is either normal stomach contents, bile-stained, fecal or finally clear blood.

Diarrhea or Constipation.—According to Kussmaul and Gerhardt, bloody stools are essential for the diagno-

37. Bruns' Beiträge z. klin. Chir., vol. xxxi, p. 704.
38. Wiener med. Woch., 1901, Nos. 11-12.
39. Quoted by Schnitzler.

sis. Several other authors, among them Deckart and Neutra, oppose this view, and our present analysis bears them out. Of 153 cases, in which accurate data on this point are given, we find:

	Per cent.
Obstipation	22
Bloody stools	19
Diarrhea without blood	13
Normal stools	12
Diarrhea, later becoming bloody	10
Obstipation followed by bloody diarrhea	6
Normal stools, succeeded by obstipation	5
Normal stools followed by bloody diarrhea, diarrhea followed by obstipation, bloody diarrhea followed by obstipation, obstipation followed by diarrhea, each	3
Obstipation followed by normal stools, bloody diarrhea followed by normal stools, normal stools followed by diarrhea, each	0.3

Adding these together, we find that blood occurs in the stools at one time or another in 41 per cent. of the cases. The statement that obstinate constipation was present from the beginning Neutra thinks improbable. He considers this due to lack of observation or explains by saying that the spasmodic contractions of the intestines, which cause the colicky pains, pass so quickly into the paralytic stage that there was no movement of the bowels as a result. The first statement can naturally neither be proved nor disproved, but the latter is warranted by the large number of cases where bloody intestinal contents were found at autopsy, although this had not appeared during life. It is certain, however, that though the above percentages may not be absolutely accurate, blood is found in the stools with sufficient frequency to make it of considerably more diagnostic value than Borszéky's statements imply.

Abdominal Tenderness.—This was noted in 115 cases. In 30 per cent. of these it was absent; in 70 per cent., present. Its localization, when present, is shown by the following:

	Per cent.
General abdominal tenderness	67
Localized about navel	8
Localized about cecum	7
Localized in epigastrium	7
Localized in hypogastrium	4
Localized on left side of navel	2
Localized in right hypochondrium	2
Localized at McBurney's point	1
Localized at right costal border	1
Localized at several points in hypogastrium	1

Distension.—This is usually a rather late sign, and one of increasing severity. It was mentioned in 125 of the cases. In 22 per cent. of these it was absent, in 78 per cent. present. When present it was:

	Per cent.
General	96
Localized below navel	2
Localized in right hypogastrium	1
Localized in upper abdomen	1

The experiments of Kader, already mentioned, showed the following events on ligation of the superior mesenteric artery: Contraction of the coils of intestine and anemia of them; then hyperemia followed by complete intestinal paralysis, when stasis had occurred; then lastly came distension from gases of decomposition.

Intestinal Obstruction.—This is one of the most important appearances and occurs rapidly in many cases. Deckart (and Rosenbach already quoted) explains this by nutritional disturbances. In some instances the ensuing peritonitis is undoubtedly the cause of the ileus, but that this is not always the case is shown by cases where it follows immediately the closure of the vessel, at a time when there can be no question of either peritonitis or necrosis of the gut wall.

A symptom of minor importance is hiccough, which is found in a few cases. In our cases there has been found also a marked increase in the leucocyte count, and a positive iodin reaction (iodophilia). In a certain number of cases sugar has been found in the urine (see Case 1), but it has not been possible to determine from the reports whether this was present before his intestinal symptoms began. In Case 1 it was already present. Its previous absence would make its finding of some worth, however, since from the experiments of Tangl and Harley[40] and Kolisch,[41] one of the results of closure of the mesenteric vessels is glycosuria. Also an increased elimination of indoxyl is often seen in these cases. There is often evidence of nephritis of varying grades of severity.

The temperature usually falls below normal, though not infrequently an increase is observed, which perhaps is due to accompanying processes, such as peritonitis, endocarditis or toxic absorption from the intestinal contents.

Of interest are those cases referred to by Talke,[42] in which purpuric spots are seen. He makes the occurrence of purpura of considerable diagnostic value. Such cases also demonstrate the embolic nature of purpura in certain instances. Here must also be noted the articles by Osler, the last of which appeared in the *American Journal of Medical Sciences* for January, 1904. Several cases are here given of disease of the so-called erythema type, in which, together with purpuric spots and various other cutaneous symptoms, there occurred also abdominal symptoms, such as pain and bloody intestinal movements. The case described by Talke showed undoubted embolism of the mesenteric vessels. In none of Osler's cases was this present. From a clinical point of view it would seem, however, that an early differential diagnosis were impossible.

Diagnosis.—This is admitted by all to be exceedingly difficult, and the more so because the symptoms have the same causation as in several other acute abdominal lesions. Gerhardt[43] makes the following diagnostic postulates:

1. There must be present a source of the embolus.
2. There are present copious intestinal hemorrhages, unexplainable by disease of the gut wall or by hindrance to the portal circulation.
3. There is quick and marked fall of body temperature.
4. Colicky abdominal pains, which may be very severe.
5. Later distension of the abdomen and free fluid occur.
6. Emboli of other parts may have been present before or may occur simultaneously with closure of the mesenteric vessels.
7. There occurs sometimes a large, palpable blood tumor between the layers of the mesentery.

Clinically it is very rare to find all these points present, and so the diagnostic value of the above schema is considerably impaired. It can not be wholly discarded, however, but, as Neutra says, only in the presence of the greatest number of points of this schema can the diagnosis be made with any degree of certainty.

Schrötter[44] says that if the characteristic disease picture develops in the case of a younger individual, with a heart lesion, one immediately thinks of embolus. In an older individual, with arteriosclerosis, a sudden occurrence of the symptom-complex makes embolism most probable. With slow development, at any age, throm-

40. Pflüger's Archiv, vol. lx
41. Centralblt. f. klin. Med., 1892, p. 737
42. Brns' Beiträge z. klin. Chir., 1903, vol. xxxviii, p. 743.
43. Würzburger med. Zeitschrift, 1863, vol. iv, p. 141.
44. Nothnagel's Spezielle Pathol. u. Therapie, vol. xv.

botic processes of either artery or vein are more probable. According to Köster,[45] it is impossible to differentiate between closure of arteries and that of veins.

The conditions which are most often confounded with these cases of intestinal paralysis are those where the obstruction is due to a mechanical hindrance. These are intussusception, volvulus, strangulation by bands or obstruction from gallstones or cancer. Also those diseases which may cause blood in the stools or vomitus must be ruled out. Such are gastric or duodenal ulcer, heart and liver disease.

Naunyn[46] considers dysenteric, foul-smelling hemorrhagic stools characteristic of intussusception, but these also are found in closure of mesenteric vessels. Nothnagel[47] thinks the variations in size and shape of the sausage-shaped tumor in intussusception, caused by the contractions, to be of value. We must remember, however, that there are cases of mesenteric occlusion which have tumors of the mesentery caused either by hemorrhage or edema.

In volvulus, which is usually of the lower bowel, it is impossible to inject any great quantity of water.

Obstruction due to cancer, gallstones, etc., is usually more gradual in onset, and in the previous history there will most often be found data for differentiation.

The differentiation from portal thrombosis is usually impossible, since this is, in many instances, only an earlier stage in the same disease process. In this connection, Stefan[48] thinks that the presence of a large amount of fluid in the abdomen, in a case where intestinal obstruction of the paralytic type has occurred suddenly, speaks for mesenteric as against portal thrombosis. Tuberculosis and malignant disease must first have been ruled out. Occasionally in portal thrombosis we are able to note the gradual increase in the size of the spleen. Schrötter[44] also mentions in differential diagnosis the rare cases of aneurism of the hepatic artery. This rarely causes symptoms until it ruptures, when severe abdominal pain occurs. The sac has usually become adherent to the intestine or bile passages, and so there occurs hematemesis or melena. In this condition, however, it is to be noted that the attacks are usually recurring, and last through weeks, that often jaundice is present, and that signs or symptoms of peritonitis are absent.

So, too, the various clinical tests showing the presence of sugar, or much increased indoxyl in the urine, or the increase of white cells and marked iodophilia in the blood, since they are all consistent with intestinal obstruction from various causes, show nothing specific for those cases due to occlusion of mesenteric vessels.

We must agree with Hemmeter,[49] therefore, when he says that in the large majority of cases the nearest to a recognition of the correct state of affairs that will be made is the diagnosis of intestinal obstruction.

Prognosis.—As has been seen in speaking of the course of the disease, the condition is a very fatal one. Even granting the diagnosis to be correct in all the reported cases, we have a mortality of about 94 per cent. The condition is admirably summed up by Neutra, whom we quote: "In cases of acute onset, the prognosis is indeed very grave, but by no means absolutely bad, since behind these severe symptoms there may be hidden a chronic process which favors the formation of a collateral circulation, and on this the prognosis depends. If, on the other hand, the course is a chronic one, and only a few exacerbations are present, between which there is complete absence of symptoms, the prognosis, nevertheless, is moderately bad, since in these cases it must be assumed that because of some hindrance a competent collateral circulation can not be formed. Accordingly, thrombosis of mesenteric arteries is of relatively better prognosis than embolus."

Treatment.—Basing his treatment on what has gone before, Neutra advises, in the early stages, drugs to increase the blood pressure, or a light abdominal massage to displace the clot, if possible, and spread it into smaller branches. Both of these means seem to the writers to be illusionary. It does not seem to us that any treatment is rational except that of exploratory laparotomy, in every case where the patient's general condition will warrant it, and as soon as even a tentative diagnosis has been made.

Operation.—Operation has been done for the condition in 47 of the reported cases, with a mortality of 92 per cent., only 4 cases having recovered so far as reported. It seemed, therefore, to be of interest to review the pathologic findings in the non-operated cases, to see whether in these, had the diagnosis been made, operation could have been of any avail. The case showing the largest extent of resected gut is that of Elliott, in which 48 inches were removed, with complete recovery. Making this the upper limit, the autopsies show 24 non-operative cases, having the following extent of involvement:

One case showing 1 inch.
One case showing 2 inches.
Two cases showing 4 inches.
One case showing 8 inches.
One case showing 10 inches.
One case showing 1 foot.
One case showing 16 inches.
Two cases showing 20 feet
Two cases showing 2 feet.
One case showing 31 inches.
One case showing 38 inches.
Four cases showing 39 inches.
One case showing "several inches."
Four cases showing "one coil."
One case showing 2 coils.

That some of these cases would not have been benefited by excision of the gangrenous area is undoubtedly true. The extremely low general condition of the patient or the high situation of vessel closure prevents us supposing any other course than a lethal one. In 15 of these cases, however, there is nothing brought out in either the history or autopsy protocol to contraindicate a resection. These cases have to do with a small area and the vessels in its immediate supply, and these conditions have been found most frequently in cases of venous closure.

We feel also that faulty technic has been a factor in some of the operative failures. In many cases it is impossible, even with good demarcation lines, to be sure that the gangrene has reached its limit. For this reason those operations in which the resection has been followed by immediate anastomosis seem unwise. They also expose the patient to an operation which is too long and involves too much trauma.

The method of procedure which we advise, therefore, is to bring the involved gut well out of the wound, with liberal, sound margins left at either end, and after resection to fix the open ends in the wound, well walled off with gauze tampons. If peritonitis is present, a speedy flushing out of the cavity with hot saline solution, through the Tait tube, is advisable, and adds but

45. Deutsch. med. Woch., 1898, p. 325.
46. Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1896.
47. Spezielle Path. u. Therapie.
48. Nederl. Tijdschr. voor Geneesk., 1900, from Centralblatt f. klin Med., 1901, p. 178.
49. Diseases of the Intestine, 1902, vol. II.

little to the trauma of the operation. With both ends of the intestine thus open, the distension can be relieved, and the intestine watched for signs of further gangrenous involvement. Such an operation as we describe ought not to necessitate over fifteen or twenty minutes anesthesia.

We do not claim that many cases can be successfully treated by this or by any other method, but it does seem as if an occasional case might be saved, and certainly this method puts the patient in the best position to recover, if such be possible.

LATER CASES.

While the preceding article was in press, the following cases occurred, which we add to the above list. The first is a good illustration of the venous type of thrombosis, occurring as a terminal event, after operation for umbilical hernia, in an excessively obese old woman, with poor heart action.

Case 28.—(Dr. C. A. Porter.) Woman, 64 years, entered Massachusetts General Hospital Feb. 17, 1904.

Previous History.—Has always been healthy. Has had five children, the youngest 33 years old. At last childbirth had double milk-leg, and has had enlarged veins of legs ever since. Sixteen years ago varicose ulcers appeared on each leg, and have persisted. Thirty years ago she first noticed a bunch, the size of a walnut, just to the left of the umbilicus. Since that time this bunch has been enlarging slowly to its present size. One year ago first noticed a bulging of abdominal wall, size of one's palm, just above the umbilicus. Soon after this she had stoppage of the bowels, and vomited for two or three days; was relieved by big dose of physic. For past six or seven years has been able to get about only when wearing an abdominal swathe. For many years has had some pain in the rupture.

Present Illness.—February 13 and 14 she had very small movement from bowels, with some cramps. Took physic without result. February 15 began to have severe pain in abdomen, about umbilicus, associated with much vomiting. This has continued. Bowels have not moved since February 14.

Physical Examination.—Markedly obese. Heart and lungs negative. Abdomen tympanitic and considerably distended. In region of umbilicus is a tumor, evidently an umbilical hernia, the size of a small football. Abdomen is tender just above this tumor. Ulcer on each leg.

Operation.—(Dr. C. A. Porter.) February 17. Radical cure of an incarcerated umbilical hernia, which contained about six inches of the transverse colon and a large amount of omentum. The patient made a fair recovery from ether, considering her condition at entrance. Convalescence was complicated by slight fever, due to a mild wound infection, which showed itself first March 6, when a pocket of pus was evacuated and drained.

March 11. Slight syncopal attack, cyanotic, dyspnea, hands cold. This was relieved by a bed-rest, digitalis and strychnia. During the next week she was kept on digitalis and strychnia; had to have a bed-rest to relieve the dyspnea. During this time hands were for the most part cold and blue, but now and then became warm.

Death.—March 22. In the morning she became distinctly worse and very cyanotic; complained of colicky pains in the abdomen. Physical examination showed the abdomen markedly distended, with some dullness in both loins. At 5 p. m. she vomited a large amount of brown material, without fecal odor, which proved on examination to be chiefly blood. She rapidly failed, and died early in the evening.

AUTOPSY.

Anatomic Diagnosis.—(Dr. Oscar Richardson.) March 23, 1904. Thrombosis of the portal vein, with hemorrhagic infarction of the small intestine, and with hemorrhage into the stomach and intestine. Congestion of the spleen and pancreas, with small hemorrhagic areas in their tissues. Ascites, cholelithiasis; arteriosclerosis of the aorta; fatty infiltration of the myocardium of the right ventricle, with hypertrophy and dilatation of the heart. Chronic pleuritis. Hemorrhagic edema of the lungs. Thrombosis of the right common and external iliac and femoral veins. Edema of the lower extremities. Small abscess in the mass of adhesions at the base of the old operation wound.

Peritoneal cavity contains a large amount of reddish fluid. At a point 270 cm. above the ileocecal valve, the small intestine, over a distance of 120 cm. above this point, presents walls of a marked blackish-crimson color. At each end of this strip of intestine this marked change in the color of the wall ceases suddenly. The mesentery supporting this strip of intestine shows no distinct change in its color, but is slightly thicker than normal. In places, toward the root of the mesentery, engorged veins are plainly visible. The serosa of this involved portion of gut presents fine, fibrinous-like material on its surface. The descending colon, sigmoid and rectum, on section, show nothing remarkable. The small intestine, on section, contains a large amount of blackish, bloody semi-fluid material. The bloody character of this material is most marked in that portion of the small gut which shows the marked discoloration of its walls. These walls, on section, are of a blackish-crimson color, opaque, and there drips from them a thick fluid, blood-like material. The mucosa of the small intestine below this infarcted strip is more or less reddened. No ulcers are found in either the small or the large intestine. On section of the portal vein it is found to be distended and occluded by a large, grayish-yellow to blackish-red, fibrinous material, about 10 cm. in length, which is in places adherent to the intima. The circumference of the vein is 4.5 cm. The adhering mass is continued a short distance into the great branches of the portal vein in the liver, and is propagated from there on into the small branches as blackish-red, more or less firm blood clot. From the lower portion of the portal vein this occluding thrombus mass is propagated into the gastric, splenic and superior mesenteric veins and their radicles, as black more or less firmly-clotted blood. As far as can be determined, the inferior mesenteric vein appears to be much more free from the clotted blood than any of the other branches of the portal vein. The intima of the splenic vein, near its junction with the portal, shows a place where the clotted blood is adherent to it. A large branch of the superior mesenteric vein, apparently the colica dextra, is distended with blackish-red clotted blood, and is plainly traceable to the mass of fibrous tissue, colon and omentum at the base of the healed wound in the abdominal wall.

The mesenteric arteries are free, and the intima smooth. The right common and external iliac veins and the first portion of the femoral vein, on section, present a grayish-red to blackish-red fibrous mass of material, which is rather firmly adherent to the intima in places.

Culture from clot in portal vein showed a colon-like bacillus; those from the liver show this same bacillus, and also a few streptococci. All other cultures were negative.

In this case it appeared as if the primary thrombosis formed in the portal vein, from which the other mesenteric vessels were filled by backward extension. It is impossible to explain the origin of this thrombosis. It may have been due to infection of the wound, though this appears to us unlikely, as the peritoneum was not involved in the infection, or secondly and most probably, the thrombosis developed as a result of her poor cardiac action for a period of ten days.

The following case has been kindly sent by Dr. Elmer H. Copeland of Northampton, Mass., under whose care the patient was:

Case 29.—Man, aged 61 years. Typhoid 36 years ago; well and active since.

Present Illness.—Feb. 6, 1904. Attack of pain in left inguinal region, with some tenderness. Bowels had not moved for two days. Temperature, 96.5 F. After active catharsis, bowels moved several times, with relief of the pain. No blood in movements. The pain returned soon, however, and could not be relieved.

Operation.—(Dr. G. W. W. Brewster, Boston.) Feb. 9, 1904. Entire small intestine of dark red color, like "bologna sausage," with several spots of a darker red. Abdomen washed out and closed. Operation gave no relief of pain, which continued to be spasmodic in character. Temperature rose to 103, with vomiting (not bloody) and abdominal distension, and patient died February 11, fifty-three hours after operation.

AUTOPSY.

These several spots of gangrene above mentioned were present at autopsy, and also an area of gangrene six inches in length, about six feet below the pylorus, which extended around the entire circumference of the gut. Below this the intestine was empty; above, it contained semi-fluid, slightly bloody fecal matter. The blood vessels were not examined.

The following very interesting case is at present in the wards of the Massachusetts General Hospital under the care of Dr. J. W. Elliott:

CASE 30.—Man, 22 years, electrician, entered the medical wards of the hospital April 7, 1904, with the diagnosis of a duodenal or peptic ulcer.

Previous History.—Until three years ago had been very robust. One year ago had pneumonia.

Present Illness.—Perfectly well until three weeks ago, when he began to have pain in epigastrium, and inability to keep food on his stomach. Has good appetite, but vomits all he eats. At first vomitus consisted of food eaten, but lately has been of "coffee grounds" character. For past week has vomited three or four times a day, never any fresh blood.

Physical Examination.—Well developed and fairly well nourished. Pupils equal and react. Glands in both sides of neck, right axilla and groin, varying in size from a pea to a large bean. Left epitrochlear gland hard and shot-like. Heart and lungs negative. Abdomen full, muscles held rather rigidly, tympanitic throughout, no masses. Considerable tenderness beneath left rectus, and some spasm in epigastrium. Small scar on dorsum of penis.

April 14. Vomited some blood last night, and does not feel very well. Has some pain in epigastrium, with tenderness. Abdomen slightly distended. Vague sense of mass in right hypochondrium, with distinct resistance of right rectus. Liver dullness slightly diminished.

Urine: acid, specific gravity 1030; albumin absent; sugar absent; leucocytes, 7,300.

Operation.—(Dr. Elliott.) April 14. Median incision in epigastrium. No free fluid. Sponge passed to pelvis brought up a little fluid, not cloudy or foul. Thorough palpation of stomach gave no evidence of disease. It was not dilated. Pylorus not abnormal. Small intestine looked rather dark, as if the contents were bloody. Upper part of jejunum distended. This was brought forward to anterior wall of stomach and gastrojejunostomy made. Mucous membrane of jejunum very thin and friable.

April 15. Vomited some dark material this morning, and color is rather cyanotic. Urine: acid, specific gravity 1033; albumin absent; sugar absent.

April 16. Some fever to-day and abdomen tender and distended; relieved by enema. Leucocytes, 9,300.

April 18. Patient more comfortable. Vomited this afternoon after potassium iodid. Abdomen soft. Retaining nutrient enemata well, which, however, have to be given small. Taking considerable amount of liquid by mouth.

April 22. Patient looks brighter and in better condition. Is now taking soft solids. Wound united by first intention.

April 25. Gaining. No complaints.

April 28. Excellent appetite. Retains and digests all food. Is having soft solids, chicken, etc.

May 1. Daily gain.

May 2. Complained of slight pain in abdomen to-day, which soon passed away.

May 3. This morning patient was seized with abdominal pain, not localized, cramp-like, accompanied by some nausea and vomiting. Abdomen soft, slight tenderness in left lower quadrant. During day patient had steady pain, with rare remissions. At night slightly more easy, when a vague resistance and sense of mass was felt in left lower quadrant. Two enemata have had no result. Leucocytes, 21,400.

May 4. Pain persists. Rigidity of left rectus with tumor felt beneath it. Slight spasm of right rectus. No dullness, no nausea. Leucocytes, 24,600.

Operation.—(Dr. Elliott.) May 4. Small amount of cloudy fluid found in peritoneal cavity. A coil of much distended and almost black small intestine lay beneath the incision, with neighboring coils slightly adhering to each other, and a little fibrin on them. Mesentery black almost to its root. Coil pulled out and 14 inches found gangrenous, but peritoneum still intact. Affected gut resected and ends brought out of wound. No strangulation present.

May 11. Since this second operation the patient's condition has been fairly satisfactory. He occasionally has considerable pain in the wound. Nourishment by mouth is retained, though there is at times some nausea. There is no pyrexia or other evidence of peritonitis or further gut involvement. The seat of the diseased gut could not be determined at operation because of the poor condition of the patient. If his condition permits, a secondary anastomosis of the resected intestinal ends will be done in the near future.

It seems evident that whatever the process that existed before the time of the first operation, the definite intestinal involvement began May 2, at the time when the pain and vomiting occurred. Though no gastric lesion was found at the first operation, the marked improvement in the patient's condition for over two weeks would seem to exclude the existence of a mesenteric thrombosis or embolism before this date. At present we can only speculate as to the nature of the original trouble.

NOTE: In the complete article to be published in the reprints, there appears a résumé of the cases recorded in the literature and a bibliography.

DOES GONORRHEA CAUSE PROSTATIC HYPERTROPHY?*

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The theories of pathologists concerning the etiology of various diseases have often a very mild and hazy interest for the busy practitioner of medicine, however hot the *odium scientificum* may boil. Occasionally, however, etiologic theory impinges on therapeutic practice, and forthwith the clinician is stimulated to keen interest.

Of late years two such theories have bubbled to the top amid the various conflicting views concerning the causes of prostatic hypertrophy. The one, the theory of testicular secretion with its train of castrations and vasectomies, is a recent memory. The other, the theory of prostatic inflammation, awaits practical confirmation.

From the days when the microscope was first applied to the study of prostatic hypertrophy, it has been an open question whether the inflammation always or almost always found associated with hypertrophy was effect or cause. But until recently those who held inflammation to be secondary have had rather the best of the argument. In the days of Thompson and Virchow the prostatic myoma held sway, a product quite beyond the power of inflammation. Later improved microscopic technic showed the "myoma" to be actually a fibrous growth and the result of inflammation. But still the "adenoma" stood between and relegated inflammation to a second place. Motz is perhaps the most outspoken champion of the theory that prostatic hypertrophy is

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the result of grandular proliferation in which secondary congestion and inflammation cause fibrous changes, the greater or less proportions of which explain the various degrees of adenomatous and fibromatous hypertrophy encountered clinically.

Leaving aside the heresies of atheroma and testicular secretion (the former of which has required so much theoretic killing, while practice proved the natural death of the latter), such has been the general trend of theory up to the time of Ciechanowsky.

CIECHANOWSKY'S THEORY.

In 1896 Stanislaus Ciechanowsky published the first of a series of monographs, the most comprehensive of which, "Anatomical Researches on the So-called Prostatic Hypertrophy and Allied Processes in the Bladder and Kidneys," was edited in English by Dr. R. H. Greene last year. The chief conclusions of this very conscientious and scientific series of pathologic researches are: 1, To pulverize through five chapters the remains of the theory of arterial atheroma; 2, to deny the existence of the prostatic adenoma; 3, to attribute the histologic changes in both prostate and bladder to chronic inflammation of these organs; and 4, to attribute prostatic atrophy and prostatic hypertrophy to similar inflammatory processes differently distributed.

A few quotations will illustrate Ciechanowsky's point of view, insomuch as it concerns us:

I could never observe the changes in the epithelium which might be mistaken for neoplasmatic proliferation. By other authors two kinds of proliferation in this sense were described. The one is attributed to the fact that the epithelium becomes stratified, whereby the superficial cells which lie opposite the center of the glandular lumen lose their nuclei and become more polygonal and bigger than peripheral cells. The other is attributed to a sprouting of new, partly solid, partly hollow cell plugs, from which later on new glandular tubules are formed. In spite of very careful researches, neither the one nor the other kind of proliferation could I find in the enlarged prostate glands examined by me, provided that the preparation was cut sufficiently thin (not above 0.01=10¼ thickness). On the other hand, it is not hard to find such pictures as are described by Birch-Hirschfeld and Jores in thicker preparations, in which a few layers of cells were arranged above each other. . . . By using thin sections one can easily convince oneself that what was looked on as a new-formed glandular tubule by Birch-Hirschfeld and Jores is nothing but an altogether normal glandular branch, not yet enlarged by the accumulated pathologic contents. By similar technical mistakes the incorrect conclusion of the French investigators is to be explained, only with the difference that here the faulty observation was referred to the enlarged glandular acini. If such a glandular acinus be opened by a cut at its greatest diameter or near it, then its peripheral epithelial lining will be divided longitudinally, i. e., vertically, and will appear in its real form, i. e., as a single layer. But the case will be entirely different if the cut open a cystically enlarged gland near its wall parallel with and near a tangent surface. The part of the glandular wall divided by this forms a very shallow, dome-shaped sphere or cylindrical section. Then it may easily occur that the cut may not reach the lumen of the gland at all, but may lie in its whole extent in the epithelial lining. In such a section the peripheral epithelial cells are cut through at different heights; the ones lying in the middle are cut near the summit; the others lying near the periphery are cut near the base; that is, the part which contains the nucleus. Hence the cells lying in the middle of the section appear to have no nuclei, while those at the periphery have, and the whole gives the impression of a glandular acinus filled with proliferating cells. That this is so is demonstrated by the difference in size between the peripheral and the central cells, as mentioned by the French investigators, which difference is only apparent. . . .

From the foregoing it will be seen that we can not speak of a genuine neoplasmatic proliferation of the glandular tissue proper of the enlarged prostate; and, as the majority of the well-defined nodules that can be enucleated consist exclusively of the much-dilated glandular acini, I gave to these nodules, without searching for other names, the name of "pseudo-adenoma." . . By an investigation of my cases, made as accurate as possible, I was convinced that in no one of them is the glandular tissue absolutely increased. The increase of the glandular tissue is only apparent, and arises wholly through the dilatation of the lumen. . . . It is easy to demonstrate the real and primary causes of the passive glandular dilatation in the changes localized in the stroma. In all the cases of "hypertrophy of the prostate" examined by myself I found, without exception, changes in the stroma adequate to explain all phenomena. These changes depend on a proliferative connective-tissue process.

. . . The common starting point of hypertrophy of the prostate gland and certain forms of atrophy must be sought in the productive connective-tissue processes, which have their seat in the stroma of the organ. . . . If the productive stroma changes localize themselves in the central parts of the prostate in the vicinity of the main excretory duct, then they may produce a narrowing or obliteration of the lumen of this duct, which may cause an accumulation of the secretion and an enlargement of the peripheral lobules. . . . The enlargement of the prostatic gland is nearly always to be referred to the dilatation of the acini; the relatively large masses of new-formed connective-tissue play a subordinate part in the pathologic growth of the prostatic gland. . . . If the connective-tissue changes in the stroma occupy mainly the periphery, and if they localize themselves in the neighborhood of the terminal branches of the tubules of the acini, then, by adhesion and atrophy of the compressed tubules and by shrinkage of the connective-tissue in the stroma—a prostatic atrophy—there will be produced a diminution of the whole organ.

From these observations, founded on an exhaustive study of diseased prostates, Ciechanowsky infers the very moderate and entirely justifiable conclusion that "the foundation for hypertrophy of the prostate gland and certain forms of prostatic atrophy, in my cases at least, consisted in chronic inflammatory processes, the etiologic relation of which to virulent gonorrhea is not sufficiently proven at present. Yet the great frequency of gonorrhea in general, the great frequency of chronic prostatic inflammation due to it after all acute inflammation has subsided, and more particularly the conspicuous similarity of my observations to the pathologic changes found in gonorrheal prostatitis, make it possible that such a relation exists. Ciechanowsky says:

"Whether gonorrhea really is the most frequent and important cause of hypertrophy of the prostate gland, will be the work of the future to decide."

The fundamental facts discovered by Ciechanowsky have been verified by Greene and Brooks[1] and by Crandon,[2] and are doubtless accurate. But the conclusion of all these observers is a very direct imputation on the virtue and virginity of the hypertrophied prostate, an imputation anyone may well hesitate to concede, lest the passing years find him an unwilling witness to a gonorrheal past, caught, as it were, in his own claptrap.

Until now the busy practitioner has had no more reason to consider gravely the question whether prostatitis is the cause of prostatic hypertrophy than the every-day citizen has had to debate seriously the psychologic theory that man's actions are determined and he has no free will. In each case the *prima facie* evidence has been clearly against the theory. A man who does all his work under the implication that he may or may not

1. The Journal A. M. A., 1902, xxxviii, 1051.
2. Annals of Surgery, 1902, xxxvi, 813.

do it, as he will, can not be expected to look on himself as the passive instrument of blind fate; and, similarly, the practitioner of genitourinary surgery who encounters case after case of prostatic hypertrophy with clear urine and no history or evidence of inflammation of the urethra, can not be brought to see in urethritis the cause of prostatic hypertrophy, except by a theory as definite as Ciechanowsky's.

CLINICAL EVIDENCE.

But, since Ciechanowsky is so positive and since his demonstrations have been verified by competent, independent observers, it behooves us to set *prima facie* evidence aside, and to criticize carefully the seeming freedom from inflammation exhibited by so many cases of hypertrophy of the prostate. Thus clinical evidence may be amassed either for or against the theory.

It so happens that I have access to a set of case books running back to the early 60's, and affording a wealth of clinical material recorded entirely without partisan spirit, and detailing urethral histories for many years. From these case books I have been able to collect a number of histories bearing on the subject in question; and these I submit with the belief that this clinical evidence will aid us in interpreting the pathologic facts.

TABLE 1.—CASES OF PROSTATIC HYPERTROPHY, REAL AND SEEMING, PRECEDED BY CHRONIC URETHRITIS.

		Prostatitis Began at.	Prostatitis Ended at.	Symptoms of Prostatic Hypertrophy at.	Incomplete Retention at. . . .	Duration of Prostatitis in Years.	Last Seen at. . .	
1	Prostatitis	31	x	47	No	—	47	Congested.
2	Prostatitis .	45	x	62	No	—	62	Normal at 58.
3	Stricture . .	38	45	No	No	—	55	A shade large.
4	Prostatitis	42	Con.	61	No	25	67	Large and tender at 60.
5	Stricture, Stone.	57	67	No	No	10	69	Not large; small adenoma.
6	Protatic abscess	31	Con.	Yes	Yes	26	57	Not large.
7	Prostatitis	42	x	62	62	—	62	Not large.
8	Stone. . . .	40	Con.	40	40	10	50	Not large.
9	Stricture . .	37	Con.	—	—	12	55	Middle lobe large.
10	Stricture . .	49—	Con.	—	—	2	51	Bar excised.
11	Stricture	62—	Con.	?	?	—	62	Double the normal.
12	Stricture . .	40	Con.	60—	60	20	60	Not examined.
13	Stricture . .	23	x	65	65	—	65	Normal at 48.
14	Stricture . .	25	Con.	65—	65—	40	65	Moderately large.
15	Prostatitis .	?	x	53	55	—	67	Very large.
16	Stricture . .	39–	47	50–	51	8	68	Moderately large.
17	Contracture.	—	—	67	67	—	73	Moderate lateral hypertrophy.
18	Strictnre . .	56–	?	69	69	—	73	Not examined.
*19	Strictnre . .	45–	Con.	45	48–	3	48	Not large at 45.
20	Stricture . .	27	Con.	44	44	28	55	Large at 50.
21	Stricture . .	50–	?	60	60	—	63	Moderately large.
22	Contracture.	—	—	56	56	—	62	Moderately large.
23	Stricture . .	58–	Con.	59	59	7	65	Enormous.
24	Prostatitis .	16?	x	52	—	—	66	Not examined.
25	Contracture, Stone.	Yrs.	66	63	63	Yrs	69	Middle lobe.
26	Contractnre.	66	68	66	—	2	70	Middle lobe.

x.—Several short attacks of prostatitis.
Con.—Prostatitis persists at the time of last observation.
*—This case is not included in Table 4, since it was not followed to the fiftieth year.

CHRONIC POSTERIOR URETHRITIS FOLLOWED BY PROSTATIC HYPERTROPHY.

Table 1 comprises all the cases I have been able to find in which there is the remotest possibility that a previous prostatitis might have been the cause of prostatic hypertrophy. These cases, 26 in number, may be divided in four classes: (1) Five cases (1 to 5) of chronic urethritis, in which the prostate was not clinically hypertrophied. Three of these (1, 2 and 4) show congestive symptoms of prostatic hypertrophy, but no residual urine, and at most are instances of possible beginning hypertrophy. In two others (3 and 5) there were no symptoms of hypertrophy, but the prostate is a little large in one and contains a small adenoma in the other. (2) Three cases (6 to 8) with partial retention, in which the prostate was certainly not large so far as examination without operation could reveal. These three cases were assuredly instances of contracture of the bladder neck. (3) Three cases (9 to 11) of deep stricture, so tight that prostatic symptoms were not revealed, but in which perineal section showed slight enlargement of the prostate. (4) Finally, there remain 15 cases (12 to 26) of large prostate which, with the three last mentioned, make 18 cases of known prostatic hypertrophy after more or less prolonged chronic urethral inflammation.

In cases 17, 22, 25 and 26 it is presumed, though not proven, that contracture antedated hypertrophy. (See detail of cases in Table 1 at end.)

These 18 cases were found among 433 case histories of hypertrophied prostate. Doubtless the number would have been larger had these 433 cases been more closely questioned as regards their early history; their fewness only enforces the well-known fact that, clinically, prostatic hypertrophy is not often associated with history or evidence of chronic urethritis.

However, it may be observed that, among the 433 cases, the degree of enlargement is noted in 192; 31 (16 per cent.) of which are stated to have been "very large" or "enormous." Curiously enough in the present series, the degree of enlargement is noted in 12 cases; 2 (16 per cent.) of which were "very large"; thus showing no deviation from the normal standard.

Again, it is interesting to observe the age at which the symptoms of hypertrophy first manifested themselves. In the 433 cases this occurred below 45 years of age in 3.2 per cent., while in the urethritis series only 1 (5.5 per cent.) began below the 45th year. In the larger series, 9.5 per cent. began below the 50th year; while in the urethritis series, 3 (16.6 per cent.) began before that time. Moreover, in the larger series, 14.1 per cent. began after the 70th year; while in the urethritis series, all began before that time. Thus the urethritis cases showed prostatic hypertrophy at a slightly earlier age than did the others.

CHRONIC POSTERIOR URETHRITIS NOT FOLLOWED BY PROSTATIC HYPERTROPHY.

But a more definite estimate may be obtained by looking on the picture from another point of view. To this end I have collected and tabulated 54 cases of chronic posterior urethritis from various causes, followed to an age varying from 50 to 83 years, and not associated with prostatic hypertrophy. These cases are arranged in two tables. Table 2 presents the observed data in 20 cases of deep stricture, 8 cases of chronic gonorrheal prostatitis and 4 cases of stone. In these cases the fact that the patients got entirely well under treatment must be accepted as evidence that they were not suffering from any symptoms of prostatic hypertrophy; otherwise these would have appeared as the symptoms of the urethral or bladder condition were controlled. Table 3 comprises 7 cases of stricture and 15 of contracture of the neck of the bladder. These cases were all operated on and the absence of prostatic hypertrophy proven by digital examination of the prostate.

These 54 cases cover very fairly every degree of duration and intensity to be looked for in chronic prostatitis, and are, of themselves, sufficiently numerous to prove that chronic prostatitis, severe or mild, in youth or in age, does not inevitably lead to prostatic hypertrophy.

TABLE 2.—STRICTURE AT THE BULB.

	Age and Nature of Cause.	Symptoms Began at	Dilatation Began at	Dilated from (Charriere Scale)	Total Duration of Prostatitis Yrs.	Last Seen at
	Gon.	39	50	Fil.	11	50
*	Gon.	25	43	Fil.	25	50
	Gon.	42	42	21	9	51
*	22 Tr.	22	22		30	52
	Gon.	45	52	Fil.	7	52
	Gon.	Yrs.	53	15	Yrs.	53
	Gon.		53	Fil.		53
	20 Gon.	20	30		10	55
	Gon.		50	Fil.	6+	56
	28 Gon.	28	48	Fil.	20	57
	Gon.	36	47	Fil.	11	58
*	Gon.	30	46	Fil.	28	58
	30 Gon.		60	15		60
	Gon.	41	61	Fil.	20	61
	Gon.		82	15		63
	30 Gon.		43	Fil.	20+	63
	33 Gon.	50	58	27	8	64
	Gon.		65	21		65
†	32 Gon.	32	82	15	33	65
	24 Gon.	24	26	Fil.	14	83
		39	51	Fil.		

†—Catarrhal prostatitis and occasional epididymitis at 32, 33, 37, 41, 43, 60, 61, 62, 63, 65.
Tr.—Trauma.
Gon.—Gonorrhea.
*—Prostatitis persists.
Fil.—Filiform or a very small bougie.

TABLE 2.—PROSTATITIS.

First Attack at Age.	Second Attack.	Third Attack.	Fourth Attack.	Duration of Prostatitis.	Present Age.
29–34	46–50	. .	. .	8 Yrs.	50
33	34	. .	. .	Short.	50
47–8	. .	. .	. .	1 Yr.	50
29	35	39	. .	Short.	52
54–5	. .	. .	. .	1 Yr.	57
36	37	39	44	7	60
37–52	. .	. .	. .	15 Yrs.	61
50–59	. .	. .	. .	9 Yrs.	70

STONE AND LITHOLAPAXY.

Symptoms Began at	Operation at	Duration in Years.	Present Age.
48	50	2	50
49	56	7	56
56	58	2	61
*53	68	15	68

* Prostate atrophied.

TABLE 3.—CASES OF STRICTURE WITH EXTERNAL URETHROTOMY.

Date and Nature of Cause.	Symptoms Began at	Operation at	Duration of Prostatitis in Years.	Present Age.
18 Gon.	20	33	13	51
20 and 45 Gon.	45	55	10	55
Gon.	46	56	10	56
Gon.	37	39 and 57	19	58
30 Tr.	30	60	30	61
* O	19	56	37	68
* Gon.	30	71	41	71

CASES OF CONTRACTURE WITH EXTERNAL URETHROTOMY.

Date and Nature of Cause.	Symptoms Began at	Operation at	Duration of Prostatitis in Years.	Present Age.
33 Str.	33	53	20	53
45 Gon.	45	49	4	56
21 Gon.	21	57	36	58
. .	40	61	21	61
. .	53	63	10	63
. .	57	63	5	63
. .	64	66	2	66
. .	59	66	7	66
. .	Yrs.	68	.	68
. .	Yrs.	69	.	69
* Gon.	60	70	10	72
. .	Yrs.	72	.	72
. .	57	72	15	72
. .	70	72	2	72
. .	57	74	7	75

Tr.—Trauma.
Str.—Stricture.
Gon.—Gonorrhea.
*—Prostate atrophied.
:—Congenital.

But a comparison of these 54 cases with the 18 cases that constitute the series of prostatic hypertrophy due to chronic urethritis, is even more striking. In order to make this comparison on a fair basis, I have proceeded as follows: Taking a certain age—50 years, for example—I have counted, 1, the number (2,164) of cases of all sorts recorded in these case books, in which the patient was observed at or after the 50th year; 2, the number (425) of these cases showing hypertrophy of the prostate; 3, the number (71) with a history of chronic prostatitis; and 4, the number (17) of these with hypertrophy of the prostate.

By comparing, on the one hand, the number of the cases with enlarged prostate to the total recorded cases, and, on the other hand, the number of cases of chronic urethritis with enlarged prostate to the total number of urethritis cases, one can arrive at a very fair idea of the influence of chronic urethritis in causing the prostate to hypertrophy. If this influence were great, we should certainly find the urethritis cases showing a far greater proportion of hypertrophied prostates than the general cases which came suffering from all manner of maladies. Singularly enough, this is by no means the case; for, as Table 4 shows, the percentage of hypertrophied prostates in the urethritis cases was not very different from the percentage in all cases. Thus at the 50th year, it stood 25 per cent., as compared to 19 per cent.; while at the 60th year, it stood 33 per cent., as compared to 39 per cent., and at the 65th and 70th years, had fallen relatively lower.

TABLE 4.—PROPORTION OF CASES SHOWING PROSTATIC HYPERTROPHY UNDER VARIOUS CONDITIONS.

	AGE.	50 Yrs. Per Ct.	55 Yrs. Per Ct.	60 Yrs. Per Ct.	65 Yrs. Per Ct.	70 Yrs. Per Ct.
	All cases	19 1	27 1	39.1	49	52.6
71	Urethritis; cases	25 3	28 6	33.3	37 7	27.2
38	Stricture cases	29	34 5	42.1	50	33 3
19	Contracture cases	21	22.2	25	25	28.6

For purposes of still further comparison, I have made similar investigations in the stricture cases, and in the contracture cases; these resemble the general results as nearly as may be.

To my mind the most surprising feature of these percentages is the fact that chronic urethritis seems to have so little effect on prostatic hypertrophy one way or the other. The cases are surely numerous enough to give a very fair degree of accuracy, and yet they do not seem to prove that chronic urethritis, whatever its nature, either causes hypertrophy of the prostate or prevents it, though, if anything, very prolonged and active chronic prostatitis causes atrophy rather than hypertrophy; for, in 32 cases, the prostatitis lasted more than ten years. Of these, 18 (75 per cent.) showed hypertrophy, while 4 (12.5 per cent.) showed atrophy of the prostate, and not a single one of them had a very large prostate. On the other hand, among the 39 whose prostatitis lasted less than ten years, none showed atrophy, 11 (28.2 per cent.) showed enlargement, and 2 of these were very large. Additional confirmation of this presumption is afforded by the absence of hypertrophy in old cases of chronic retention cystitis due to locomotor ataxia and other forms of bladder paralysis.

THE EFFECT OF EARLY GONORRHEA.

The argument which has thus far been followed can not clinically be pursued much further. It is, I think, impracticable to draw inferences from the effects of short gonorrheas early in life to the prostatic hyper-

trophy of later years. The statements of patients are, of course, notoriously misleading; and yet it is generally conceded that fully 75 or 80 per cent. of adult males have gonorrhea in early life, and that fully 60 per cent. of these have posterior urethritis. Inasmuch as less than 20 per cent. of those who pass their 55th year have prostatic hypertrophy, one certainly can not infer any very direct connection between the two. To assume that the early gonorrhea produces the hypertrophic change of later life would be to assume something that proves too much. There are not enough hypertrophied prostates to go round.

Additional evidence against such a view—if additional evidence is needed—is also afforded by the fact that prostatic hypertrophy occurs with such uniformity at a definite period of life, which may be called the beginning of the decline. In exceptional instances—indeed, in 3 per cent. of my cases, for instance—the symptoms of prostatic hypertrophy appear before the 45th year. Yet the overwhelming majority (91 per cent.) do not cause trouble until after the 50th year. Yet to assume that the prostatitis found by Ciechanowsky and his followers takes twenty or thirty years to produce its effects is assuming too much for our credence until some direct evidence shall be brought to support such a theory. (See note at end of article.)

Thus it would seem that Ciechanowsky's theory is entirely lacking in clinical support. This is not saying that it is untrue. Yet we must conclude from the clinical facts that the prostatitis which causes prostatic hypertrophy is not clinically diagnosticable. Either it is a spontaneous process so mild as not to form a clinical entity and occurring spontaneously in middle life (some confirmation of such a view may be found in the spontaneous attacks of catarrhal prostatitis to which middle-aged men with normal prostates are undoubtedly liable); or, on the other hand, it may be that the inflammatory cause of prostatic hypertrophy is early gonorrhea; but that the prostate does not hypertrophy in a greater number of cases after early gonorrhea is due either to the fact that the gonorrheal process does not obstruct the prostatic ducts in all cases, or that the cases which do hypertrophy do so from an inherited predisposition.

There is some clinical reason to believe that prostatic hypertrophy tends to run in families; but I have no clinical data either to confirm or to deny such a belief. In fact, the object with which these cases are narrated is to show that, whatever this theory of Ciechanowsky's may mean, and whether or not subsequent investigations prove it to be accurate, chronic prostatitis, as seen by the clinician, is certainly not the adequate cause of prostatic hypertrophy, and we are by no means bound by Ciechanowsky's theory to believe that every man with hypertrophy of the prostate has had gonorrhea.

CASES OF HYPERTROPHY OF THE PROSTATE, REAL AND SEEMING, PRECEDED BY CHRONIC POSTERIOR URETHRITIS.

CASE 1.—Oct. 18, 1882. C. K., age 34, complains of painful and frequent urination, and irregularly by day. The urine is acid, sp. gr. 1027; trace of albumin; much pus and many oxalate-of-lime crystals. Urethra very hyperesthetic throughout. Anterior urethra admits 17 F. with difficulty. March 24, 1883. Internal urethrotomy to 30 F. Aug. 18, 1883. No further urinary symptoms. Oct. 20, 1885. Symptoms relapse. Instillations of nitrate of silver. May 4, 1886. Two instillations cured him; now a little irritated again. Dec. 12, 1895. Urine sparkling; sp. gr. 1022; no albumin. He gets up at night to urinate and overflows a few drops toward evening; prostate very sensitive to massage and not notably enlarged. Instill nitrate of silver.

CASE 2.—Aug. 6, 1892. P. H., aged 56. Gonorrhea eleven and four years ago; short attacks; has had a slight gleet for a year past; cured by instillations of silver nitrate and copper sulphate. Dec. 8, 1894. Hypogastric pain when the bladder is full; no frequency of urination; urine full of pus; bladder empties itself; prostate normal. Cured in four months by sulphate of copper. Dec. 5, 1895. Relapse from exposure to cold. May 13, 1898. Another relapse. Urethra 9 inches; residuum ½ ounce. Cured by sulphate of copper.

CASE 3.—July 6, 1893. R. P., age 45. Had acute retention from stricture seven years ago and again now. The stricture has not been dilated; only a filiform passes the bulb. Nov. 11, 1893. Dilated to 27 F. Dec. 19, 1903. Has used no sound since; had retention eighteen months ago, again last summer and now. Filiform again goes. January 20. Dilated to 27 F. Urethra 8 inches; prostate only a shade large; no residual urine. The symptoms have been entirely relieved.

CASE 4.—March 12, 1891. J. S., age 57. Gonorrhea fifteen and five years ago, and last spring. Has had a relapsing gleet since the first attack; urine purulent; prostate normal. June 22, 1894. Prostate large and tender as the result of a sexual strain. Aug. 13, 1895. Rises once at night; the stream starts with difficulty. Jan. 9, 1901. Hemosperm; no vesical or urethral symptoms.

CASE 5.—April, 1900. V. B., age 67. Traumatic stricture twenty years. The perineum is now riddled with fistulæ. Perineal section by Dr. Keyes, Sr. Dec. 1, 1902. Symptoms of stone for one year. Perineal section by Dr. Chetwood; stone removed; prostate incised and small adenoma shelled out. The prostate was not enlarged.

CASE 6.—May 26, 1894. A. C., age 57. After a gonorrhea in 1868 a perineal abscess developed and burst; the fistula remains open. He urinates every two hours and passes a 26 F. catheter once or twice a day. The urine is but little purulent; residuum ½ ounce; prostate not large.

CASE 7.—Aug. 2, 1884. G. L., age 43. Had gonorrhea for three months a year ago; now has an attack of simple urethritis three weeks old; uses sounds. Feb. 23, 1886. Has passed the sounds for two years and been well; now a slight urethritis; sounds and nitrate of silver instillations. June 26, 1890. Urinates once at night and every hour or two by day. The prostate is a little large; no stone; no stricture. July 16, 1894. Acute gonorrhea. March 6, 1895. Well. June 5, 1900. Urgent urination; urine turbid; thallin instilled. June 13. Urine clear; urgency relieved. Dec. 25, 1903. Rises two or three times at night; urethra 8 inches long; residuum 1 ounce; urine clear; prostate not large.

CASE 8.—Sept. 6, 1892. B. G., age 40. Frequent and painful urination by day. September 8. Litholapaxy; a small urate stone removed; retention followed the operation. November 5. Slight prostatitis persists; residuum 3 ounces. March 4, 1897. Urine still purulent; left pyelonephritis; doubtless calculous. April 20, 1900. Urine shows pus and albumin; residuum 1½ ounces; prostate not large. March 24, 1902. Urethra 7½ inches; residuum 1½ onnces. Searcher finds a bar at the neck of the bladder; prostate not large; pus and albumin persist.

CASE 9.—October, 1890. A. J., age 55. Traumatic stricture eighteen years. Complete retention; abscess; perineal fistula last year. Perineal section without a guide. Stricture divided and rather large prostatic median lobe incised by Dr. Keyes, Sr. Relief was afforded immediately.

CASE 10.—July 17, 1899. C. R., age 51. Chronic complete retention for two years; impassable stricture at the bulb. Perineal section by Dr. Keyes, Jr.; stricture divided; prostatic bar incised and a little adenomatous tissue torn away with rongeur. Complete relief.

CASE 11.—April 18, 1890. E. A., age 62. Has been urinating every two hours, day and night, since la grippe a month ago; urine purulent and albuminous. He has suffered from stricture for many years. Only a filiform enters the deep urethra. Prostate is about double the normal size, symmetrical and soft. May 11. Dilated to 23 F. There is renal suppuration.

CASE 12.—June 4, 1888. P. H., age 60. Has suffered from

stricture for twenty years. Now 9 F. enters the deep urethra with difficulty. Urine full of pus and albumin. He passes 1 ounce and the catheter draws 7 ounces. Prostate not examined.

Case 13.—Dec. 5, 1871. J. B., age 48. Short gonorrhea twenty-five years ago; slight gleet now for a few months; 21 F. grasped in bulbous urethra; dilated gradually to 30 F. Prostate is normal. March 8, 1888. A little irritability of the bladder. Urine purulent; residuum 4 ounces; no trace of stricture. May 25. Has been through an acute retention and a sharp attack of urethral fever. There is kidney suppuration; prostate not examined.

Case 14.—Dec. 6, 1903. B. N., age 65. The bladder has been irritable and there has been slight gleet since a gonorrhea in the 60's. Progressive dilatation has relieved the gleet, but he still urinates twice at night and every two hours by day. Residuum 2 ounces; urethra 7¾ inches; prostate moderately large, rather hard; left lobe larger than the right.

Case 15.—Aug. 30, 1866. H. L., aged 55. Three or four short gonorrheas in early life. Two years ago acute retention relieved by diuretics. Four days ago second attack, only partially overcome. Prostate a little large; urine slightly purulent; catheter. Jan. 4, 1869. Has continued to use catheter two or three times a week, occasionally passing it more frequently when retention threatens. The prostate is, if anything, smaller; the urine is still hazy; 25 F. grasped; dilatation. March 7, 1876. He has continued to use a 27 F. sound. This has entirely cured him and relieved all his prostatic symptoms. He has now been well for two years. Nov. 21, 1877. Relapse. Urinates three or four times at night; urine purulent again. Prostate three times its natural size; residuum about 4 ounces. Oct. 16, 1878. Irritability and obstruction increasing; urine begins to smell.

Case 16.—Nov. 8, 1870. S. F., age 39. Is passing 21 F. for a deep stricture; dilatation instituted. June 7, 1871. Uses 30 F. every ten days. Dec. 15, 1871. Acute posterior urethritis; cured in a few days. March 7, 1878. Urination painful; 26 F. grasped. April 4, 1878. Passes 33 F. May 11, 1882. Urine a little hazy; residuum 2 drams. The urine has been purulent for some time past; he urinates every three hours by day and rises once at night. May 5. Residuum 1 ounce. Jan. 17, 1885. Internal treatment is holding him, but not curing him; residuum 1 ounce; little pus. Nov. 6, 1899. After various treatments the condition has remained about the same. The urine is still purulent; the residuum varies from ½ to 1½ ounces; he urinates every few hours by day and several times at night. Prostate moderately large.

Case 17.—Oct. 22, 1902. R. M., age 72. Has had partial retention for five years; residuum now 3 ounces; prostate the size of a mandarin orange. Perineal section; galvano-prostatotomy. Lateral lobes moderately enlarged; contracture of the neck of the bladder.

Case 18.—April 22, 1873. J. B., age 56. Frequent and painful urination for some time past; 6 F. enters the deep urethra, but is grasped. Dilated to 30 F. in three months. May 12, 1886. Has continued to pass the sound twice a year. Frequency and pain have returned within the last few months; urine hazy with pus; residuum 5½ ounces; 23 F. finds several ridges along the urethra. Prostate not examined. Oct. 26, 1890. All well but for a relapsing gleet.

Case 19.—Sept. 24, 1864. M. G., age 45. Denies gonorrhea, but has had Lallemand cauterization of the deep urethra for frequent emissions. For the past few months he arises three or four times at night to urinate, and is very constipated. Prostate not large; deep urethra sensitive; 15 F. grasped in the bulbous urethra. Feb. 18, 1865. Now takes 21 F. and arises but twice at night. July 31, 1867. 21 F. draws blood; his symptoms have returned; urine is hazy with pus. October 25. Slight improvement; catheter introduced for the first time; it draws 8 ounces; prostate not examined.

Case 20.—Aug. 16, 1869. H. E. B., age 41 years. Urinates every two hours by day and every three hours by night with some distress. Urine purulent. This trouble dates from a gonorrhea in 1855, and is worse since a second gonorrhea two years ago; 15 F. grasped in the deep urethra; 21 F. grasped in the pendulous urethra. August 20. Internal urethrotomy of anterior stricture. August 24. 23 F. enters both strictures. Sept. 3, 1873. 21 F. still goes; urine purulent; residuum 2 ounces; prostate not enlarged. Feb. 12, 1878. Chronic complete retention; left seminal vesicle distended; prostate not large. Dec. 23, 1878. Distinct enlargement of prostate; urine almost clean. Oct. 19, 1883. Retention persists; urine quite clear.

Case 21.—Oct. 10, 1889. A. M., age 62. Twelve years ago acute retention after voluntarily holding his urine a long time. A stricture was discovered and he was cured by sounds. He had a swelled testicle during the treatment. Second acute retention two years ago; since then he has used the catheter constantly. There is a distinct stricture at the bulbo-membranous junction; grasps 21 F. Residuum 8 ounces; prostate symmetrically large to a moderate degree; urethra 8 inches long; urine purulent.

Case 22.—July 22, 1903. J. T., age 62. Dysuria five years Chronic complete retention one year. Relapsing swelled testicle. Vasectomy. December, 1903. Perineal galvano-prostatotomy; slight general prostatic enlargement and contracture of the bladder neck. The urinary septicemia was not relieved by operation, and he died some six weeks later.

Case 23.—Nov. 30, 1896. A. B., age 58. Has suffered from chronic posterior urethritis for some time. The urine is purulent throughout. He urinates four times at night and oftener by day. Urethra is extremely oversensitive. A 17 F. rubber catheter is grasped in the membranous urethra; the prostate is twice its normal size, soft and not tender. March 27, 1897. Greatly improved by sounds up to 29 F. Dec. 15, 1897. Has had two chills and his urinary frequency has returned. Residuum 2 ounces; urine purulent. Nov. 22, 1898. Almost well again. Uses sounds and nitrate-of-silver wash once a week. Jan. 27, 1904. Now has depended entirely on his catheter for two years; pus and hyperesthesia much the same. Urethra 9 inches; prostate very large, as big as an orange.

Case 24.—Sept. 5, 1872. L. R., age 54. Gonorrhea at 16 and at 35; a prolonged gleet after the second attack. Two years ago had an attack of frequent and painful urination, cured by diluent waters. Now a second similar attack; residual urine 1 pint; catheter life instituted; prostate not examined. Feb. 27, 1884. Has continued to depend on catheter.

Case 25.—July 15, 1891. M. D., age 63. Chronic complete retention for many years. Symptoms of stone for four years. Suprapubic cystotomy by Dr. Keyes, Sr.; phosphatic stone removed and a finger-like third lobe torn away. June, 1894. Retention not entirely relieved and stone has reaccumulated. Perineal section by Dr. Keyes, Sr.; phosphatic stone removed; neck of the bladder incised; prostate normal. December, 1897. Patient has remained well and empties his bladder entirely.

Case 26.—Nov. 12, 1900. R. S., age 68. Urinary symptoms for two years; now depends on catheter and has been bleeding for the past six months. Perineal section by Dr. Chetwood; galvano-prostatotomy. The bladder neck is so tightly contracted as not to admit the tip of the finger. Median lobe the size of the last joint of the thumb; this is incised. Oct. 18, 1902. Became and remained well.

SUMMARY.

To sum up, the following conclusions very fairly express my views:

1. Among 433 cases suffering from prostatic hypertrophy, only 18 show clinical evidence of previous prostatitis.

2. These 18 present no marked difference in point of size of the prostate, or of beginning of the disease to differentiate them from the remaining 415.

3. Comparison of these 18 cases with 54 cases of chronic prostatitis without hypertrophy shows that the proportion of such cases suffering from prostatic hypertrophy varies little from the normal.

4. Prostatitis lasting more than ten years probably

tends to produce prostatic atrophy rather than prostatic hypertrophy.

5. Therefore, if it is true that hypertrophy of the prostate is pathologically referable to inflammation, the clinical data suggest that this inflammation is either early gonorrhea of relatively brief duration or some obscure sclerotic process associated with advancing years.

6. The late date at which prostatic hypertrophy begins and its infrequency, compared with that of early gonorrhea, make it seem clinically most improbable that early gonorrhea is the cause.

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NOTE.—Since writing these lines I have read an article by Rothschild (*Centralbl. f. krank. d. Harn. u. Sex.-Organe*, 1904, xv, 177) founded on the examination of thirty prostates removed from cadavers of patients who died between the ages of 34 and 52 without evidence or history of disease of the urinary organs. In 27 of these he found changes similar to those described by Ciechanowsky in hypertrophied prostates and by Finger in gonorrheal prostates. Hence he infers (1) that the foundation of prostatic hypertrophy is laid down years before the gland actually begins to enlarge, and (2) that gonorrhea is at least the usual cause of prostatic hypertrophy; yet Rothschild's cases were selected by strict exclusion of all that showed history or macroscopic evidence of any lesion of the urinary channels. It is to confirm or reject such hypotheses as these that clinical facts are needed.

AN ANALYSIS OF 1,000 CONSECUTIVE CELIOTOMIES FOR DISEASED CONDITIONS IN THE FEMALE PELVIS.

A PRELIMINARY REPORT.

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CHICAGO.

In December, 1903, I completed a series of 1,000 consecutive gynecologic operations involving an opening into the peritoneal cavity, representing the work of about five and a half years in Montreal and Chicago. About 14 per cent. were performed during my service in the Royal Victoria Hospital, Montreal, and 85 per cent. in the Presbyterian Hospital, Chicago, the remainder being in other hospitals. The operations do not include abdominal sections for diseases of nonpelvic viscera except in so far as these were undertaken in association with procedures carried out primarily for pelvic disorders; 807 operations were abdominal, 190 operations were vaginal, 3 operations were begun through a vaginal and completed through an abdominal incision.

The following list indicates the various intraperitoneal procedures which were carried out:

Unilateral salpingo-oöphorectomy	186
Bilateral salpingo-oöphorectomy	80
Unilateral oöphorectomy	45
Unilateral ovarian resection	147
Bilateral ovarian resection	120
Unilateral resection of fallopian tube	11
Bilateral resection of fallopian tube	10
Unilateral removal of fallopian tube	45
Bilateral removal of fallopian tube	13
Unilateral removal of ovarian and broad ligament tumors	61
Bilateral removal of ovarian and broad ligament tumors	15
Ignipuncture of ovary	30
Suspension of uterus	180
Webster's round ligament operation	112
Ferguson's round ligament operation	18
Various other round ligament operations	6
Fixation of uterus, ventral (18), vaginal (6)	24
Myomectomy	40
Hysterectomy for fibroids	103
Hysterectomy for malignant disease of uterus	45
Hysterectomy for infective disease of uterus and adnexa	65
Hysterectomy for procidentia	24
Breaking up of adhesions, irrigation or drainage in peritonitis	52
Opening of abdomen in diffuse tuberculous pelvic peritonitis	15
Exploratory incision	21
Removal of ectopic gestation	14
Removal of round ligament cyst	1
Cesarean section (abdominal)	7

In about 90 per cent. of these cases preliminary curettage was performed. In about 70 per cent. various other operations were carried out at the same time, such as dilatation of the cervix, amputation of the cervix, colporrhaphy, repair of perineum, etc.

The above operations were complicated by the following procedures:

Appendectomy	135
Fixation of kidney	37
Removal of diseased kidney and ureter	2
Repair of separated recti muscles in enteroptosis	83
Repair of inguinal hernia	6
Repair of femoral hernia	3
Repair of ventral hernia	12
Removal of calculi from the biliary tract	5
Suspension of prolapsed sigmoid flexure, cecum or stomach	30

MORTALITY.

Death occurred as the result of operation in 19 cases, making a percentage of 1.9. Excluding two cases in which obstetric complications existed, the mortality was 1.7 per cent.

The following is a statement of the fatalities:

1. Case of a woman in whom rupture of the pregnant uterus had occurred after repeated attempts at delivery by forceps and version had been made. When the patient was admitted to hospital she was almost pulseless. On performing abdominal section, the fetus was partly within the peritoneal cavity and a large intraperitoneal extravasation of blood had taken place. The fetus and blood were removed and hysterectomy carried out. The patient rallied after the operation, but died the next day.

2. Case of a woman in advanced pregnancy, with large fibroids of the uterus. Porro-cesarean section was performed with great difficulty, the loss of blood being extreme. The patient died within half an hour of the operation.

3. Case in which suspension of the uterus and kidney fixation had been performed. After the operation she recovered and ran a normal course. On the eleventh day, while eating a meal in the semi-recumbent position, she suddenly became cyanosed and died. No autopsy was obtained and the cause of death was believed to be pulmonary embolism.

4. Case in which vaginal panhysterectomy for infective disease in the uterus and adnexa had been carried out. The patient developed extreme pulmonary edema after the operation and died on the third day, markedly cyanosed.

5. Case of abdominal panhysterectomy for fibroids. The patient died of pneumonia on the fifteenth day after operation.

6. Case of abdominal double salpingo-oöphorectomy for hematosalpinx and ovarian abscess. The operation was difficult and prolonged and death occurred about ten hours after operation.

7. Case of tubal pregnancy, in which rupture had taken place, followed by the escape of a large quantity of blood into the peritoneal cavity. The operation was difficult and the loss of blood was so great that the patient died in the afternoon of the operation.

8. Case of appendage tuberculosis in which a communication existed between the sigmoid flexure and a pus tube. Removal of the appendages and resection of two inches of sigmoid flexure was performed, the operation being prolonged. There was much shock after the operation and death occurred the next day.

9. Case of removal of two large ovarian cysts developing extraperitoneally. Death took place on the sixth day as the result of sepsis.

10. Case of abdominal hysterectomy for large fibroids of the uterus. Death took place from sepsis on the sixth day.

11. Case in which resection of both tubes and ovaries and suspension of the uterus was performed. Death occurred on the sixth day from sepsis.

12. Case in which suspension of the uterus, myomectomy, repair of ventral hernia and fixation of kidney were carried out. Death on fourteenth day from sepsis.

13. Case in which right salpingo-oöphorectomy, left salpingectomy, left ovarian resection, suspension of the uterus and repair of ventral hernia were carried out. Death on sixth day from sepsis.

14. Case in which salpingo-oöphorectomy and appendectomy were carried out. The tubes contained pus and there was septic peritonitis. The patient died of sepsis.

15. Case in which a large infected ovarian cyst communicating with the small intestine was removed. Septic peritonitis was present. Death from sepsis occurred in 32 hours.

16. Case in which pus tubes and diseased appendix were removed, septic peritonitis being present. Death took place from sepsis.

17 and 18. Cases similar to above. Death occurred.

19. Case in which the patient died on the operating table from failure of respiratory and cardiac activity due to the anesthetic, ether.

It thus appears that death took place in five patients as the result of the shock of operation or loss of blood, in two patients from pulmonary non-septic complications and in ten patients from septic peritonitis.

Of the patients dying from sepsis five had septic peritonitis at the time of operation and five presented no indication of sepsis.

In the total list of 1,000 cases it is therefore evident that a fatal result caused by infection during operation occurred only five times, representing a mortality of ½ per cent.

Studying the mortality in relation to various groups of operative procedures the following facts are noted:

1. HYSTERECTOMY:
   - *a.* For fibromyoma of uterus—
     Vaginal hysterectomy .....31 cases, no deaths
     Abdominal panhysterectomy .....36 cases, 1 death
     Abdominal supravaginal hysterectomy .....36 cases, 1 death
   - Total number of hysterectomies 103, with a mortality slightly below 2 per cent.
   - *b.* For infective disease of uterus and appendages—
     Vaginal panhysterectomy .....33 cases, 1 death
     Abdominal panhysterectomy .....32 cases, no deaths
   - Total number of hysterectomies 65, with a mortality of about 1.7 per cent.
   - *c.* For malignant disease of uterus—
     Vaginal panhysterectomy .....40 cases, no deaths
     Abdominal panhysterectomy ..... 5 cases, no deaths
   - *d.* For procidentia at or after the menopause—
     Vaginal hysterectomy, combined with anterior colporrhaphy and colpoperineorrhaphy .....24 cases, no deaths
   - Total number of non-obstetrical hysterectomies 237, with 3 deaths, being a mortality of about 1.27 per cent.
2. CESAREAN SECTION (ABDOMINAL):
   - Conservative operation ..... 2 cases, no deaths
   - Porro-Cesarean ..... 5 cases, 2 deaths
3. REMOVAL OF OVARIAN AND BROAD LIGAMENT TUMORS:
   - Abdominal operation .....76 cases, 2 deaths
   - Being a mortality of 2.64 per cent.
4. WEBSTER'S ROUND LIGAMENT OPERATION:
   - Abdominal .....104 cases, no deaths
   - Vaginal ..... 8 cases, no deaths
5. SUSPENSION OF THE UTERUS:
   - Uncomplicated by procedures other than curettage ..... 26 cases, no deaths.
   - Complicated with other procedures..158 cases, 4 deaths
   - Total number of cases 180, with 4 deaths, being a mortality of 2.22 per cent.
6. MYOMECTOMY:
   - Vaginal ..... 3 cases, no deaths.
   - Abdominal ..... 37 cases, 1 death.

In the operation on the patient that died, suspension of the uterus, repair of ventral hernia and fixation of the kidney were also carried out. This death has also been included in the list of those occurring after suspensio uteri.

7. SALPINGO-OÖPHORECTOMY FOR INFECTIVE DISEASE:
   - Unilateral 186 cases, bilateral 80 cases.
   - Vaginal ..... 3 cases, no deaths.
   - Abdominal .....263 cases, 7 deaths.

In four of the patients who died septic peritonitis was present. In one resection of the sigmoid flexure was carried out; in four appendectomy; in one suspension of the uterus, ovarian resection, salpingectomy and repair of ventral hernia. One of these deaths is also included in the list of those occurring after suspension of the uterus, another in those mentioned in connection with ovarian resection and another in connection with salpingectomy.

8. OVARIAN RESECTION:
   - Unilateral 147 cases, bilateral 120 cases.
   - Vaginal ..... 3 cases, no deaths.
   - Abdominal .....264 cases. 1 death.

In the operation on the patient who died the tubes were resected and the fatal infection was probably of salpingeal origin. This death is also included in the list of those following resection of the tubes.

9. RESECTION OF THE FALLOPIAN TUBES (ABDOMINAL):
   - Unilateral ..... 11 cases, no deaths.
   - Bilateral ..... 10 cases, 1 death.

In the patient who died resection of the ovaries and suspension of the uterus were also carried out. This death is also included in the list of those occurring after these operations.

NOTES.

Stitch abscess in the parietes developed in about 6 per cent. of the abdominal sections. The largest percentage occurred in a series of cases in which I employed buried chromic gut for the fascia and muscle.

In more than 98 per cent. of cases the abdominal incision was mesial; in less than 2 per cent. it was made vertically through a rectus muscle.

Drainage of the pelvis was carried out after the vaginal operations in about 4 per cent. of cases, being chiefly those in which removal of infected adnexa was performed with difficulty, complicated with the escape of pus regarding whose sterility there was doubt.

After abdominal section drainage through the abdominal incision was employed in about 1.3 per cent. of cases and vaginal drainage in about 6 per cent. In about 90 per cent. of abdominal operations normal saline solution was left in the peritoneal cavity at the time of closure of the incision.

In five cases local pelvic suppuration followed abdominal operation, necessitating the removal of pus through the vagina.

Only three patients have reported the development of hernia in the line of the abdominal incision after operation. In each of these there had been suppuration in the parietes during healing.

The bladder was accidentally opened only twice, once in the removal of a carcinomatous uterus by the vaginal route, once in the performance of abdominal hysterectomy for uterine fibroids. In each instance the wound was closed with continuous catgut suture and was followed by normal healing.

In no instance was there any accidental injury of the ureter or iliac vessels.

In thirty-five cases the separation of adherent intestine caused injury to the wall of the bowel to such an extent that closure of the wounded areas with catgut suture was necessary.

MEDIAN PERINEAL PROSTATECTOMY.*

GEORGE GOODFELLOW, M.D.
SAN FRANCISCO.

We are to discuss to-day some methods of operative medicine for the relief of symptoms caused by a disease concerning which, in the entire field of medicine, none other has had so many and such diverse modes of treatment recommended, i. e., enlarged prostate. To do more would require time not at our disposal; however, a scant anatomic and physiologic descriptive outline of the operative field seems requisite.

The prostate is usually described as a pear-shaped gland about the size of a horse-chestnut, with base directed upward toward the bladder, the apex downward and forward, with two lateral lobes and two commissures, the anterior joining the lateral lobes in front of, and the posterior—the lobulated portion of which is known as the third lobe—joining the lateral lobes behind the urethra. The first portion of the urethra with its musculature passes between the lobes of the prostate from base to apex behind the anterior commissure. The prostate is made up of muscular, glandular and connective tissue elements. The musculature is composed of a longitudinal layer from the urethra and from the cir-

* Read at the Thirteenth Annual Meeting of the Western Surgical and Gynecological Association, held at Denver.

cular layer of the bladder. The connective tissue of the gland spreads out to form the capsule. There is also a fascial sheath from the posterior layer of the triangular ligament surrounding the prostate which helps to form the pubo-prostatic ligament. To this has been given the name of prostatic capsule also. Anteriorly are the pubes; below and behind are the margins of the levatores ani, the rectum and the ejaculatory ducts. Whether the prostate has a true capsule or not is disputed. Walker, in his monograph on "Anatomy of the Prostate," seems to demonstrate that there is a capsule, and in the operations which I have had the good fortune to see made by others a capsule appeared to exist, but in all my operations I have been unable, not seeing the gland, to demonstrate conclusively to myself any such thing as a true capsule. The uses of the gland are uncertain, but are presumed to be connected with the sexual function, the secretion imparting motility to the spermatozoa. With the exception of malignant growths, enlargements of the prostate are usually physiologic until they become pathologic by obstructing the flow of urine. The causes ascribed for the enlargement are many, but none are satisfactory. The mechanism of the obstruction is now being studied; that is to say, the manner in which the prostate interrupts the flow of the urine. Presumably it does so by elevation of the vesical outlet and limiting vesical movement.

From time immemorial the prostate gland has been the seat of various ailments, the symptoms of which have been of more than passing interest, not alone to those afflicted therewith, but to those members of the "healing art" whose good or bad fortune it has been to treat them. Hippocrates says: "And when the belly is not hot nor the neck of the bladder very much contracted, all such persons pass water freely and no concretions form in the bladder; but those in whom the belly is hot, the bladder must be in the same condition, and when preternaturally heated, its neck becomes inflamed; and when these things happen the bladder does not expel the urine." The difficulty of urinating in the old (men) is also noted in various others of the early writers, and remedies suggested. Not until the past decade, however, have adequate remedial measures been devised; at least none that could offer more than the usual problematical results of all serious surgical operations. The catheter, with all the sufferings attendant, seemed to be the only means for producing euthanasia. Gradually, however, out of the chaos of operative methods recommended has been evolved a procedure which may be relied on as essentially curative in almost every case, at least should have no mortality as a result of the operation, i. e., removal of the gland through the perineum. The earliest modern mention known to me of the removal of the prostate per perineum is by the late Sir William Ferguson, who, in cutting for stone, said that he removed unintentionally the lower part of the prostate as readily as if it had been a stone. The patient not only recovered from the operation, but never afterward showed any signs of prostatic irritation.

Mr. Cadge reported a case where, during a lithotomy, he removed in the forceps between the joints of the blades, with no after complications, three masses which were found to be fibrous outgrowths of the prostate. Dr. C. Williams also mentions a case where he accidentally extirpated, between the forceps, an enlarged middle lobe of the prostate. In three weeks the patient was reported as recovered, seldom urinating more than once in the night. In all probability these cases were complete removals.

Following these inadvertent and unpremeditated partial or complete extirpations of the prostate numerous methods have been advised and practiced, chief among them being suprapubic and perineal section, respectively; the two combined; castration, single or double; vasectomy; puncture per rectum and through perineum; internal incision with divulsion, and division with electric knives. Systematic suprapubic prostatectomy was performed by Belfield and McGill in 1887; a perineal operation on the prostate was made by von Dittel in 1889, he removing a wedge-shaped portion from the under surface of one or both lateral lobes, through an incision extending from the median raphe round the sphincter and to the tip of the coccyx, the urethra and bladder being left intact. Nicoll, in 1894, made a combined suprapubic and perineal cystotomy, removing the prostate through the perineum. Alexander, about the same time, made a similar operation differing in slight details. About this time E. Fuller modified the McGill operation, as did also Keyes, who opened the membranous portion of the urethra and drained through the perineum. Division of a median obstruction of the gland was performed by Bottini by means of the galvano-cautery introduced through the urethra, or through a perineal urethrotomy as done by Wishard.

At the fifty-third annual meeting of the British Medical Association, in 1885, Reginald Harrison recommended the perineal route for exploration and incidental removal of tumors of the bladder. The perineal work which has been done during the past few years by various surgeons is familiar to all of you and I shall not delay by detailing it, as some of those gentlemen are present to speak for themselves. During the latter '80s I operated suprapubically and had what could be called good results, but the outcome—as I presume was the experience of most of those who adopted that method—was not satisfactory.

In 1891 I made a pure perineal prostatectomy, the first, so far as known to me, deliberately devised and carried out. Having in my student days and early professional life seen, assisted in, and made a considerable number of perineal stone operations, the technic followed was simply that of a median lithotomy, the steps of which, I presume, are unnecessary to detail, although to make clear the method followed I shall outline them. If required, a few days before the operation, urotropin in seven or ten grain doses are given twice or three times daily. No preliminary irrigation of the bladder is made. The usual pre-operative procedures are carried out, thorough cleansing, external and internal, the rectum being emptied by an enema a few hours before the operation. With the patient in the ordinary lithotomy position, the legs held by assistants, the bladder being empty or full, as the case may be, a lithotomy staff is introduced, the legs then elevated somewhat, a median incision from the base of the scrotum to the margin of the anus is made, and carried to the membranous urethra, which is entered with a straight lithotomy knife and the opening extended *into* the bladder. The finger is then introduced *into* the bladder, the staff removed, and the moderate flexion of the legs and thighs on the abdomen and the thorax increased to as great an extent as possible; then with the opposing hand over the hypogastrium the bladder is depressed, and the enucleation, beginning at the beak of the prostate below and working upward next to the bladder, or from above on either side downward, is carried on, the time consumed for complete enucleation rarely being over five or ten min-

utes, the resulting hemorrhage being virtually nothing. The gland may be removed entire or lobe by lobe. If the bladder has been full of pus sometimes it is washed out. No drainage of any kind, gauze, tube or catheter, is made, the perineal incision sufficing. In my earlier cases the practice was to pass a straight sound through the perineal wound into the bladder every other day for a week or more to keep free drainage, and in any complicated cases such course might still be adopted; but of late it has not been found needful. In all recent cases no instrumentation of any kind has been permitted, neither irrigation (except at time of operation), passage of sounds nor catheters; and all have done as well or better than under the older process. The patients are allowed to get up as soon as they feel like so doing, and the urethra is generally closed within eighteen to twenty-four days. Frequently some urine passes naturally within forty-eight to seventy-two hours, the quantity increasing as the wound closes, until all is voided by the urethra. What becomes of the prostatic urethra? has been asked. The answer is that part or all is removed with the gland, an incident that in no manner seems to affect the restoration or continuity of the urethra, nor the power of the bladder to regain and control its functions; nor is stricture or occlusion caused. The seminal ducts are not ligated, for this seems to me an irrational refinement, especially as many of my patients have (so they say), to a greater or less extent regained sexual vigor.

The points to be expressly emphasized are the position and the incision *into* the bladder. On these, in my opinion, rests the unvarying success. The former gives access to the gland and bladder, while the latter permits rapid ablation of the gland, also the viscus to be thoroughly explored with the finger or through the speculum, as could be the vagina in like position; and, obviously of equal importance, complete drainage is established with less traumatism than in other methods. In none of my operations have retractors, speculæ or other instruments been required to enable me to remove the gland, the finger serving all needs. I do not find it necessary now to use the knife to enter the urethra and bladder. After cutting to the urethra I am able with the finger to open it and get into the bladder by a boring movement. Then not having a cut through the commissure, I enucleate from above instead of from below as formerly. The method, however, is immaterial, although with the more recent plan a much smaller incision is made, one which will admit only the index finger.

With the foregoing ends the description of the operation devised and practiced by me for thirteen years.

Now should be discussed various matters of interest connected with the subject; indications and contraindications for operations; accidents and complications, perforation of the rectum and hemorrhage; sequelæ such as delayed healing or fistulæ; incontinence, temporary and permanent; epididymitis; impotence; mortality and ultimate result. Perforation of the rectum and hemorrhage are accidents that have not occurred to me.

The indications for operation are symptoms of obstruction with concomitant sufferings. There are no contraindications to operation unless the condition of the patient is such that no operation of any kind is warranted.

Delayed Healing or Fistulæ.—In all cases operated on there have been no permanent perineal fistulæ. The longest time the wound remained fistulous was between seven and eight months. It was a patient seen only on the operating table, and not again until he returned —six or seven months later.

Incontinence, Temporary or Permanent.—Usually, at first complete control of the bladder is regained, but afterward, when the patient begins to get about, a partial incontinence supervenes, that is to say, there is inability to retain urine when the desire to urinate comes, with some dribbling afterward, and if the patient becomes tired, there is actual incontinence. In a number of cases this has lasted about four months, but usually in men of about 70. I have not found it in any much under that age.

Epididymitis.—Formerly I assumed that epididymitic troubles were due to instrumentation, especially because, having for a long time abandoned post-operative instrumentation, no cases occurred, but that opinion must be modified, for that sequel has succeeded in several cases where no instrumentation has been practiced.

Impotence.—This is a question difficult to determine. Pride of occupation will cause men to make misleading statements concerning power in that direction. In men of 65 and over it is hardly to be expected that a youthful condition will be the result of the operation. Under that age I am confident that many of the patients operated on have told me the truth in regard to their regaining sexual powers.

The Ultimate Results.—In all patients from whom I have been able to obtain reports, one seems to have a traumatic stricture, coming about once a month to have a sound passed. He is 72 years of age. The tumor was pronounced carcinoma. Whether the trouble is due to stricture, to a slowly growing fibrous neoplasm or a malignant recurrence, I do not know. A man of 76, operated on over a year ago, is having some difficulty, and the attending physician thinks it due to a stricture. One other case, a man of 77, operated on one year ago, has some contraction which may increase; however, a No. 9 soft sound passes without difficulty. Aside from these cases, I know of no others having symptoms of that sequel.

Little or no mortality should be the immediate result of the operation. Among the seventy-three patients operated on by me there have been two deaths directly following the operation and probably justly attributable thereto: One from sepsis after eleven days, the other after seven hours.

The first was a man of 73 or 74 years of age, afflicted for several years with bladder troubles necessitating the constant use of the catheter. The urethra finally becoming both impassable and impermeable, he was aspirated suprapubically two or three times daily for a week or more, then consented to radical operation. Slight temperature existed, but otherwise there seemed to be no serious contraindications to the operation; in fact, none. No accident of any kind occurred in the removal of a large gland. I did not see the patient for ten days, when I found him dying from sepsis.

The second was a man of 70, who had been suffering for years in a manner similar to the first. He had been in hospital for several months, had had a perineal section and was septic, his temperature ranging from 100 to 102. At the time of operation he was feeble, joints somewhat painful; but his sufferings were such and death so comparatively near, it seemed judicious to make a strong effort to alleviate his distress, if not to save his life, so the prostate was removed. He left the table in good condition, and I left him about an hour

after the operation. Owing to the condition of the bladder, contrary to my custom, a drainage tube had been inserted. About three hours later, summoned in haste, I found him in a collapsed condition. There had been free oozing, but no more than I had seen in many cases; no quantity that could account for his state at that time. Pulse rapid, almost imperceptible, gasping for breath, dilated pupils, skin clammy, etc. In spite of transfusions, stimulants, etc., he died some three or four hours later. Reasoning on the cause of death has aided little in solving the mystery. While he might not have ultimately recovered, in my opinion he should have had little or no difficulty in passing the immediate effects of the operative traumatism.

Both of these individuals were operated on since June, 1903.

NOTE.—Urotropin, of course, is a recent drug. In 1891 and as late as 1899 I irrigated the bladder, but since have ceased almost entirely so to do.

Special Article.

MEDICAL AND HYGIENIC EXHIBITS AT THE LOUISIANA PURCHASE EXPOSITION.

I. AMERICAN EXHIBITS.

GUY HINSDALE, A.M., M.D.

Secretary of the American Climatological Association; Corresponding Fellow of the British Balneological and Climatological Society.

HOT SPRINGS, VA.

At no previous exposition has there been such a systematic display of the science and art of medicine as is found at the Louisiana Purchase Exposition at St. Louis. The visiting medical man is at once impressed with the magnificent exhibits in all matters relating to social economy.

SCHOOL AND COLLEGE EXHIBIT.

One of the largest buildings is devoted to education and social economy. Here the great universities, colleges and schools make exhibits that must be a great source of pride to every alumnus. Harvard University and the public schools and libraries of Massachusetts easily take first rank. A large model in plaster of the new buildings designed for the use of Harvard Medical School, at a projected cost of $3,500,000, shows what is destined to be the most superb equipment of any medical school in the world. Methods of teaching are shown and among these are kinetoscopic devices for use in teaching physiology.

Johns Hopkins University makes a good display of its various departments. The number and high quality of the university publications are noteworthy. Among their medical illustrations we noticed Dr. Howard Kelly's original gynecologic drawings, although the author's name was not attached. Works by Osler, Bloodgood and Thayer, and the series of Johns Hopkins Hospital Reports show the great activity in medical research in Baltimore. One can not help tarrying to see the sections devoted to the great technical schools. The Massachusetts Institute of Technology and the Rensselaer (Troy) Polytechnic School make most interesting exhibits and point with pride to their distinguished graduates.

Washington University, St. Louis, and the public schools of St. Louis make a fine display. The new buildings of Washington University occupy a site of 110 acres in the World's Fair enclosure and are used for the executive offices of the exhibition. They are ten in number, are in the Tudor gothic style, of red Missouri granite, and cost a million and a quarter dollars. Their dignified appearance adds much to the architectural features of the grounds.

ANTHROPOLOGIC EXHIBIT.

The department of anthropology of the exhibition occupies one of the university buildings. Lectures on ethnology, with living subjects, are given, and a model school of 100 Indian pupils provided by the United States government is an attractive feature. There is apparatus for measuring the body and the muscular strength, for testing the eyesight and for making other simple tests on the nervous system and mind, designed primarily for comparison of different races of mankind. There are, of course, exhibits of the work of the Indians as well as natives of Central Africa, Patagonia, the aborigines of Japan and the Filipinos. The results of these studies in anthropology will be issued after the exhibition, in a special volume, under the direction of Mr. F. W. Lehman, the commissioner, and Professor W. J. McGee.

The Smithsonian Institute makes an elaborate exhibit in the United States government building and the Indian display is intensely interesting. But the most enjoyable way to study the various races is along the "Pike," where they have been gathered from every quarter of the globe.

MARINE-HOSPITAL EXHIBIT.

The United States Public Health and Marine-Hospital Service has its exhibit in the section belonging to the Treasury Department. This has been arranged for popular instruction. Five life-size figures illustrating a surgical operation in progress in a marine hospital form a striking feature. The gowns, the instruments, the dressings and the usual hospital furniture are quite realistic. Their static machine and *x*-ray outfit attract attention. The Victor apparatus for Finsen rays as supplied to the marine hospitals is also shown. There is a model showing how a cesspool contaminates a neighboring well. Under Surgeon-General Wyman the service has undoubtedly been most efficient in its quarantine system in preventing the access of infectious diseases to this country from foreign ports. During the last year 857,000 immigrants were physically examined by officers of the service. The hygienic laboratory of the service is doing scientific work of permanent and practical value.

STATE AND MUNICIPAL EXHIBITS.

Under state and municipal sanitation one should note the fine exhibit of the Department of Health of New York City. Under Commissioner Darlington and the advisory board the best demonstration of a thoroughgoing health department may be seen. Their work for the prevention and treatment of tuberculosis is given a prominent place. The figures for 1903 show that 10,247 cases were reported to the department in New York City and that the deaths from that disease numbered 8,001; inspections, 12,514; renovations, 1,338; fumigations, 1,336; cases removed to hospital, 193. A map showing the location of recurrent cases of pulmonary tuberculosis is shown and correspondence showing how cases are reported and handled, if required, by the health authorities. The city of New York is fortunate in having such capable men to direct and carry out these vital undertakings for the public health.

The Department of Health of St. Paul, Minn., shows some remarkable figures. This claims to be the healthiest city in the world. Its population in 1900 was 163,065 and in 1903 it was estimated to have 180,000. Its death rate on this basis was 8.92 in 1903. Minneapolis was a close second with 9.79. These figures are about half those for New York City.

EXHIBITS ON THE SUBJECT OF TUBERCULOSIS.

The Manhattan State Hospital, East, on Ward's Island, shows a model of the system of tents and accessories to which the consumptive insane patients are assigned. The hospital is on an island in the East River, New York, and is one of the largest institutions for the insane in the United States. Dr. A. E. Macdonald, for many years physician in chief, began three years ago to treat the insane consumptives in this way and the results have been most satisfactory. The model prepared by patients in the hospital shops and sewing room consists of plain wall tents, with side extension, each having sixteen beds.

Models of tents and cabins specially constructed for the use of tuberculous patients are shown. Sanatoria for consumptives are represented by photographs of the Adirondack Cottage Sanitarium, the Gabriels Sanitarium, the Sharon Sanitarium, Massachusetts; the Pine Ridge Sanatorium, Rhode Island, and the Muskoka Sanatorium, Ontario, Canada. The

Pennsylvania Society for the Prevention of Tuberculosis, the first society of its kind in the United States and the second in the world, makes an interesting exhibit of literature, and the Boston Association for the Relief and Control of Tuberculosis shows how it carries on its valuable work. They began by taking a census of consumptive cases. In case of death they disinfect the house and cleanse it thoroughly. Lectures are given to labor unions and to other organizations. Following these measures, and no doubt because of them, the death rate from tuberculosis has fallen markedly. In 1901 the deaths from tuberculosis for each 10,000 of population was nearly 24; in 1902 the rate was nearly 21, and in 1903 it had fallen to 19. This is most encouraging and shows what is possible in a thorough campaign against tuberculosis or any other preventable disease.

MOSQUITOES.

New Jersey makes one of the most interesting exhibits either for the medical visitor or the public and one feature deserves special mention. The Jersey mosquito has long been famous for its size and voracity. It is apparently classified at the World's Fair as a game bird, and this exhibit is found in the building devoted to forestry, fish and game. The exhibit includes a model of a salt marsh showing how mosquitoes breed. Depressions near tidewater fill with rains or extra high tides and water may remain for a week or ten days. The exhibit shows that the eggs are laid when these depressions dry out and when they refill the eggs hatch. It takes the larvæ less than a week to attain full growth in midsummer and in eight days the adults appear. Any system of drainage that facilitates the escape of the surface water will answer to prevent breeding. Large permanent pools or salt holes are not dangerous because they always contain fish. Fiddler crabs prevent mosquitoes by burrowing and making drains. Where these creatures occur there is no mosquito breeding. By a model it is shown how they burrow through the soil in every direction and provide a natural drainage. Hundreds of acres of marsh along the Jersey shore are drained in this way, and a recognition of this fact reduces the area to be dealt with artificially. Probably not over 50 per cent. of the salt meadows ever breed a single mosquito, and this is especially true of those large areas lying between the mainland and the fringe of islands south of Barnegat Bay. A systematic effort on a large scale to abolish the mosquito nuisance is now in progress at Cape May and Beach Haven under the charge of the state entomologist, Professor John B. Smith, in charge of the New Jersey experiment station, Mr. Hermann H. Brehme and Mr. Edgar L. Dickerson. They have determined the areas which are dangerous and are directing their work most rationally. They intend to abolish a nuisance that makes life burdensome along shore and in the region just inland and thus prevent malarial fevers. While they admit that kerosene and similar petroleum products, the cresol preparations and many other materials kill mosquito larvæ, they consider such measures only temporary and pay more attention to destroying the breeding places. They believe in draining and filling, for which they use immense hydraulic dredges which, while deepening the channels, can deposit the dredged materials thousands of feet away on low places where mosquitoes breed. They get the fish to help them and welcome the dragon-fly and other predatory insects and confidently expect that New Jersey will be free from the mosquito pest in a decade.

In this connection mention should be made of the admirable exhibit of the Superior Board of Health of Cuba. This is in the United States government building and was arranged by Dr. Charles J. Finlay, the work having been started by Colonel W. C. Gorgas, who was chief sanitary inspector. They show with pride that the death rate of the island of Cuba in 1903 was 16.87 per 1,000 and that no case of yellow fever has originated in Cuba for the last three years, although a few cases have come in from Mexico. The most stringent measures have been taken to restrict the breeding and the infection of mosquitoes. Photographs of these are shown in all stages of development and they have regular screen-protected cages or compartments in which mosquitoes in breeding jars are cultivated and used for demonstration in their living state. Larvæ, pupæ and adults are shown of various species, including *Stegomyia fasciata* and *anopheles*. Some of these are kept in jars for five months. The stegomyia is small and stands straight with its body parallel with the glass, while anopheles stands off at an angle, is larger and has spotted wings. Recent regulations in Cuba provide for the use of mosquito-proof tanks and rain barrels. From the drawings and photographs it is easily seen how the insect in biting inserts six weapons at once, viz., two maxillæ, two mandibles, one labrum and one hypopharynx: one labrum remains on the outside bent up as a lever. Blood is drawn up through the labrum and at the same time saliva is poured out through the hypopharynx. When infected the parasite of yellow fever goes out with the saliva. In the case of yellow fever, infection must occur in the first three days of the fever. It is then at least twelve days before the mosquito can transmit the infection. A mosquito has been known to transmit yellow fever fifty-nine days after it was originally infected. People are fined who are caught allowing mosquitoes to breed and neglect to use the mosquito-proof tanks and rain barrels. Similar regulations with fines for neglect are also in force in Laredo, Texas. Cuba also shows the methods of work in a vaccine laboratory.

HEALTH RESORTS.

American health resorts are not very generally represented. Among those in evidence are Castle Creek Hot Springs and Aqua Caliente Springs, Arizona; Glenwood Springs, Colorado, and Watkins Glen, New York.

MINERAL WATERS.

American mineral waters are shown under a special display which Dr. Albert C. Peale of the Smithsonian Institution has arranged. The waters are exhibited as usually sold and analyses in many cases are shown graphically. This, however, is very incomplete and does not fairly represent the great interests involved in one of the most valuable features of the American medical armamentarium.

(To be continued.)

TRAINING OF THE FEEBLE-MINDED.

SOME INTERESTING NOTES ON ONE DEPARTMENT OF THE EDUCATION EXHIBIT AT ST. LOUIS.

The exhibit of "American Institutions for the Care and Training of Feeble-Minded Children," in Section 5 of the Palace of Education and Social Economy in the World's Fair at St. Louis, contains the work of children in these institutions, both public and private. The exhibit is intended to impress the variety of the work done at the state institutions, not to give prominence to the work of any one institution. Each institution has contributed something of its specialty. The schools are all filled, and if a number of the pupils should leave at any time their places could be easily and quickly filled, as there are plenty of pupils ready to take their places.

There is no classified work done in the state institutions, the work being almost entirely individual. This is, of course, due to the difference of the grades of deficiency in the children themselves. The chief advantage of the state institutions lies far more largely in developing in the child himself a feeling of self-dependence, of independence, of the right which is due them and which they can not get in competition. There is very little competition either in the state or private institution. The child can not be reached through competition. It only hurts him, retards him. It is only through the individual training of the child that he reaches his highest development. And this development depends on the teacher more than on any other agency. The child is reached more with the heart qualities than with the head qualities. He can be influenced to a greater degree by love than anything else. He is apt to be discouraged by competition, and the whole success of his training lies in his encouragement.

Professionally, physically and psychologically, a dissertation on that subject would have to be very thoroughly studied out in order to give any value to the neurologist. There were one hundred thousand feeble-minded returned in the last census. This does not take into account subnormal children, as they are not given in the sense of feeble-minded children. There are twenty-eight public institutions and thirty-one or thirty-two private institutions that are known and classified as such. The state is very rapidly coming to the front in the matter of these institutions, and, of course, the neurologist is positive about the necessity of having them.

There is much interesting work shown in this exhibit. Beginning with the kindergarten, the weaving, pricking, folding, cutting, sewing, etc., is indeed very well done by children from five years and upward. One child, five years of age, with his left hand crippled from paralysis, did some folding that would do credit to many an older child in the public school. The knitting, lace making, crocheting, fine sewing, burned wood carving, inlaid work, etc., done by the older boys and girls are very interesting. One chair exhibited was made by a middle-grade boy in the Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa., the caning of which was done by a moral imbecile in the custodial department.

Clinical Reports

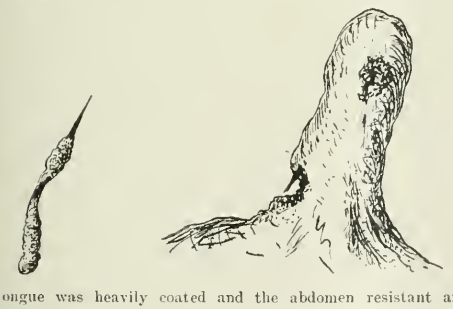
PIN IN APPENDIX.

EVAN O'NEILL KANE, M.D.

KANE, PA.

For the notes of the following case I am indebted to Dr. Hamilton of Smethport.

C. W., aged 52, a bookkeeper, always enjoyed good health until four years ago, when he had an attack of appendicitis, which confined him to his bed about a week, and from which he recovered. A week prior to the date of my summons, he ate inordinately of apples, mince pie and other indigestible viands, and an attack of acute indigestion followed, merging gradually into a pronounced attack of appendicitis. I found the temperature nearly normal, the pulse slow and full, the facial expression good, and the patient almost free from pain. The



tongue was heavily coated and the abdomen resistant and tender to pressure. A mass was felt under McBurney's point. The patient felt better than for several days, and was almost reluctant to consent to operation. On opening the peritoneum a quantity of darkly tinged fluid poured out. The appendix was found imbedded in adhesions and was greatly thickened and friable, its hue dark crimson, almost purple, with two points of complete mortification, one of these being at the base and the other almost at the extremity. The organ was short, measuring only two inches in length.

In separating the appendix from the adhesions the finger tip of my glove was torn by something sharp, which proved to be the point of a pin projecting from a gangrenous area at the base of the organ. The pin was slightly crooked at the middle and coated heavily with concretions, except toward the point. It must have entered the appendix head first. How many years it had lain there it is impossible to say, as the patient had no recollection of ever having swallowed it nor, indeed, with the exception of the attack of appendicitis four years before, ever recognized any symptoms pointing to alimentary disturbance.

DYSTOCIA DUE TO FETAL ASCITES.

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NEW YORK CITY.

Among the very rare causes of dystocia we find fetal ascites. The condition of ascites in itself is rare enough to be of great interest, but there are comparatively few cases recorded in which the amount of fluid was so great as to cause serious difficulty at the time of labor. The history of the case is of unusual interest from the fact that the complication occurred very early in pregnancy, gestation having advanced to a period between five and one-half and six months.

History.—The patient, a primipara, 18 years of age, native of Germany, was first seen in the first stage of labor in the outdoor service of the Post-Graduate Hospital. The history of the patient, prior to the date of her pregnancy, was absolutely normal, and no history of syphilis could be obtained. Her height was about 4 2/3 feet and weight about 96 pounds. She had not menstruated for three months, but the fundus uteri reached a point five fingers above the umbilicus. She stated that labor had been in progress twenty-four hours, with severe pains at irregular intervals.

Examination.—The presentation appeared to be breech, and the heart was heard in the left upper quadrant. Palpation and auscultation were difficult on account of the tense condition of the uterine and abdominal walls. The vaginal examination showed the cervix to be about three fingers dilated, and the presenting part above the brim felt, through the membranes, like an edematous breech. The patient was in excellent condition, and was allowed to go on for some hours longer, but finally, no advance having been made in the meantime, I was sent for to see the patient. The membranes had ruptured several hours before my arrival, and the cervix had become very edematous. The fetal heart could not be heard, and as the patient was thoroughly tired out it was thought best to operate at once.

Operation.—Under ether, the cervix was fully dilated and the presentation found to be a fluctuating tumor, evidently fetal in origin. The right hand of the operator was then passed upward into the uterine cavity; the lower extremities were found high up in the right half of the uterus; the head and chest were at the fundus, but the arms of the fetus could not be felt, for the reason that they were flattened out against the chest and abdomen by the pressure of the head, which was well flexed, the face looking downward and to the right. With a pair of scissors the abdomen was punctured and a little over a quart of clear yellowish fluid escaped. After the fluid had drained away the fundus came down to a point about 2½ inches above the pubis, and a few good contractions resulted in the expulsion of the fetus, abdomen first, head last. A typical hour-glass contraction of the uterus made manual extraction of the placenta necessary, but her condition postpartum was excellent. The placenta showed marked calcareous degeneration on both of its surfaces, but seemed normal in other respects.

Examination of Fetus.—The fetus was about 30 cm. in length, apparently between five and one-half and six months, and there was a thick caput in that portion of the abdominal wall which had presented in the half dilated cervix, the puncture having been made at the center of the edematous swelling.

With the exception of a slight temperature during the early part of the puerperium, the patient made a good recovery.

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SCARLATINAL INFECTIOUSNESS.

In spite of the most painstaking care, scarlet-fever convalescents not infrequently communicate the disease to others on their discharge from the physician's care or from the hospital. The cases of scarlet fever that develop under the circumstances are known in English literature as "return cases," which naturally have a most important bearing on the question of isolation of scarlatinal patients and the source of scarlatinal infection. During recent years the supposed infectivity of the desquamating skin in scarlet fever has lost much in importance, and there are now experienced clinical observers who believe that the peeling scales are no more dangerous than clothes and other articles that have come into contact with scarlatinal patients, i. e., that the skin *per se* is not infectious. Perhaps the main reason for this change in belief is the fact that desquamation appears to have no special relation to "return cases." In Aaser's series[1] of 3,800 scarlet-fever patients, 79 in all likelihood were infected by discharged patients. We learn that in all these discharged convalescents desquamation had been completed for a week or more; that all were thoroughly disinfected before they were sent out; and, what is very important, that in about 80 per cent. there were present abnormal, principally inflammatory, conditions in the nasopharyngeal mucous membrane and in a considerable number in the ears. From his careful observations Aaser emphasizes that there is reason to believe that the virus of scarlet fever, whatever its nature may be, attaches itself especially to the mucous membranes of the nose and throat, as well as of the middle ear, and that isolation of scarlet-fever convalescents should be maintained so long as any of these membranes present any signs of abnormal secretions. Furthermore, that desquamation in itself can be no reliable indication as regards contagiousness.

In England "return cases" have received much attention, and as a consequence the opinion is gaining ground rapidly that the infectivity of desquamation has been unduly emphasized. Indeed, so strong has this conviction grown that in some places radical modifications have been made in the methods of administration, and with interesting and instructive results. Killick Millard[2] discharged 190 cases before desquamation was completed; five of these cases became responsible for "return cases," but of these five four had nasal discharges and one an open sore behind the ear. In Southampton Lauder instituted a new system of isolation and discharge of the scarlatinal patients in the fever hospitals under his care during 1903.[3] Stated briefly, the new system aims at protecting mild and convalescent cases by segregation from cases in the acute stages or with complications. Indeed, all complicated cases are isolated. As a result of this innovation, Lauder believes that the number of severe, complicated and protracted cases has fallen off perceptibly. At the end of the third week cases free from complications are isolated in disinfected quarters, bathed frequently and given daily nasopharyngeal douches, and then sent home at the end of the fourth week, regardless of the state of desquamation. Lauder compares the results for 1902 (old system) and 1903 (new system). In 1902 the average period of detention in hospital was forty-eight days, in 1903 thirty-four days—a reduction of fourteen days—but the number of "return cases" in each year is the same, namely, seven, and this works out in 1902 as 4.27 per cent., in 1903 as 2.15 per cent. on account of the greater number of cases discharged in 1903. Of 325 cases discharged in 1903, 33 were free from peeling and complications, and these caused no return cases; 204 were peeling without complications, and 2 caused return cases, and 88 were complicated cases, and of these 5 caused return cases. These last cases were detained in hospital an average of fifty days, while the average stay of the cases in the two first groups was nearly twenty days less. The 204 cases in the second group were returned to 180 houses, containing 744 persons who had not had scarlet fever, 363 being under 15 years of age, but as "return cases." 2 could be traced only to two of these patients—and very careful attention seems to have been given this point—the infectivity of desquamation *per se* certainly must be very limited, to say the least. One of the two infecting cases developed a rhinitis on the eighth day after being discharged, and five days later a sister came down with scarlatina. All the five infecting complicated cases had had nasal or aural discharges before dismission from the hospital, and in some of them the discharges reappeared a few days later. It will be remembered that in these five cases all peeling had ceased, and there seems to be no fault to find with the methods of disinfection of the patients or their clothes. Consequently, these cases furnish strong evidence of the infectiousness of discharges from nasopharynx and ears. Lauder suggests that the virus may linger in the tonsillar and other tissues even when it is difficult to detect any abnormal discharge, and Aaser recommends the use of hydrogen peroxid in nose and throat in order to detect minimal degrees of continuing pathologic secretion.

Hence the general import of these observations, and

1. Tidsskrift for den norske lageforening, 1902.
2. Lancet, 1902, April 5.
3. Annual address, Southampton Medical Society, 1904.

others with similar results which are now available, is that the dangers of desquamation have been exaggerated, that at least one very important source of scarlatinal virus is in nasopharyngeal and aural discharges of convalescents, and that important modifications are demanded in the usual routine methods in the hospital treatment of scarlet fever. Undoubtedly the new method inaugurated by Lauder will be continued by him, because the physicians in Southampton, who followed the departure with interest and presumably also, at least at first, with a reasonable amount of distrust, declared themselves as well satisfied with the results and reconciled to the idea of having peeling cases going about. In addition to its other and greater advantages, this shortening of the period of hospital treatment has the minor one of economy, which is effected when the number of days saved is reduced to the financial equivalent. The partial individual isolation advocated by Lauder has also much in its favor. Certainly the early removal of patients from such specially infected zones, as likely to develop in hospitals, especially when crowded, must tend to limit the chances for the transmission of infection and the development of complications. In scarlet fever each acute case is an active source of infection, primary as well as secondary. Is it not, therefore, rather singular that so little has been done to protect such patients from one another, the mild from the severe, the uncomplicated from the complicated? The logical thing to do is individual isolation until uncomplicated convalescence is well established.

INSTRUCTION IN PSYCHIATRY.

Continuing our discussion[1] of a few weeks ago on the teachings of psychiatry in this country, a brief reference to some of the features of the teaching of this subject abroad may be of interest. It will be remembered that we pointed out at that time the fact that psychiatry is lagging behind the other subjects in the advance of medical teaching in the United States. It is especially on the clinical side that the need of reconstructing the teaching methods for this subject is most apparent. Among the principal medical schools of this country whose courses in psychiatry were reviewed in these columns, it was shown that, with a few noteworthy exceptions, the clinical instruction is extremely meager.

It is, of course, well known that no other country bestows such princely sums on the public care of the insane as does the United States. Nowhere else are these unfortunates so splendidly housed or so liberally maintained, yet, as we mentioned previously, the same public which makes this lavish provision for custodial care has thus far provided but one psychopathic hospital for the clinical instruction of the students in the public medical schools.

It will, perhaps, interest and surprise our readers to run over the list of the German universities, with the dates at which clinics in psychiatry were established in each: Jena, 1848; Würzburg, 1848; Erlangen, 1850; Munich, 1861; Berlin, 1865; Göttingen, 1866; Strassburg, 1872; Marburg, 1877; Breslau, 1877; Heidelberg, 1878; Halle, 1879; Bonn, 1882; Leipzig, 1882; Freiburg, 1887; Greifswald, 1889; Königsberg, 1892; Tübingen, 1894; Giessen, 1896; Rostock, 1896; Kiel, 1901. Since 1878 ten of these universities have organized asylums of their own, while the others still depend on the provincial asylums for clinical purposes. The thoroughness and effectiveness of the German University teaching is sufficiently attested by the facts that since 1901 a six months' course in psychiatry is compulsory, and that the clinical examination of an insane patient is a part of the examination for the degree of doctor of medicine.

The special advantages of the university psychopathic hospital are that the cases can be selected and only those received which are useful for clinical purposes; that the cases can be kept under continuous observation, and that every convenience can be secured for scientific research. In the great asylums the majority of the cases are chronic, and, in many cases, the remoteness of the asylums from the medical schools makes it most inconvenient and expensive to conduct clinics for classes of students. Then, too, while most of the large American asylums have some equipment for laboratory work, the physicians in charge are, as a rule, so absorbed in the routine work of the institutions that they have neither the strength nor time for pure research, and thus a great amount of valuable material is wasted.

One of the most remarkable evidences of the belief of the Germans in the value of psychopathic hospitals is shown by the University of Giessen. There are barely 150 medical students at Giessen. The town is one of less than 30,000 inhabitants, in a comparatively insignificant state with necessarily limited resources, yet the university authorities have expended a quarter of a million dollars on the erection of a model psychopathic hospital, which was opened in 1896.

The hospital at Heidelberg is under the charge of Kraepelin and Nissl, men whose reputation as teachers of psychiatry attracts to them students from all parts of the world, including many from our own country. It is also true that many students from this country go to Leipzig especially to attend the famous clinics of Flechsig at the university hospital. Does it not seem self-evident that the pre-eminence of Germany in psychiatry at the present time is due in large measure to the stimulus given to the study of mental diseases by these various centers of scientific observation?

Other continental nations as well are making special provision for the clinical study of mental diseases. Switzerland has clinical hospitals for mental diseases in connection with the universities at Basle, Lausanne, Geneva, Berne and Zurich. These are in each case the cantonal asylums. They are within immediate reach of the medical schools, and the medical directors are

1. THE JOURNAL, May 28, 1904, p. 1420.

professors of the respective universities. In Italy there are clinical asylums in connection with the various medical schools. The University of Modena is at the head of the psychiatric movement in Italy and has a magnificent asylum. At Pavia the clinic in psychiatry is installed in the general city hospital, and here Lombroso began his researches in anthropology. The universities of Florence, Turin and Geneva all have clinical asylums.

The German universities began by utilizing the neighboring asylums for instruction, inconvenient though this may have been. In fact, our foreign brothers have a thrifty way of making the best of whatever is at hand which we might well imitate. An interesting similarity has recently been pointed out between Copenhagen and one of the largest American cities. The University of Copenhagen has, of course, a medical school. It is situated in the city, and in close proximity to the large, free general hospital. This hospital has separate pavilions for persons suffering from mental diseases, and these patients are used for the clinical instruction of the university students. The situation of the university medical school and the hospital pavilions for mental diseases used for clinical instruction, is curiously paralleled in the American city, where a detention hospital, full of interesting and constantly fresh material, is surrounded by medical colleges a few hundred yards away. Yet here the parallel ceases. The splendid possibilities offered by this hospital are practically ignored in the American city, and the hundreds of students who daily surge around it escape unscathed by the acquaintance with its wards. On the other hand, there are already some cheering signs of a renaissance of interest in the case of the insane in our country, and we believe that the next decade will see psychopathic hospitals in connection with every prominent medical school in this country.

RADIUM AND ITS EFFECTS ON VITALITY.

Radium has been a source of no little disappointment in medicine and surgery. This, it is true, is not because of any failure of the wonderful new substance to act in the way in which its discoverers announced, but is attributable to the exaggerated claims of certain pseudoscientific observers who proclaimed unwarrantably that medicine would have in radium a marvelous therapeutic agent. Notwithstanding this disappointment, serious scientific investigation with regard to the possible therapeutic value of radium in medicine and surgery is being, and very properly should be, continued by careful observers. That it will prove of value in the treatment of certain superficial surgical affections may be expected from what has been found quite recently with regard to the biologic effects; that is to say, the effects on vitality and vital processes of radium. When seeds, for instance, are exposed for a certain length of time to the radiations of even a small quantity of this new metal their future growth is distinctly retarded. The longer the seeds are exposed the more prolonged is the period of retardation of growth and the slower do the plants which come from the exposed seeds increase in size. Plants grown from seeds that have not been exposed to radium will at the end of two weeks of growth be at least three times as high as plants which come from seeds exposed to radium for forty-eight hours, and at least twice as high as seeds that have been exposed for twenty-four hours.

On animal life in its lower stages radium has quite as great effect. If the larval forms of certain insects be exposed to radium just long enough not to injure them to such an extent as to cause their death, the result is a very curious retardation of life processes, that may even go on to the extent of keeping the larva entirely from entering on those stages of transformation which would complete its proper cycle of existence. If, for instance, the familiar meal-worm, which is the larval stage of the ordinary black beetle so commonly seen in houses, be exposed to radium for some hours the specimens which survive the exposure continue their existence as larvæ much beyond the usual time and do not enter on the pupa stage. While control-worms raised under similar circumstances, but without having been exposed to radium, become pupæ and then fully fledged beetles which lay eggs which develop meal-worms, and then proceed through the usual subsequent stages for several generations, the exposed larvæ continue in their original form, "Methusalems," as Dr. Abbe called them, at the last meeting of the New York Academy of Medicine for the year, incapable of reaching their own proper development and impotent to reproduce their kind.

Encouraged by such observations as these, it is not surprising that the surgeon should hope to produce a favorable effect on such rapidly growing tissues as are those of malignant disease. If malignancy is really due to a reversion of cells to the reproductive type, as was pointed out by English observers some months ago, then all the more would it seem possible that radium might produce a retarding effect on such aberrant reproductive processes. Radium does not affect reproduction only by retardation or prevention, but it also may, under certain conditions, apparently encourage anomalous reproduction. If the ova of certain lower forms of life be exposed to radium they will develop without the necessity for the usual stimulus derived from conjugation with male cells. This is, of course, the reversion to a parthenogenetic condition which has been pointed out as occurring in the cells of the sea urchin, for instance, as the result of contact with certain stimulant, usually very toxic substances. The whole story of biologic effects produced by radium, however, would seem to point to benefit to be derived from it in the anomalous cellular processes involving overreproduction, which we group under the term malignancy.

DYSBASIA ANGIOSCLEROTICA.

The condition to which Erb gave this name in 1898 generally has been known in this country as intermittent claudication, and in Germany as *intermittierendes Hinken*. The symptom-complex, which, as the name implies, is one of intermittent halting, was first described as a disease of the horse, the condition being common in this animal, and generally being due to interference with the circulation in the hind legs from verminous aneurism of the femoral arteries.

That the condition is relatively common in man seems not to have been recognized as yet. When, however, a single observer (Erb) has seen forty-five cases in six years it seems fair to assume that the condition must be frequently overlooked. In a recent paper, Erb[1] gives the result of the study of these forty-five cases and those he had previously seen. He divides his cases into those with typical and those with atypical symptoms. The typical cases are easy of recognition; the patient while walking experiences paresthesia and pains in the feet; tension, pain or stiffness in the calves or even above; either coldness and cyanosis or redness and heat in the feet; finally an increasing difficulty of locomotion that in increasingly shortening intervals causes the sufferer to stop completely and rest.. After a short rest all of the symptoms disappear, and the subject is able to walk on as usual until he attempts to walk too fast, when there is a recurrence of the symptoms. Such are the subjective symptoms; on the objective side the sign of paramount importance is the great diminution or lack of pulsation in one or more of the arteries of the affected foot or feet. Signs of lesser importance are the sclerotic state of the pedal arteries, coldness or cyanosis of the feet, or at times redness.

In the atypical cases a variety of symptoms may occur; in some the legs become weak and easily tired on exercise without the characteristic intermittent claudication; in other cases there may be paresthesia, fatigue, and a feeling of cold and pain in the knee-joints. In the atypical, as in the typical cases, the obstruction to the circulation of the feet is the objective sign of vital importance. Most cases are bilateral, and in the majority all four of the main arteries of the foot are affected; in some the pulsation in the pedal arteries is still apparent, and in very rare cases so apparent that it seems likely that in them the affection is due to a spasm of the vessels and not to an organic obstruction. In nearly every instance the patient is the subject of a high grade of arteriosclerosis, and a certain amount of this disease seems almost indispensable. Vasomotor disturbances, gangrene, neurasthenia and flatfoot are among the complications. With regard to the etiology of the affection, it is to be noted that men almost exclusively are attacked; that the disease occurs, as a rule, after the fortieth year; that the Russian and possibly also the Jewish races seem relatively predisposed; and that history of excessive tobacco smoking or exposure to cold is frequently elicited. Nearly all cases have occurred among the better classes of society. Syphilis and alcohol seem to bear little or no relation to the trouble. Erb lays special stress on the excessive use of tobacco, and thinks that this explains the immunity of women. He finds difficulty in explaining on the same grounds the relative immunity of the lower classes.

The treatment is that for arteriosclerosis plus local measures in the form of massage and galvanic footbaths. The frequency with which the symptom-complex occurs in Germany makes it likely that the condition will be found more frequently in this country if looked for.

1. Münchener med. Wochenschrift, vol. li, No. 21.

THE NECESSITY OF CLINICAL INSTRUCTION.

The Supreme Court of Louisiana has set its seal on the axiom that a hospital in which clinical instruction can be given is an absolutely necessary adjunct to medical teaching.[1] The decision is one which should be emphasized before the educators of the country; young men and women who expect to study medicine should realize that ample clinical facilities are vital to the success of their college course. The decision was in a case in which the right of a university to establish a hospital was brought into question, and the court said that since the university already had special authority to teach medicine, it needed no additional authority to establish and maintain hospitals, because a hospital used for clinical instruction is an educational institution. Didactic instruction is but a preliminary to clinical study, and we are glad to have this fact emphasized by a supreme court.

COLONIES FOR EPILEPTICS.

The Wisconsin State Medical Society has taken up an important matter in its recommendation of colonies for epileptics. Its action, as we have noted in our report[2] of the proceedings of the society, was instigated by the paper read by Dr. W. A. Gordon, superintendent of the Northern Hospital for the Insane at Oshkosh. He called attention to the evil influence that epileptic and insane persons have on one another when in the same asylum; he also referred to the adoption of the colony plan by New York, New Jersey, Ohio, Texas, Kansas, Pennsylvania, Massachusetts, England, Germany, Switzerland and Belgium, and to the successful results of its use. The society took up the matter vigorously, and appointed a committee to urge this measure before the state legislature. The example is a good one for other states. The possibilities of improvement in the care of epileptics is well worthy the attention of an organized profession.

WHAT IS BRANDY?

The prescription of alcohol in its various forms is often a questionable proceeding because of the inability to be certain that no impure decoction will be supplied on the prescription. The question, "What is brandy?"

1. See medicolegal report, THE JOURNAL, July 9, 1904, p. 148.
2. THE JOURNAL, July 2, 1904, p. 65.

has been the subject of trial recently before a London magistrate. A bottle labeled "fine old pale brandy" was found to contain 60 per cent. of spirit not derived from the grape. Expert evidence for the prosecution defined brandy as "spirit derived from the grape." The defendants claimed that brandy had never been a spirit exclusively derived from the grape. Medical evidence was given that the great value of brandy in medical practice was due to the ethers, which exist in higher proportion in spirit derived from the grape than in spirit derived from other sources. The magistrate decided that the liquor sold was not brandy, and imposed a fine. This decision is a contribution to exactness in terminology and puts a safeguard about the use of this spirituous product. It is said that a large proportion of so-called brandy is not made with spirit derived from the grape, and the danger from sophistication, while not as great here as in some other liquors, is to be borne in mind.

THE SCIENTIFIC EXHIBIT.

At the recent session everyone noted the increased interest in the Scientific Exhibit, as evidenced by the large attendance and by the comments of members. Most members know that the Scientific Exhibit is an outgrowth of a smaller prototype that for some years marked the annual sessions of the Indiana State Medical Society. In 1899 the Indiana members brought their exhibit to the session of the Association at Columbus, Ohio, and readily succeeded in having the Association adopt the plan as a regular feature of its sessions. The range of specimens shown at Atlantic City was wide, and the annual growth of the extent of the exhibit was particularly marked. The demonstrations that were held proved to be a very popular feature, and the scientific sections have seen the benefit their work may derive from a meeting in the exhibit hall, so that one or more sections next year are planning each to hold a half-day's meeting among the specimens at which the exhibition of specimens will be a chief feature. Without doubt this plan is bound to be popular and instructive. Section officers should begin early to arrange with the directors of the exhibit for co-operative work that may be planned for the Portland session. Those who have worked so hard to bring the annual exhibit to its present proportions should feel gratified at the very evident success of their effort. The House of Delegates certainly reflected the sentiment of those in attendance when it voted the thanks of the Association to Dr. Wynn and his colleagues.

LESS TUBERCULOSIS.

An interesting publication has been sent out by the American Statistical Association in the form of a little paper by Dr. S. W. Abbott, secretary of the Massachusetts State Board of Health. It reviews the consumption mortality in the state of Massachusetts, where vital statistics have long been kept in a satisfactory way, and shows that the death rate has declined from nearly 4,000 (3,901) per million inhabitants in 1851 to 1,595 in 1902. The maximum appears to have been reached in 1853, when it was 4,272 per million, but since that time the mortality has declined with considerable uniformity to the present day, and is now only 37.3 per cent. of that which prevailed in 1853, fifty years before. Comparative statistics from Great Britain are also given, showing that the consumption death rate decline has been much more rapid and general in Massachusetts than in Great Britain. Such encouraging facts as these favor, if they do not altogether justify, the belief that tuberculosis may become an extinct disorder. Undoubtedly, if the decrease continues at the same rate as in the past, it must finally reach the point where a cipher represents the condition, but this is a little too much to hope for. In Great Britain the general death rate has been lower throughout than in Massachusetts, though the decrease has not been so great. Other interesting points, as the ratio of deaths of the two sexes, age periods, etc., are also discussed. The general conclusion is that the death rate in New England at the present time is somewhat less than 20 per 10,000 living inhabitants. In some states it has diminished as much as 50 per cent. in the half century, and appears to be more rapidly diminishing at the present time than in former years. Women seem to have shared better in the decrease than men. In the early years more women died of consumption than men, but at the present time fewer, and, while the death rate of consumption at every age of life is decreased, it is greater at the older than at the younger ages.

AS OTHERS SEE US.

Printers' Ink is a journal for advertisers and represents their interests. In a recent number it discusses the fight being made by the Postoffice Department against certain forms of medical advertising. It says that newspapers printing advertisements that are objectionable in the opinion of the Postoffice Department will be ordered to discontinue them or lose their mailing privileges; that this action is held by some to be the beginning of the end for patent medicines. This, however, is considered to be extremely unlikely. A New York advertiser of a proprietary remedy gives *Printers' Ink* some views on the proprietary medicine business that ought to be of especial interest to physicians who prescribe proprietary remedies. We quote:

"This is not the first agitation against patent medicines. Just now the papers are printing editorials and articles calculated to hurt sales. The recent article in the *Ladies' Home Journal* particularly, calling attention to the percentage of alcohol in certain well-advertised tonics, may be counted on to hurt those remedies to the extent of many thousands of dollars. But I have watched the progress of several such crusades, and find that in a few months the public forgets all about them. Then the advertising again becomes quite effective.

"The patent medicines sold to consumers will hold their own for a good many years to come, I believe. But the patent medicine of the future is the one that will be advertised only to doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press, by means of the manufacturer's literature, sometimes gotten out in the shape of a medical journal, and through samples to doctors. For one physician capable of prescribing the precise medicinal agents needed by each individual patient there are at least five who prescribe these proprietaries. They are the chief standby of the country practitioner. I have a large prescription department here, with three men who are

graduates of German pharmacal institutions. They are highly skilled. But three-fourths of all the prescriptions received are for these proprietary remedies, and the pharmacist simply opens the package and writes a label, 'A teaspoonful three times a day before meals.'

"Now, the doctor prescribes ———— or ———— as a builder after an illness, or for slight debility. The original bottle is given to the patient. He sees that the remedy does him good, and when he feels a trifle run down again he goes to a drug store and buys another bottle, not troubling the doctor. He meets a friend on the street who is not looking well. 'I know exactly how you feel,' he says. 'Now, just go and buy a bottle of ————. Best thing in the world. My doctor prescribed it for me, so it isn't a patent medicine.' In this way the name of the remedies advertised only to physicians get abroad to the general public, and I have no hesitancy in saying that for every bottle sent out of our prescription department we sell six over the counter without prescription. These remedies are all more or less good, understand, though some of them should be taken only under the direction of a physician. The proprietary medicine of the future, though, will be advertised through these channels. The medical papers will reap the harvest, and the physician himself, always so loud in the denunciation of patent medicines, will be the most important medium of advertising at the command of the proprietary manufacturer. In fact, he is that to-day."

Medical News.

CONNECTICUT.

Honorary Degrees.—Degrees *cum laude* were awarded to five graduates of the Yale University Medical Department, June 27.

April Death Rate.—The mortality of the state during April was equivalent to an annual death rate of 17.2 per 1,000. The deaths numbered 1,375, of which 332 or 24 per cent. were from infectious diseases.

Presentations.—At the meeting of the Hartford Medical Society, June 20, a silhouette of Dr. Horace Wells was presented to the society by his son, Charles T. Wells, and Dr. E. J. McKnight presented to the society the chair used for many years by Dr. Irving W. Lyon.

Cerebrospinal Meningitis.—The Connecticut State Board of Health, in its report, states that while the sporadic form of the disease has been almost continuous for several years, with an average mortality of 57 per year, the disease assumed epidemic form in April, 76 cases having been reported, 43 of which were in Hartford, with 20 deaths.

State Society.—At the one hundred and twelfth annual meeting of the Connecticut Medical Society, held in New Haven, May 25 and 26, the following officers were elected: Dr. William H. Carmalt, New Haven, president; Dr. Edward H. Welch, Winsted, vice-president; Dr. Nathaniel E. Wordin, Bridgeport, secretary; Dr. Henry S. Miles, Bridgeport, assistant secretary, and Dr. William W. Knight, Hartford, treasurer.

ILLINOIS.

A Verdict of One Per Cent.—The damage suit for $5,000, brought by Charles Cox of Cottonwood against Drs. B. F. Little, Janesville, and Harry B. Vannatta, Lerna, has been decided in favor of the plaintiff, with a verdict of $50 and costs.

Personal.—Dr. Joseph L. Wilcox has been elected city physician of Springfield.——Drs. Henry S. Bennett, Moline, and Cyrus T. Foster, Rock Island, have been appointed physicians of Rock Island County.——Dr. William R. McKenzie, Chester, has been appointed physician to the southern penitentiary, vice Dr. Arthur M. Lee.

Consumption Crusade.—The Illinois State Board of Health has just issued a pamphlet written especially for laymen, and intended for distribution broadcast, in which consumption is described, its ravages are graphically represented, and rules for its prevention and limitation of its spread detailed. It is also announced that the State Board of Health in needy cases will make free examinations of sputa.

Chicago.

Personal.—Dr. J. Allen Patton has returned from Europe. ——Dr. Frederick Greenbaum left for Europe July 8.

Hospital Property Transferred.—The Chicago Hospital, now almost completed, has been formally transferred by the Chicago Hospital Building Company to the Chicago Hospital (incorporated), for $135,000.

A Low Death Rate.—For the week ended July 9 the deaths numbered 395, 3 less than for the previous week, and 168 less than for the corresponding week of 1903, the respective annual death rate per 1,000 being 10.68, 10.75, and 15.62. Consumption led death causes with 68; Bright's disease and heart disease each caused 37, violence 35, and pneumonia 33.

Milk Up to Standard.—For the first time since the Health Department undertook the supervision of the city's milk supply for 1893 every sample of milk and cream collected by the milk inspectors was found up to or beyond the standard provided by the ordinance—3 per cent. of butterfat for milk and 15 per cent. for cream.

INDIANA.

A Fire Loss.—The house of Dr. Samuel E. Earp, Indianapolis, was damaged to the extent of $2,500, by fire, June 24.

Shot in Self-Defense.—Dr. George W. Pirtle, Carlisle, on June 30, was attacked on the street by Burdell Jacobs with a club and knocked down. In self-defense he drew a revolver and shot Jacobs, inflicting wounds from which he died soon after.

Irregulars Flee.—W. T. Davis, W. B. Blackstone and W. R. Darrow, posing in Muncie as the "New York Doctors," on learning that complaints against them had been filed by the State Board of Medical Registration and Examination, left town suddenly.

Personal.—Dr. and Mrs. Adian E. Fauve, Indianapolis, have sailed for Europe.——Dr. Hugo O. Pantzer, Indianapolis, has gone to Europe for the summer.——Dr. and Mrs. Emanuel Masgana, Alexandria, sailed for Havre on *La Gascogne*, June 16.——Dr. Mavity J. Spencer, city sanitarian of Indianapolis, has resigned.

Disease and Death.—The monthly bulletin of the State Board of Health says that the state health was better in May than in April, but not so good as in May, 1903. Tonsillitis was the most prevalent disease; rheumatism was the second most prevalent, while pneumonia, which was fourth in April, fell to seventh place in May. The deaths from this disease were 319 in May and 557 in April. The total number of deaths reported was 2,971, an annual rate of 13.1 per 1,000. In the preceding month there were 3,322 deaths, a rate of 15.2 per 1,000. In May, 1903, there were 2,421 deaths, a rate of 11.3 per 1,000. Of the total deaths 552 were under 5 years of age. Some important causes of death were: Consumption, 415; typhoid fever, 49; diphtheria, 20; scarlet fever, 14; measles, 34; whooping cough, 5; pneumonia, 319; diarrheal diseases, 31; cerebrospinal meningitis, 34; influenza, 17; puerperal fever, 17; cancer, 95; violence, 149; smallpox, 6. There were 259 cases of smallpox reported from 36 counties. In the corresponding month last year there were 579 cases, with 10 deaths from 59 counties. The cities show the highest death rate in the following diseases: Tuberculosis, typhoid fever, diphtheria, scarlet fever, pneumonia, diarrheal diseases, cancer and violence. Only in measles does the death rate appear higher in the country than in the cities.

IOWA.

County Society to Care for Poor.—The supervisors of Calhoun County have entered into a contract with the county medical society to furnish medical care and medicines for the next year for $1,200, the service to be rendered in each case by the nearest physician who is a member of the society.

Women Elect Officers.—At the recent meeting of the State Society of Iowa Medical Women the following officers were elected: Dr. Mary D. Ardery, Knoxville, president; Drs. Anne Burnett, Mount Pleasant, and Jennie G. Ghrist, Ames, vice-presidents; Dr. Lillian Kinnier, Dubuque, secretary, and Dr. Sophie H. Scott, Des Moines, treasurer.

Personal.—Dr. James W. Dalby, Cedar Rapids, has resigned as professor of ophthalmology in the state university, Iowa City.——Dr. and Mrs. Henry R. Amos, Charles City, have returned from Europe.——Dr. J. Earl Cox, Belle Plaine, has returned after a year in the West.——Dr. and Mrs. William Jepson, Sioux City, sailed for Europe June 11.

Sioux City Faculty Changes.—Two new chairs have been established in the Sioux City College of Medicine; orthopedic surgery and genitourinary surgery, the latter filled by Dr. William S. Thorp. Dr. Fred C. Brechan was made professor of

physiology, and Dr. John A. Thompson instructor in osteology and demonstrator of anatomy and syndesmology.

MARYLAND.

A Physician and July Fourth.—Dr. Harry S. Jarrett, Towson, had his hand torn by the premature explosion of a giant cracker on July 4.

Gift to Consumption Hospital.—Mrs. Nelson Perin has given to the Hospital for Consumptives, Towson, a sum of money sufficient for the care of six patients in that institution.

Summer Hospitals Open.—St. Lukeland Convalescent Sanitarium is open for the summer near Baltimore.——The summer annex of the Hospital for Crippled and Deformed Children has been opened at Blue Ridge Summit. Tents have been placed on the lawn to accommodate the overflow.

Baltimore.

The fund for the relief of widows and orphans of deceased members of the Medical and Chirurgical Faculty, started a few weeks ago, now amounts to nearly $800.

Vaccination.—The health commissioner reports over 18,000 persons vaccinated by the extra force of vaccine physicians during June, and estimates that there are 150,000 people in Baltimore who have never been vaccinated. The board of estimates has allowed him $1,175 from the contingent fund to continue the work of vaccinating during July.

Hospital To Be Enlarged.—St. Joseph's Hospital will be enlarged by an annex 52x116 feet and three stories high. It will be connected to the present north wing by a one-story structure 22x82 feet. In the basement will be a preparation room, operating room, dining room and nurses' room. On the first floor will be seven ward rooms, parlor, office, clothes room and hall. The second floor will contain ten nurses' rooms, library, lecture room, parlor and kitchen. A large ward for contagious diseases will occupy the entire third floor. The connecting structure will contain a room for old men and another for nurses.

Hydrophobia Treatment Report.—Dr. N. G. Keirle, superintendent of the Pasteur Institute of the City Hospital, reports 500 cases treated, with only 1 death after the patient had received the full treatment—a man suffering with Bright's disease. Three hundred and forty-one were bitten by animals proved to be rabid. Of the total 367 were males and 133 females. Children under 10, 177. A calf, a pet pig, five cows, six horses and four human beings bit those who came for treatment. Dogs were responsible for 439 cases, and in 16 persons the disease was not the result of bites. The patients came chiefly from Maryland and points south of it. The institute was founded through the instrumentality of the College of Physicians and Surgeons in 1897.

Fight Tuberculosis.—The Johns Hopkins Hospital will commence a systematic fight against tuberculosis. Ten thousand dollars of the Phipps donation will be used in building a dispensary, two stories, 30x35 feet. On the first floor will be a reception room and three examining rooms. On the second a library and several rooms for scientific work. Guinea-pigs will be kept on hand for inoculation. It is hoped to attract patients in the very inception of the disease, and thus secure better results than heretofore. Patients will be visited at their homes when too ill to come out, and the sanitation of such homes will receive special attention. The co-operation of the Association for the Improvement of the Condition of the Poor will be secured, and thus proper diet provided.

MISSOURI.

Dr. Crow's Estate.—The estate of the late Dr. Asbury M. Crow, Kansas City, has an appraised value of $30,200.

Personal.—Dr. Edward R. Churchill, Nevada, has been appointed surgeon-major of the Second Infantry, M. N. G., vice Dr. William W. Rodman, Pierce City, resigned.

Dr. Lewis Not Seriously Injured.—Dr. Bransford Lewis, St. Louis, who was injured by a runaway horse, June 25, will be able to be about again in a week or two. Contrary to first reports, no bones were broken nor internal injuries received.

NEW JERSEY.

Anti-spitting Crusade.—The State Board of Health has commenced an anti-spitting crusade in all the railroads throughout the state.

No Rebate of Taxes for Cooper Hospital.—The council of Merchantville has refused to allow a rebate on taxes against the Cooper Hospital, Camden. The appeal for a rebate followed the recent decision of the court denying the hospital exemption. The taxes amount to $1,789.

Personal.—Dr. H. Z. O'Brien has been appointed to the resident staff of the Cooper Hospital, Camden.——Dr. George C. Laws has been appointed medical inspector of the Paulsboro Board of Health.——Dr. Hiram Williams has been elected health officer of Passaic, vice Dr. John N. Ryan.

Medical Examination.—The State Medical Examining Board conducted the examination of 53 candidates July 5 to 8. At the annual meeting of the board the following officers were elected: President, William H. Shipps, Bordentown; secretary, Dr. E. L. B. Godfrey, Camden; treasurer, Dr. Charles A. Grove, East Orange.

New Jersey State Society.—At the one hundred and thirty-eighth annual meeting of the Medical Society of the State of New Jersey, held in Atlantic City, June 4 to 6, the following officers were elected: President, Dr. Walter B. Johnson, Paterson; vice-presidents, Drs. Henry W. Elmer, Bridgton, Alexander Marcy, Riverton, and Edward J. Ill, Newark; corresponding secretary, Dr. Ellis W. Hedges, Plainfield; recording secretary, Dr. William J. Chandler, South Orange, and treasurer, Dr. Archibald Mercer, Newark.

NEW YORK.

Anthrax in Northern New York.—Prof. Moore, bacteriologist of the State Veterinary College, and Dr. William H. Kelley, chief state veterinarian, have completed an investigation of the disease that has caused the death of a large number of cattle in the eastern part of St. Lawrence County, and pronounce it anthrax. Tuberculosis was also found among the cattle near Canton.

New York City.

Personal.—Dr. and Mrs. John A. Fordyce sailed on the *Deutschland*, for Cherbourg on July 6.——Dr. William R. Pryor, professor of gynecology at the New York Polyclinic Hospital, has been appointed attending gynecologist to St. Vincent's Hospital.

Summer Corps of Physicians.—Ninety-five physicians appointed as a special summer corps by the board of health have started on their work of caring for the sick children of the tenements. In addition to prescribing for sick babies they give tickets to the mothers to take their children on the St. John Guild boat and also for milk from the Straus depots.

Contagious Diseases.—There have been reported to the sanitary bureau of this city for the week ending July 2, 1904, 369 cases of measles, with 23 deaths; 386 cases of diphtheria and croup, with 50 deaths; 130 cases of scarlet fever, with 9 deaths; 61 cases of varicella; 1 case of smallpox, with 1 death; 330 cases of tuberculosis, with 150 deaths; 33 cases of typhoid fever, with 12 deaths; and 39 deaths from cerebrospinal meningitis.

Buffalo.

Gift to Buffalo General Hospital.—This hospital has been given $5,000 by Mr. R. B. Adam.

New Quarantine Hospital Started.—Ground has been broken for the new $50,000 quarantine hospital.

German Hospital Officers.—The German Hospital elected officers as follows: President, Dr. C. A. W. Auel; vice-president, Dr. Marcel Hartwig; secretary, Dr. Frederick Zingsheim.

July Fourth Casualties Cause Tardy Action.—As a result of many fatalities in Buffalo from pistol wounds and explosives on the Fourth of July, a resolution has been offered in the city council prohibiting the sale of toy pistols and giant crackers.

PENNSYLVANIA.

Smallpox at Hopedale.—Three cases of smallpox are reported in as many families at Hopedale, near Lancaster.

Personal.—Dr. Joseph K. Weaver, Norristown, has been appointed a member of the Montgomery County Board of Prison Inspectors, vice Dr. George M. Stiles, Conshohocken, deceased.

To Pay for Insane Patients.—Efforts are being made to receive remuneration from patients being treated free of charge in the insane hospital who are in a position to pay. Several hundred letters have been sent to relatives of persons confined in the State Insane Asylum at Norristown to ascertain whether they are able to pay for the maintenance of the inmates.

Philadelphia.

Germantown Hospital.—Ground has been broken for a new

pathologic laboratory for the Germantown Hospital. The building will cost $25,000, and is erected by Mrs. John B. McIlhenny as a memorial of her deceased daughter. The new private department of the hospital has been completed at a cost of $100,000, and will be opened for the admission of patients on July 25.

Last Smallpox Quarantine Raised.—For the first time in three years the city this week was entirely free from smallpox quarantine. Despite this fact, the vigilance of the health authorities will not be relaxed. Medical inspectors to the number of 25 will be on continuous duty during the summer months, and will be expected to report about 4,000 vaccinations a week. The records of the health bureau show that 400,000 persons have been vaccinated since the outbreak began in 1901.

Health Reported Good.—The general health of the city is good. There is a progressive decrease of contagious disease; 127 cases of contagious disease were reported for the week, with 13 deaths, as against 137, with 24 deaths, for the previous week. The total death rate was 444. This was a decrease of 59 over the preceding seven days, and a decrease of 132 for the corresponding period of last year. The infant mortality numbered 107, as follows: diarrhea under 2 years, 98; diarrhea, 2 years and over, 7; inanition, 2.

Health of School Children Better.—The report of the medical inspection from the public schools discloses the fact that 3,157 less pupils were excluded from attendance in the schools during the month of May than in April. The first report of the inspectors shows that 4,956 children had been refused admittance, either because they themselves were suffering from contagious disease, or on account of such an ailment being present in their homes. The report received for the month of May contained only 1,799 names. It was stated in the report that there was a notable decrease in tuberculous cases, and that the general health of the children was better.

Aftermath of Fourth of July.—A canvass of the hospitals of the city the day following the Fourth showed a total of injured from the use of explosives of 532. On the day following the total rose to 700. Two deaths were reported. Last year there were 500 injured and treated in the hospitals and no deaths were reported. The records show the injuries resulted from the following causes; toy cannon, 40; toy pistol, 57; blank cartridges, 49; gunpowder, 175; dynamite crackers, 143; cartridge canes, 28; fireworks, 40. It will be noted that the new Fourth of July implement, the cartridge cane, reaped its number of victims. Until the closing hour of the Bureau of Health, July 8, no cases of tetanus had been reported as the result of the Fourth of July celebration.

GENERAL.

Mississippi Valley Medical Association.—The thirtieth annual session of this body will be held in Cincinnati, October 11-13, 1904, under the presidency of Dr. Hugh T. Patrick of Chicago. The headquarters and meeting places will be at the Grand Hotel. The annual orations will be delivered by Dr. Wm. J. Mayo of Rochester, Minn., in surgery, and Dr. C. Travis Drennen of Hot Springs, Ark., in medicine. Further information can be had of the secretary, Dr. Henry Enos Tuley, Louisville, Ky., or the assistant secretary, Dr. S. C. Stanton, 55 State Street, Chicago.

American Electro-Therapeutic Association.—The fourteenth annual meeting of this association will be held at the Inside Inn, St. Louis, Sept. 13-16, 1904. The scientific sessions will be held only in the mornings, leaving the afternoons free in which to visit the fair. There will also be held in St. Louis, September 8-17, the annual convention of the American Roentgen Ray Society and the convention of the International Electrical Congress. Interesting programs have been prepared. Further information may be had of the secretary, Dr. Clarence Edward Skinner, New Haven, Conn. The committee on arrangements consists of Drs. C. H. Hughes, chairman; A. V. L. Brokaw, John Young Brown, C. G. Chaddock, Pinckney French, Marc Ray Hughes, B. M. Hypes, L. H. Laidley, and W. G. Moore, of St. Louis.

The American Society of Tropical Medicine was incorporated in Philadelphia, July. The officers are: President, Dr. Thomas H. Fenton, Philadelphia; vice-presidents, Dr. James Anders, Philadelphia, and Dr. J. G. Kinyon, Glenolden, Pa.; secretary, Dr. Joseph McFarland, Philadelphia; assistant secretary, Dr. John M. Swan, Philadelphia; treasurer, Dr. Wharton Sinkler; council: Drs. R. G. Curtin, Judson Daland, Allen J. Smith, and W. M. L. Coplin. The men elected to honorary membership for valuable research work in the prevention of tropical diseases are as follows: Surgeon-General William H. Forwood; Rear-Admiral Surgeon P. M. Rixey, Dr. Walter Wyman, Sir Patrick Manson of England, Dr. A. Laveran of the Pasteur Institute, France; Prof. Robert Koch, Germany; Prof. Charles J. Martin, Sydney, N. S. W.; Prof. Aristides Agramonte, University of Havana, Cuba; Dr. Frederick Montazambert, chief health officer of the Dominion of Canada; Prof. Kitasato, University of Tokio, and Prof. Eduardo Liceaga, head of the department of health, Mexico.

CANADA.

Personal.—Dr. N. P. Grant of Woodstock, N. B., has been appointed superintendent of the St. John General Hospital, and will have as his assistant Dr. J. S. Bentley of Truro, N. S.

Manitoba Medical College.—The faculty of the Manitoba Medical College have just secured a site for a new college building, which it is proposed to erect in Winnipeg. It is to be located near the General Hospital, and will be completed during the term of 1905-6.

The College of Physicians and Surgeons of the province of Quebec held its annual meeting in Montreal during the last week, when licenses were granted to fifty members of the profession who had not so far observed the necessary formalities. The financial report showed receipts of $8,799.69, and expenses of $4,510.06.

Civic Milk Dispensaries in Montreal.—It is proposed to establish in different parts of the city of Montreal dispensaries or depots where milk could be got from the surrounding country districts and distributed to citizens. It is thought that in this way much could be done toward curtailing the enormous infant mortality which occurs annually in Montreal during the summer months.

Health Inspection of Quebec Schools.—Dr. C. S. Vallin, professor of hygiene at the University of Laval, is reviving the movement for the medical inspection of schools in the province of Quebec. From the results of recent observations he has made he is assured that in no place in the world would the advantages of such inspection be found to be of greater use to society generally than in Quebec.

Infant Mortality in Montreal.—Over 100 infants died last week in Montreal. The total death rate for the city, which was much above the average, was 186; 71 were below six months' of age, and 33 were between six and twelve months, and ten between one and two years. Dr. Laberge, the medical health officer, urges a society to instruct young mothers how to take care of their offspring.

The Provincial Jubilee Hospital of Victoria, B. C.—The fourteenth annual meeting of the Jubilee Hospital of Victoria, B. C., was held last week in that city. The building and completion of the Strathcona wing is the most important addition to the hospital since its foundation. Of the total cost of this wing, $12,812, $5,000 was contributed by Lord Strathcona. The expenditure of $33,044 was several thousands in excess of the previous year, due principally to improvements and increased cost of supplies. During the year the hospital treated city patients averaging a total stay of 9,000 days at a cost of $1.66 per day.

FOREIGN.

Rabl Called to Leipsic.—Professor Karl Rabl of Prague has accepted a call to Leipsic as successor to the late Professor His in the chair of anatomy. Rabl is a son-in-law of Virchow.

Lorenz Entertains.—Professor Dr. Lorenz a few days ago entertained 70 members of the Anglo-American Medical Society and their wives at his new country home at Greifenstein on the Danube.

Serum Prophylaxis of Intestinal Diseases at the Seat of War. The members of the sanitary service, leaving Moscow for the seat of war, all received prophylactic injections against dysentery and typhoid serum. The latter caused always a febrile reaction, lasting about four days.

Woman Physician President of Neurologic Society.—We learn that Miss Joteyko of Brussels has been elected vice-president of the Belgian Neurological Society, and will thus be its president next year. She has charge of the psychologic research conducted at the Brussels University.

City Physician to the Schools.—Mannheim is the first German city to appropriate funds to pay the salary of a school physician who is to devote his entire time to the work and not attempt any private practice. The salary is stated variously in our German exchanges as $1,250 and $2,500.

Mortality in India During the Last Decade.—One of our exchanges has computed that twenty-five millions of persons have perished in India during the ten years 1894 to 1904, from plague, famine or cholera.

Medical School Inspectors at Leipsic.—Eighteen physicians have been appointed inspectors of the Leipsic schools. The remuneration for their services ranges from $62 to $112, according to the number of children in the school.

Italian Congress of Pediatrics.—The fifth Italian congress of pediatrics will be held at Rome in October. The subjects appointed for discussion are "Tuberculosis in Children" and "Infantile Anemia." Professor Concetti is to preside, while Professor Valagussa is secretary, and Pagliari treasurer.

Production of Diphtheria Serum in Germany.—It is stated in our German exchanges that von Behring has organized a company to produce antidiphtheria serum, the company to be known as "Behringwerk." The serum will be sold at much lower prices than have hitherto prevailed in Germany.

Festchrift for Bozzolo of Turin.—May 22 was the twenty-fifth anniversary of the day when Professor Bozzolo assumed the chair of medicine at Turin. His friends and pupils presented him with a silver plaque and a *Festschrift* containing articles by his former assistants, Mya, Graziadei, Silva, Belfanti and others. Bozzolo was the first to describe ankylostomiasis and outline treatment.

International Sanitary Congress for 1906.—The executive committee of this congress, which has been organized to convene at Milan in 1906, has appointed a special committee for the subject of tuberculosis. It has been subdivided into five sections, one each for the diffusion, etiology, prophylaxis, institutions for prophylactic aid and legislation in regard to tuberculosis from the sanitary and social points of view.

Results of School Inspection at Berlin.—The thirty-six school inspectors of Berlin examined 15,000 children entering school for the first time this spring. About 10 per cent. were found defective, and the entrance on school life was deferred. Of this number about a quarter suffered from general debility, 16 per cent. were convalescing from some serious sickness; 5 per cent. were tuberculous, and 15 per cent. suffered from scrofula, severe anemia or rachitis. About 10 per cent. were mentally defective.

Monument to Panas.—The eye clinic at the Hotel Dieu at Paris was organized by the efforts of Panas, and he was the first incumbent of the chair of ophthalmology founded also in response to his pleading. A monument has been erected to his memory in the hall of the clinic where for twenty years he had divided his time between his patients and his students. The ceremonies were impressive as the memorial was unveiled to this son of Greece, who contributed to the fame of his adopted country.

Campaign Against Alcoholism in Turkey.—The *Presse Médicale* states that about two years ago the Sultan prohibited the consumption of alcoholic drinks in all the public establishments. The beneficial results of this measure are seen by the statistics published from Pera, the most important suburb of Constantinople. The number of murders has dropped from 23 in 1902 to 15 in 1903, while the arrests for drunkenness have fallen from 680 to 188. The restriction applies only to Mahomedans.

Segregation of Tuberculous Prisoners.—The Austrian authorities have issued a decree enforcing the separation of prisoners exhibiting symptoms of tuberculosis. They must be given work commensurate to their condition, and must not be set at tasks in closed rooms with other persons. In chapel, school and out of doors, the tuberculous and the suspects must not come in contact with the non-tuberculous. Certain cells must be set apart for the exclusive use of the tuberculous, and their washing, reading matter and tools be kept separate.

Rebuilding the Vienna General Hospital.—After long deliberation and delay the construction of the new clinics, laboratories and special institutes which are to take the place of the historic General Hospital at Vienna, has finally been commenced. The cornerstone was laid by the emperor of the realm, June 21, with appropriate ceremonies, and a brilliant gathering of scientists and leading officials, including the prime minister. The grounds are ample, and it is proposed to have the institution the largest of its kind in the world, with facilities for all branches of the medical sciences.

Physicians Mayors of French Cities.—Twenty-one physicians were elected mayors of their respective cities during the recent elections in France, and seven assistant mayors. Dr. Augagneur has made a brilliant record during his several terms of service as mayor of Lyons, and his re-election was a matter of course. His nickname in the town is "the emperor." Pozzi was elected mayor of Reims, and Combes, the premier of France, was elected mayor of his home city, Pons. Only two medical candidates for the office of mayor were defeated throughout the country.

Semi-Centennial of the Gorbersdorf Sanatorium.—In 1854 a young physician at Görbersdorf, Dr. H. Brehmer, aroused the medical world by his announcement that he was convinced that tuberculosis was curable. He proceeded to open a sanatorium for the reception and treatment of tuberculous subjects only—the first of its kind in the world. Before he died in 1889 he had the satisfaction of seeing his opinion in regard to the curability of tuberculosis accepted the world over, and countless sanatoria founded in imitation of his own, which celebrated its semi-centennial this week with much ceremony.

Medicine at the Paris Salon.—Two of the paintings at the recent Salon, portraying medical subjects, have already been popularized on picture postal cards. One is called "Croup in 1904," and represents Dr. Josias performing intubation on a child at the Bretonneau Hospital. Around him are ranged nine of the other physicians in charge, all portraits. The other is "The Anatomy Lesson," and portrays Dr. Richet, the artist-physician, who is professor of anatomy at the Ecole des Beaux-Arts, demonstrating the arm of a cadaver. Both are fine paintings. • Another, entitled "The Drunkard" has been reproduced as a poster by a temperance society.

The Hypnotized Dancer.—THE JOURNAL mentioned on page 1,327 of the last volume the trance dancer, who has attracted considerable attention in medical circles abroad. She appeared in London in June, and the representative of the *Lancet* attended her two performances. During the intervals of dancing she was found in a cataleptic condition, the pupils contracted, eyeballs converged and pupil reaction sluggish. He was convinced that the hypnosis was genuine, and remarks that her skill, grace and animation while dancing under the influence of the music and the apparent visual hallucinations form a very interesting performance, especially for the psychologist.

French Physicians Fined.—Dr. Waitz of Roanne has been sentenced to pay $100 on account of the death of a patient under treatment for hydrocele. The latter succumbed soon after injection of a powerful solution of cocain.——Dr. Huart of Lille, has been fined $200 for signing a certificate of insanity on insufficient grounds. The patient on his release sued his wife, the mayor of the town, and Dr. Huart for his alleged needless detention. The court placed the entire responsibility on the physician and dismissed the suits against the others.——Another physician has been fined for associating a somnambulist with him in his office practice. The suit in this case was brought by a medical society.

How Physicians Aid Charlatans.—A writer in the *Corr.-Blt. f. Schweizer Aerzte* comments on a "nature healers'" congress which he recently attended. He found that great stress was laid on the disparaging criticism of one physician by another, of which the "nature healers" cited many examples. Any criticism of his medical predecessor by a physician is playing directly into the hands of charlatans, as it undermines the confidence of the public in the profession. "How easy it would be," he says, "to explain a change in the diagnosis or treatment by the development, the progress of the disease, and thus protect the reputation of his predecessor and strengthen the patient's tottering faith in the profession." He adds, also that we must impress on the public the fact that the medical profession is versed in the so-called "nature" methods, hydrotherapy, etc.

Society to Provide Country Sanatoria for Children.—The German sanatorium system has not hitherto been completed by convalescent homes for children. Sanatoria of this kind for tuberculous children and for those who have undergone operations are numerous in France, which has taken the lead in this respect. The Germans have long felt the need of similar institutions. We learn that during 1902 there were 1,300 children with surgical tuberculosis kept in the Berlin hospitals. A society has now been organized to erect country sanatoria for such children, and the erection of one near Berlin has already been commenced. Some of the larger German cities have been gratified by the success of the open-air resorts provided for tuberculous persons of all ages. These are merely day resorts, like picnic grounds, but a physician and nurses are in attendance, and a nourishing lunch is provided at a nominal expense. They are established in accessible out-lying groves for each division of the city.

Prevention of Old Age.—Metchnikoff's ideas in regard to the possibility of preventing the inroads of old age have been referred to several times in THE JOURNAL, as, for instance, on page 408 of volume xl. He regards old age as a pathologic—not a physiologic—process. It is a struggle between the "noble" and the simple or primitive elements of the organism. Such a struggle occurs in certain chronic diseases, but in old age it is a more general process. The phagocytes are the guardians of the body until a certain age is reached, and then they turn and rend it. They absorb the "noble" elements and leave connective tissue in their place. He believes that there is a prospect that specific serums may be produced by inoculation of animals, which will have an elective action on man and possibly strengthen the "noble" elements while checking the aggressive tendency of the phagocytes. When this can be done, senility will be prevented. He has further promulgated the idea that the large intestine is an unnecessary part of the economy, and can well be dispensed with, as a cesspool which is a constant menace to the economy, a useless legacy from our remote ancestors. The *British Medical Journal* of June 25 reviews his book recently published on the prevention of old age, and adds that his suggestion in regard to dispensing with the intestinal cesspool has already been acted on by W. Arbuthnot Lane for the cure of obstinate constipation in 2 severe cases, uniting the ileum with the rectum or sigmoid. He asserts that the principle involved in cutting off from the intestinal tract almost the entire length of the large bowel, which in a certain class of persons is much more dangerous than useful, will have a very extensive application in future in surgical practice. His communication was published in the *Lancet* of Jan. 2, 1904.

LONDON LETTER.

Cancer Research in Liverpool.

A cancer research fund has been established in Liverpool by the munificence of a donor who gave $50,000 as a memorial to his deceased wife. This is administered by a committee, consisting of Professor Carter, Dr. Barr, Professor Rushton Parker, Prof. F. F. Paul, Prof. R. Boyce and Prof. C. L. Sherrington. A room to serve as a ward laboratory was established for research at the Liverpool Royal Infirmary, where also a number of beds were set aside for the clinical observation of cancer. The council of the University of Liverpool also granted the use of five large rooms in its laboratories for the prosecution of the inquiry. Dr. A. S. Grünbaum was appointed director of the research. He has just issued an interim report, which covers a period somewhat less than a year. Experiments were made with the cytolytic milk of a cow, and when it yielded no more milk, with its serum. Of 2 cases of cancer of the breast so treated, one was apparently arrested. Three cases of uterine cancer are being treated with horse serum. They all show signs of improvement. Another branch of the inquiry is directed toward the discovery of the cause of cancer. Dr. Grünbaum thinks that combination of causes, and perhaps not always the same combination, is necessary. If once a strain of human cancer can be secured, he says, we shall be appreciably nearer the goal. In the work both the developmental and parasitic hypotheses are kept in view. The recent evidence of the London observations in favor of a germinal theory (described in THE JOURNAL) raises the hope that a comparatively simple physiologic cure may be possible, for experimental embryologists can, by simple means, alter the development of germinal cells. To promote interest in the inquiry, 2,000 circulars were sent out to doctors in the north of England and 1,000 to veterinary surgeons. But the responses have not been encouraging. A large number of tumors have been received from various hospitals for examination. Several, mostly malignant, from the horse, cow, sheep, dog, pig, cat, mouse and trout, have also been received.

An Artery-Forceps Left in the Abdominal Cavity.

Considerable sensation has been created in the lay press by an inquest on a woman who underwent laparotomy for ruptured tubal pregnancy in whose abdomen a forceps was left behind. She was admitted to hospital suffering from ruptured tubal pregnancy and was operated on by a well-known surgeon. She was in such a critical condition that the operation had to be performed in great haste. Eight or ten forceps had to be used. She rallied and recovered from the operation. Five weeks later, her condition being unsatisfactory, laparotomy was again performed and a pair of four-inch forceps were found in the pelvis. Two days later she died. The evidence given at the inquest by the pathologist who performed the necropsy was that death was accelerated by the forceps. It was the system at the hospital to count the instruments, sponges and swabs before and after operations. At this operation when the sponges were counted one was missing and was afterward found in the abdominal cavity. This event seems to have prevented the idea occurring to anyone that an instrument might also be missing, and in the hurry the instruments were not re-counted. For the duty of counting the instruments the sister in charge of the operation theater was responsible. Sir Thomas Smith and Sir Victor Horsley gave evidence that the surgeon who performed the operation was careful, conscientious, and skilful, and that in emergency operations of this kind such accidents had occurred before and would no doubt occur again. Sir V. Horsley said he had known forceps to have been left in a patient for several days, and that if sterilized they would do no harm. The jury returned a verdict of "Death from misadventure, due to peritonitis following an operation, accelerated by the presence of the forceps" and added the rider "We consider the system at the hospital is largely at fault, and suggest that in future all instruments should be numbered and counted before and after each operation."

PARIS LETTER.

Medical Mutuality in France.

The Society of Physicians of the Seine Department held its annual meeting last March, and it is interesting to note how much is done by this society, which is established to help the families of physicians who are ill or who die without leaving any fortune. This society numbers 587 members, who are mostly practitioners in Paris. The annual fees are 20 francs, and each new member must pay an entrance fee of 12 francs. During the last seventeen years over 800,000 francs have been distributed to about 1,000 physicians or members of their family. A certain amount of this, about 80,000 francs, was given to physicians not belonging to the Association. The first president of the association, Orfila, described in his address some of the cases which are helped, such as a doctor suffering from blindness, who fell into the deepest poverty; a young surgeon of the hospitals who died recently and whose parents could not be placed in an asylum because they were not sufficiently old; a member of the Académie de Médecine, who died and left his family without any resources. This is just as true to-day as in 1833.

Abstinence from Salt for Two Years.

At a recent meeting of the Swiss Society of Medecine of the Canton of Vaud, Dr. Forel read a report on a settlement of vegetarians near Locama on the Lago Maggiore. The people living in this settlement do not take any salt, and drink no water. Two of the members of the community, a man 50 years old and a woman 25 years old, have taken no salt for over two years, and are still in good health. The food consists simply of vegetables.

Starvation as Preparation for Operation.

Dr. Pauchet of Amiens, who has operated on a number of cases of fibroid of the uterus, has counseled preparing the patient for the operation by giving her nothing but water for four or five days before the operation, and by cleansing the intestine by means of purgatives and oil enemas. The abdomen is thereby rendered very flat and there is no distension by gas.

Correlation of Blindness and Usual Symptoms of Locomotor Ataxia.

It is generally thought that when a patient suffering from locomotor ataxia becomes blind, the other symptoms of the disease such as shooting pains or the ataxia do not appear or have no tendency to increase. The well-known nerve specialist, Dr. Pierre Marie, does not admit this, and has recently demonstrated this by statistics based on 45 cases of blindness in locomotor ataxia. In 32 cases where the patient was already blind, the pains came on in 16 cases after an interval of only a few months in some cases. In others the pains came on nine, ten, or twelve years before the blindness. When the blindness came on rather late after the appearance of the shooting pains, the pains disappeared in only three cases out of 16, and then only after a long period of time, such as is seen in most cases. In six amaurotic patients the pains were still as acute after eight, eleven, twelve, seventeen and twenty years. As for the ataxic symptoms they have not seemed influenced in any manner, appearing before or after the eye trouble. Dr. Marie concludes that it is impossible to consider that the blindness can have any effect on the other symptoms of locomotor ataxia.

Correspondence.

Pregnancy Following Double Ovariotomy.

CHICAGO, June 26, 1904.

To the Editor:—Having read the report of I. W. Hunter's article on "Pregnancy Following Double Ovariotomy," in the *Medical Age*, Detroit, of recent date, I can not resist the temptation to offer my opinion as explaining the phenomenon of fecundation of an ovum, after extirpation of ovaries and tubes in a given case.

We know from experience that pregnancy can and does take place in a woman who has had performed ovariectomy and salpingectomy, unilateral or bilateral.

We know that cases such as this have occurred where a woman has conceived and become pregnant after having but one single congress with her husband, as the sailor who had to leave home immediately after his marriage. This statement, at first sight, may seem to have no bearing on the subject at issue, but before concluding the reader will see its connection.

We know that after the ovum matures and rupture of the graafian follicle takes place, that the ovum continues along the canal outward toward the fimbriated extremity where it fertilizes. After resting here for a while, it takes its inward course, propelled by the peristaltic movements of the tube and its own flagellation, meeting the wandering spermatozoon, which it receives within its integrity.

At or near the internal atrium of the tube, this impregnated ovum rests for an indefinite period before it escapes into the lumen of the fundus uteri, where it experiences the changes concomitant with its fixation to the mucosa.

We know that the mucosa of the tube is wrinkled, or thrown up into folds, longitudinal and oblique, this fact entailing the necessary formation of little valleys or depressions, in which an ovum may rest with perfect safety from any disturbing mechanical agency.

In such cases where the adnexa have been totally, presumably so, extirpated, and the ovum has already become impregnated and has not yet reached the uterine cavity, or an unimpregnated ovum has rested for some time in one of these minute valleys, and afterward, due to this mechanical stimulus, introduced at time of operation, has met with a wandering spermatozoon, and incorporated it and passed on to the stage of fecundation.

For the experience of such men as Minot, Dalton, Wagner, and others, shows us that an ovum or spermatozoa, after having left or separated themselves from their original sources, may and do exist within the genital tract of the female, for periods from one day up to three and four weeks, all the time subsisting on the natural fluids and lymph derived from the rich blood supply of the mucosa, which reaches them by an osmotic process.

Furthermore, how many operators do actually extirpate every vestige of a true fallopian tube? One must bear in mind the anatomic construction of these organs. The tube itself does not stop at the plane of the junction of the serous investments of fundus and tube. The mucosa of the tube goes well into the body of the uterus, and this means that there are those villi formations there also, to which I have referred.

My opinion is that if operators would make a wedge-shaped or cone-shaped incision in the wall of the uterus when removing the adnexa, even going so far as to remove the entire cornua of the organ, that we would hear no more of such occurrences as have given food for thought or argument in basing the subject matter on such grounds.

63 E. Chicago Avenue. R. L. LARSEN.

One Instance of Dirty Money.

INDIANAPOLIS, July 7, 1904.

To the Editor:—Your short editorial on "Dirty Money" is timely. It is likely there is more infection from paper money than is ordinarily supposed. An instance bears this out to a degree. I was called to see a case of eruptive disease in a house of prostitution. The patient was a syphilitic and had unquestioned smallpox. She was compelled to remove her stockings, which she did reluctantly, and this disclosed a number of bills of different denomination wrapped around her legs, the stockings being drawn over them. Some of the bills adhered because of exudate, it being necessary to moisten them to effect removal. She stated she had intended to deposit the money in the bank, but was taken sick and could not. The bills were laid one at a time in a cigar box and each one was liberally sprinkled with formaldehyd, and they eventually proceeded on their circulatory way. J. N. HURTY.

Aseptic Technic—Bacteriologic Examination of Hands.

ROCHESTER, MINN., July 9, 1904.

To the Editor:—In THE JOURNAL, July 2, in the report of the American Surgical Association your reporter has made a slight error, which I beg leave to correct. He reports me as saying that in 213 bacteriologic examinations of the hands in my clinic at the Jefferson Medical College Hospital only three times were the hands infected. It should have been 7, i. e., about 3 per cent. instead of 3 cases. W. W. KEEN.

Queries and Minor Notes.

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

TESTIMONIALS CONCERNING MINERAL WATERS.

———, ——., July 7, 1904.

To the Editor:—Is it unethical for physicians to give certificates of their experience in the use of mineral waters, after having thoroughly tested their virtues, or, on the contrary, is it not a common practice of eminent men of the profession? L. C.

ANSWER.—As our correspondent observes, the practice of giving testimonials for mineral waters, etc., is common among physicians, including some who are eminent. Largely it is a matter of taste rather than of ethics, though sooner or later every physician who gives such testimonials finds himself embarrassed by the consequences. Having yielded once it is difficult to refuse a plea for fair treatment made on behalf of some article similar to the first one "puffed." Plural testimonials are mutually conflicting and the giver's friends at once appreciate the ensuing abrupt fall in the market value of his pharmacologic opinions. The ready writer of puffs becomes ridiculous. On the other hand, it is perfectly ethical for a physician, speaking from thorough trial, to tell his fellows that a certain article is good or bad. The difference between this *testimony* and a *testimonial* addressed to the firm is clear. Of course, this report at best stands simply as one man's opinion, open to criticism, discussion and possible refutation. It requires rare discrimination to apprehend the proper occasion for such an expression of opinion and some courage to face the inevitable demands from the friends of some competing article. Professional opinion does not presume to dictate the course of the individual physician in such a matter. However, the Principles of Ethics very wisely advise the circumspect physician to steer clear of *testimonial* writing. In Chapter II, Article 1, Section 8, it is advised that "It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines or other substances used therapeutically."

COUNTY SOCIETY ACTION IN CASE OF PLAGIARISM.

———, ——, July 7, 1904.

To the Editor:—I desire to state a hypothetical case for your query column: X, a regular physician, member and officer of the state society, presents to the county society what purports to be an original paper; he forwards it to a reputable medical journal, which publishes it, crediting X with authorship. Later it is discovered by members of the county society to be a rank plagiarism—about 80 per cent. being verbatim copy of a paper by a distinguished eastern physician, and a portion of the remaining 20 per cent. from other uncredited sources. So far X denies all knowledge of the eastern publication. Query: 1. Should the county society take cognizance of the matter? 2. How should it proceed? 3. Suppose X to be a woman of almost ten years' experience in practice, would any different procedure be indicated? INFORMATION.

ANSWER.—1. Yes. 2. If your society has no provision to cover such cases of unprofessional conduct, one method of procedure would be to call a meeting, at which charges should be preferred and reply made, and the society take action accordingly. The accused should be given a copy of the charges in ample time. Secrecy

should be observed, lest, if the charges prove unfounded, irreparable harm be done. 3. We do not see how this alters the case.

IS A SON LIABLE FOR HIS MOTHER'S BILLS?

———, ILL., July 6, 1904.

To the Editor:—What relation does the son, who is married and whose mother resides with him, bear to the expense of the medical treatment of that mother? Can the account be collected from the son? How? Local attorneys seem to be at sea on this point. SUBSCRIBER.

ANSWER.—A search through the law records fails to reveal satisfactory ground for a positive statement. The Illinois Supreme Court has said: The common law "simply goes to the extent of requiring parents to support their offspring until they attain the age of maturity. . . . Nor does any common law obligation impose on a child the legal duty of maintaining an infirm, aged or destitute parent." [People vs. Hill, 163 Ill., 186 (189).] It is provided in the Illinois statutes that "paupers" shall first be supported by the father or children, etc., if they have the ability, before the state is called on to support them. We judge that this is not applicable to our correspondent's case. Perhaps the only ground on which to collect a claim of the son will be a definite or implied promise to pay, or the fact that he has assumed the support of his mother.

RECTAL STRICTURE IN AN INFANT.

REARDAN, WASH., June 29, 1904.

To the Editor:—A baby, 6 weeks old, has congenital stricture of the rectum, two inches above the anal orifice. There seems to be a hard, unyielding ring at the lower and left side of the bowel, while above and to the right the ring is soft. I have used a bougie twice a day for two weeks, sizes No. 2 and 3, silken linen, measuring respectively 5/16 and ½ inch in diameter. How long should I continue to dilate? I do not see any improvement. What would be the best operation? Could the Whitehead operation be performed as in hemorrhoids? B. L. STEVENSON, M.D.

ANSWER.—Provided the affection is a true stricture, and not simply an inflammation of one of the rectal folds or valves on one side of the bowel, it should be divulsed and then kept dilated during the healing. We would not advise anything approaching the "Whitehead operation" in a child so young.

SERUM FOR HAY FEVER.

HUNNEWELL, MO., July 11, 1904.

To the Editor:—In THE JOURNAL, April 30, 1904, page 1190, paragraph 53, appears a short article entitled "Serum Treatment of Hay Fever." I would like to ask: 1, How this serum is prepared; 2, how it can be procured; and 3, what is your personal opinion of its use, benefits, etc. L. W. DALLAS.

ANSWER.—A number of communications on the subject of the serum treatment of hay fever have been published in THE JOURNAL, among the latest being the abstracts on pages 858 and 1189 of the last volume. A. W. MacCoy and Lewis S. Somers have also reported their experience with it in this country. (See page 1433, of vol. xli, and pages 401 and 623, of vol. xlii.) Dunbar is director of the Institute of Hygiene at Hamburg, Germany, and states that his serum can be obtained by applying to him.

CAN A PHYSICIAN PRACTICE DENTISTRY?

———, ——, July 2, 1904.

To the Editor:—If a graduate in medicine and a licensed physician should decide to attend lectures in dentistry and make dentistry his specialty, would he be required to go before the dental board of the state in which he is licensed to practice medicine or could he go ahead and practice dentistry the same as if he had made a specialty of the eye, ear, nose and throat, or some other branch? T. T.

ANSWER.—The point raised can be settled by the board of the state. We believe the regular graduate of medicine licensed in a state has the right to practice any specialty he may choose, including dentistry. The only question for the individual is that of qualification.

PENNSYLVANIA DOES NOT RECIPROCATE.

D. WILLIAMS, South Bend, Ind., asks if Pennsylvania reciprocates with New York. Pennsylvania does not reciprocate with any state.

Marriages.

HARRIET ADELE GIGNOUX, M.D., New York City, to Frederick Hulse, June 23.

ELLSWORTH ELIOT, JR., M.D., to Miss Lucy Carter Byrd, both of New York City.

JOHN Y. BENNETT, M.D., to Miss Bertha Crumbaugh, both of Leroy, Ill., June 26.

WILLIAM W. NUHL, M.D., to Miss Laura Lindeman, both of Buffalo, N. Y., June 23.

DANIEL BUCKLEY, M.D., to Miss Nancy Feehan, both of Seattle, Wash., June 28.

MARTIN W. BISSEN, M.D., to Miss Minnie McConnell at Charleston, Ill., June 29.

JOHN G. CUNNINGHAM, M.D., Spokane, Wash., to Miss Claudia Petite of Chicago.

HARRY CLIFTON NEFF, M.D., to Miss Minnie L. Chase, both of Dunkirk, Ohio, June 29.

CHAUNCEY S. KENNEY, M.D., to Miss L. Madge Corns, both of Norcatur, Kan., May 20.

JOHN B. WILLIAMS, M.D., Anderson, Ind., to Miss Eunice COX, at Anderson, June 20.

CHARLES WILKIN BEEMER, M.D., to Miss Ella Marie Ryan, both of Milwaukee, June 30.

HENRY O. DELANEY, M.D., Beloit, Wis., to Miss Mary Allman of Ivesdale, Ill., June 22.

CHARLES J. SCHRAMM, M.D., to Miss Marie E. Koehl, both of Fayetteville, Texas, June 26.

JEFFERSON B. VAN TINE, M.D., to Miss Marie Louise Ahern both of New York City, June 27.

MARY E. NOONAN, M.D., North Brookfield, Mass., to Patrick H. Rice of New York City, June 22.

HENRY C. DOZIER, M.D., Columbia, S.C., to Miss Olga Dee of Philadelphia, at Columbia, June 21.

CHARLES KIRKLAND ROYS, M.D., New York City, to Miss Mabel Milham of St. Paul, Minn., June 28.

JOSEPH L. PRICE, M.D., Sherman, Ky., to Miss Mattie O'Hara of Williamstown, Ky., at Cincinnati, June 30.

JOSEPH MEADE WHITE, M.D., Fort Thomas, Ky., to Miss Creszensa Lauterwasser of Dayton, Ky., June 29.

MORRILL E. WITHROW, M.D., International Falls, Minn., to Miss Agatha Mahoney of Anoka, Minn., June 29.

WILLIAM HENRY COLEMAN, M.D., Bessemer, Ala., to Miss Mattie Kirkpatrick of Nashville, Tenn., June 29.

JOHN NOBLE ELLISON, M.D., Sardinia, Ohio, to Miss Blanche Gaston Chambers of North Liberty, Ohio, June 22.

JOSIAH SCOTT BROWN, M.D., Chicago, to Miss Henrietta Franceska Mundé, formerly of New York City, July 2.

EDWARD HOBERT MCINTYRE, M.D., Scanlon, Minn., to Miss Grace Annette Gary of Minneapolis, Minn., June 16.

WILLIAM WALLACE WALKER, M.D., New York City, to Miss Ethel Augusta Hornick, at Sioux City, Iowa, June 28.

THEODORE MILLER LEONARD, M.D., Buffalo, N. Y., to Miss Alice Emeline Munger of Cedar Rapids, Iowa, June 21.

LEWIS CURTIS MESSNER, M.D., Potomac Ill., to Miss Martha Kate Everett of Danville, Ill., at Wauwatosa, Wis., June 22.

Deaths.

Theodore Frelinghuysen Breck, M.D. Harvard University Medical School, Boston, 1866, medical examiner of the Second Hampden District of Massachusetts for 27 years; acting assistant surgeon in the Army during the Civil War; a member of the Massachusetts Medical Society, died suddenly at his home in Springfield, Mass., June 25, from myocarditis, aged 59. At his funeral delegations were present from the Hampden District Medical Society, Eastern Hampden Medical Society, the staffs of the Springfield and Mercy hospitals, and the Boston and Albany Railroad.

Mary D. Spackman, M.D. Howard University Medical Department, Washington, D. C., 1872, the first woman to obtain a degree in medicine from a college in the District of Columbia, died May 26. The women physicians of the city met, June 26, and adopted resolutions expressing appreciation of her great services in securing for women physicians the legal right to practice medicine in the District of Columbia.

Peter H. Pursell, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1864, surgeon to the Federal service during the Civil War; until 1902 a practitioner of Cook County, Ill., died recently in St. Louis, aged 65.

Robert A. Dakin, M.D. Harvard University Medical School, Boston, 1869, died at his home in Pugwash, N. S., June 15, after a short illness from cancer of the stomach, aged 68.

John F. Bird, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1843, died at his home in Fox Chase, Philadelphia, June 22, aged 88.

E. L. Applewhite, M.D. Hospital College of Medicine, Louisville, Ky., died from Bright's disease at his home in Tylertown, Miss., June 24, after a long illness.

Chalmers Walker, M.D., formerly of Casey Creek, Ky., died from spinal disease at his home in Macomb, Ill., June 4, after an invalidism of 19 years, aged 50.

Charles P. P. Cameron, M.D. Dalhousie University Medical Faculty, Halifax, N. S., 1902, died at his home in Westville, N. S., May 26, from septicemia.

Quincy A. Shuford, M.D. Jefferson Medical College, Philadelphia, 1849, died at his home in Tyler, Texas, June 26, after an illness of six months, aged 78.

Charles S. Woodward, M.D. New York University, 1892, of New York City, died from pulmonary tuberculosis at Glens Falls, N. Y., June 26, aged 34.

Howard S. Densmore, M.D. College of Physicians and Surgeons, Baltimore, Md., 1892, died recently at his home in Elmsdale, N. S., aged 38.

Louis Albert Aldridge, M.D. University of Maryland, Baltimore, 1872, died suddenly at his home in New Windsor, Md., June 27, aged about 50.

Nehemiah Caverly Twombley, M.D. University of Vermont, Burlington, 1876, died at his home in Strafford Ridge, N. H., June 3, aged 69.

Henry Clay Wells, M.D. Ohio, 1872, died at his home in Tiffin, Ohio, from internal disease of long standing, June 24, aged 59.

Frederick S. Wade, M.D. Bellevue Hospital Medical College, New York City, 1886, died at his home in Port Maitland, N. S., May 26.

Leon Vermette, M.D., died at his home in St. Louis, Que., April 15, aged 65.

Death Abroad.

J. David, M.D., the oldest member of the profession in France, if not in the world, died at Montpellier, June 12, aged 103½. He practiced at Grabels until the age of 98, serving as mayor for many years. Dr. Meurisset of Noyon is now the oldest physician in France, having recently completed his century.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, for the week ending July 9, 1904:

Lyster, Theodore C., asst.-surgeon, relieved from further duty at U. S. Military Academy, West Point, N. Y., and to report to Rear Admiral John G. Walker, U. S. Navy, chairman Isthmian Canal Commission in Washington, D. C., for duty pertaining to the maritime quarantine of Panama and Colon.

Henderson, A. B., asst.-surgeon, having been found by an Army retiring board incapacitated for active service, his retirement from active service is announced this date.

Shortlidge, E. D., asst.-surgeon, reported for duty at Fort Miley, Cal., left U. S. Army General Hospital, Presidio of San Francisco, same date.

Lyster, Wm. J. L., asst.-surgeon, left Fort McDowell, Cal., en route to Murray, near American Lake, Washington, for duty during the maneuvers.

Brooks, Wm. H., asst.-surgeon, reported for duty at Fort Washington, Md., left U. S. Army General Hospital same date, from Washington Barracks, Washington, D. C.

Reynolds, Chas., asst.-surgeon, reported for duty at U. S. Army General Hospital, Washington Barracks, D. C., and assigned to duty in command Co. No. 1, Hospital Corps, Company of Instruction.

Owen, Wm. O., surgeon, sick leave extended one month.

Ebert, R. G., surgeon, ordered to proceed to American Lake, Murray, Washington, for duty in connection with Department maneuvers.

Kulp, John S., asst.-surgeon, left Fort McDowell, Cal., with Company of Instruction No. 2, Hospital Corps, en route to Murray, American Lake, Washington, for duty during the maneuvers.

Howard, D. C., asst.-surgeon, granted thirty days' leave, to take effect on the return of Major Borden, surgeon, from leave.

Edie, Guy L., surgeon, relieved from duty in charge of the sanitary and disbursing division of the office of the Surgeon General of the Army and as disbursing officer of the Medical Department, and assigned to duty as attending surgeon in Washington, D. C.

Girard, Jos. B., asst.-surgeon general, reports being relieved at date from duty as chief surgeon, Department of Texas.

Bratton, Thomas S., asst. surgeon, reports in charge of chief surgeon's office, Department of Texas.

Grubbs, R. B., asst.-surgeon, reports departure from Fort Wright, Wash., en route to American Lake, Wash., for duty during the maneuvers.

McCall, James H., contract surgeon, left Columbia Arsenal, Tenn., en route to Fort Moultrie, S. C., for duty.

Slater, Ernest F., contract surgeon, granted leave of absence for twenty-five days.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending July 9, 1904:

Miller, J., Jr., asst.-surgeon, detached from the *Denver* and ordered to the *Kentucky*.

Asserson, F. A., asst.-surgeon, detached from the *Kentucky* and ordered to the Navy Yard, New York.

Pryor, J. C., surgeon, commissioned surgeon, with rank of lieutenant commander, from March 3, 1903.

Langhorne, C. D., surgeon, commissioned surgeon, with rank of lieutenant commander, from June 9, 1903.

Farwell, W. G., McLean, N. T., and Grayson, C. T., asst.-surgeons, commissioned asst.-surgeons, with rank of lieutenant, junior grade, from June 28, 1904.

Miller, J., Jr., asst.-surgeon, orders to the *Kentucky* revoked; detached from the *Denver* and ordered with the Marine Battalion, isthmus of Panama.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended July 8, 1904:

SMALLPOX—UNITED STATES.

Delaware: Wilmington, June 25-July 2, 1 case.
District of Columbia: Washington, June 18-25, 3 deaths.
Florida: At large, June 18-25, 14 cases.
Georgia: Macon, June 25-July 2, 1 case.
Illinois: Belleville, June 1-30, 7 cases; June 25-July 2, Chicago, 1 case; Danville, 1 case.
Kentucky: Covington, June 25-July 2, 5 cases.
Louisiana: New Orleans, June 25-July 2, 5 cases.
Maine: Madawaska region, June 18-25, 18 cases.
Michigan: Detroit, June 14-21, 2 cases; at 88 localities, present.
Missouri: St. Louis, June 25-July 2, 2 cases.
Nebraska: Omaha, June 25-July 2, 4 cases.
New Hampshire: Manchester, June 25-July 2, 1 case.
New York: New York City, June 25-July 2, 1 case, 1 death.
Ohio: Dayton, June 18-July 2, 3 cases, 2 deaths.
Pennsylvania: June 25-July 2, Altoona, 1 case; Philadelphia, 2 cases, 1 death; Steelton, 1 case.
Tennessee: June 25-July 2, Memphis, 4 cases; Nashville, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, June 11-18, 9 cases.
France: Paris, June 11-18, 12 cases, 1 death.
Great Britain: June 4-18, Bradford, 15 cases, 2 deaths; Manchester, 12 cases, 1 death; Bristol, June 11-25, 6 cases; June 4-11, Cardiff, 1 case; Edinburgh, 2 cases; Glasgow, June 17-24, 31 cases, 3 deaths; June 11-18, Liverpool, 1 case; London, 7 cases; Newcastle-on-Tyne, 5 cases; South Shields, 1 case.
India: Bombay, May 31-June 7, 12 deaths; Calcutta, May 28-June 4, 2 deaths; Karachi, May 29-June 5, 1 case.
Panama: Panama, June 12-19, 1 case, 1 death.
Russia: Moscow, June 4-11, 12 cases, 8 deaths; St. Petersburg, June 4-18, 24 cases, 7 deaths; Warsaw, May 14-June 4, 45 deaths.
Spain: Barcelona, May 20-June 20, 27 deaths.
Turkey: Alexandretta, June 4-11, 2 deaths; Beirut, May 28-June 4, present; Constantinople, June 12-19, 7 deaths.

YELLOW FEVER.

Ecuador: Quayaquil, May 23-June 8, 15 deaths.
Mexico: Merida, June 12-18, 7 cases, 1 death; Vera Cruz, June 18-25, 2 cases, 1 death.
Panama: Panama, June 12-19, 1 death.

PLAGUE.

Africa: Johannesburg, April 11-May 7, 2 cases, 3 deaths.
Australia: Brisbane, May 3-21, 7 cases, 2 deaths; Sydney, May 14-21, 1 case.
Egypt: May 21-28, 20 cases, 10 deaths; including Alexandria, 1 case, 1 death; Port Said, 1 case, 1 death.
India: Bombay, May 31-June 7, 78 deaths; Calcutta, May 28-June 4, 70 deaths; Karachi, May 29-June 5, 30 cases, 30 deaths.
Peru: Payta, May 29-June 4, 11 cases, 7 deaths.

CHOLERA.

India: Calcutta, May 28-June 4, 24 deaths; Madras, May 28-June 3, 2 cases.
Turkey: Bahrein Islands, May 10, epidemic.

Miscellany.

Nervous Fever.—E. Kaurin is director of a Norwegian tuberculosis sanatorium, and he writes to the *Tidsskrift f. d. Norske Laegeforening*, No. 1, 1903, to point out a possible source of error in diagnosis. He refers to the influence of the mind on the temperature. He has witnessed many cases in which an emotion or excitement sent the temperature up, particularly in tuberculous subjects. Meisen has published a case in which the temperature used to go up to 114 F., although the tuberculosis was in the incipient stages and the patient ultimately recovered. Kaurin thinks such temperatures are due to some functional change in the centers which regulate the production of heat, or are the effects of suggestion. It is advisable to use a thermometer which the subject is unable to read himself, or omit the temperature

record when he is unusually impressionable. The "blind thermometer," which he commends, is useful for any nervous subject.

The Munchener medicinische Wochenschrift.—This able medical journal is published by a group of a dozen physicians, including Curschmann of Leipsic, Bäumler of Freiburg, von Leube of Würzburg, Helferich of Kiel, von Michel of Berlin, Penzoldt of Erlangen, Merkel of Nuremberg, and five Munich physicians. One of the latter, Dr. B. Spatz, is the editor. A certain sum is set apart out of the profits each year to be distributed between societies that aid the widows and orphans of physicians, etc. This year nearly $2,600 were thus dispensed, about half the amount being presented to the Pettenkofer Memorial Building Fund. The proprietors are very much gratified at the great success of their journal, which rejoices in an edition of almost ten thousand copies, "a circulation," they editorially remark, "which no organ of our science has heretofore even approximately possessed."

Physicians Should Examine Teeth.—No physician at the present time should ever treat a patient complaining of symptoms of indigestion without a thorough examination of the teeth. If the teeth present are insufficient for proper mastication, or if there are carious teeth the patient should at once be recommended to consult a good dentist. It is not, however, sufficient simply to suggest any dentist, but the patient should be given a good idea of the risk involved in consulting anyone but some member of the dental profession who is thoroughly responsible and whose skill can be relied on to do what is best for the patient. There is no doubt that physicians can in this way contribute in an important degree to the uplifting of the sister profession of dentistry and enable it to escape some of the demoralization incident to the large number of bargain-counter dentists in the field.—*Medical News.*

The Pyromaniac.—Dr. Charles H. Hughes calls attention in the *Alienist and Neurologist* to the difference between an incendiary and a morbid fire fiend or pyromaniac. The pyrophile loves to see fires and may or may not be vicious or insane enough to commit unlawful incendiarism in order to witness a fire. It is a common thing for people to run to fires with no other motive than to see them blaze. He cites the case of a man who committed suicide at Mascoutah, Ill., because detectives considered him an incendiary. He attended every fire in the town and showed much delight in so doing. This led the detectives to suspect that he caused the fires. Hughes gives facts that suggest that the man was innocent, but calls attention to the difficulties of the situation and the need of most careful investigation on the part of detectives in such instances. Perhaps expert medical referees should be consulted.

Medical Advancement. It should be remembered that learning, however broad and scientific, is not sufficient of itself to make a man all that a true physician should be. Oliver Wendell Holmes says: "Science is a first-rate piece of furniture for a man's upper chamber if he has got common sense on the ground floor; but if he has not plenty of good common sense, the more science he has, the worse for his patient." But, beside learning and science and common sense, there should be honesty of purpose. The true physician owes allegiance primarily to the general welfare of the community and to our moral and intellectual convictions. His one endeavor is to learn the truth and to proclaim it, to oppose the wrong, to uphold the right, to devote whatever talents may be his toward safeguarding the public health, and to advance the best interests of his profession, and all this without any thought of receiving greater reward than that which comes from a good reputation.—*William M. Welch.*

Alcohol Corrodes.—The action of alcohol on metal is peculiar, says *Science.* Dr. Malmejac in his experiments used 95 per cent. alcohol, which left no residue on evaporation. The metals, copper, iron, tin, lead, zinc, and galvanized iron, were corked up with alcohol in glass flasks and kept at ordinary temperatures for six months. The copper was entirely unacted on, but in all the other flasks there was a deposit on the bottom and the metal was covered with a similar deposit. In the case of tin, lead, zinc, and galvanized iron the deposit was white; that from the iron was red, resembling iron rust. All of the liquids, except that in which the lead had been placed, filtered clear; the latter retained a milky appearance after repeated filterings through double filters. The clear filtrates from iron, lead, zinc and galvanized iron gave much residue on evaporation, while the residue from tin was hardly appreciable. In the former cases it is clear that not only had the metal been oxidized, but a considerable quantity had entered into the solution. These experiments have an important bearing on the storing and shipping of alcohol.

Bronchopneumonia and Septicemia in the Newborn.—L. Morquio remarks that signs of bronchopneumonia and of septicemia are always encountered in the cadavers of the infants who die at the Montevideo Foundlings' Asylum in his charge. The germs are generally streptococci or colon bacilli. They find their way into the air passages and generate toxins that pass into the blood. His experience has been that such infection is best combated by injections of physiologic salt solution. Whenever an infant's weight remains stationary or drops, he injects 5 to 10 c.c. daily as long as necessary, suspending and renewing it as need arises. When there are symptoms on the part of the lungs or bronchi he injects camphorated oil in the proportion of 1 to 20, alternating it with the saline, and suspending all medication occasionally or substituting a 1 to 20 solution of quinin in case of persisting hyperthermia, although tepid baths are the main reliance. He reports, in the *Revista Medica del Uruguay,* No. 11, 1902, that these measures systematically carried out have tided many infants past this critical stage and they left the asylum after a few months in good health.

Traveling Ophthalmic Hospitals.—About ten years ago Russia instituted the traveling ophthalmic hospital and in 1901 had 32 in operation. It is merely an ophthalmic hospital or dispensary, which is set up in a community and remains there until all the persons whose eyes need attention have been treated, when the dispensary moves on to another adjoining field. The aim was to combat trachoma in particular, which is extremely prevalent in Russia. The expenses of these leisurely traveling hospitals are paid out of a fund instituted by the Empress. Sir Ernest Cassel of Great Britain placed at the disposal of the Egyptian government in 1903 the sum of $200,000 to be applied for a similar purpose in Egypt. A recent article in the *Wochft. f. Therapie u. Hygiene des Auges* describes a visit to the Egyptian hospital when it happened to be stationed near the town of Menouf in the western part of the Nile delta. The hospital consisted of eight tents and an adobe kitchen. Two tents were set apart for patients who had undergone intraocular operations and one tent for outpatients. The largest tent was the operating room, and the operator, his trained Arab assistant, the nurses and servants, about a dozen persons in all, occupy three other tents. About six operations are done every day, the majority being for entropium. Large numbers of patients apply for treatment and the *Lancet,* in commenting on these facts, remarks that the large proportion of women shows that the hospital has gained the confidence of the Mohammedan population.

Another State Journal.—Among the changes made at the recent meeting of the association, remarks the *Journal of the Mississippi State Medical Association,* not the least was the adoption of an official organ. As this was done on the last day of the meeting, after the departure of quite a number of the members, a word of explanation concerning this step will not be amiss. It was strongly argued by one of the councilors that organization can not be perfected unless there is some method by which the members can be reached at any and all times, that the annual meeting is but the culmination of the year's work and that without some general method of communication this work can not be satisfactorily done. This being the general opinion, an arrangement was made by which the *Mississippi Medical Record* became the *Journal of the Mississippi State Medical Association,* the title remaining with the management of the old journal,

which is discontinued from date under its old name and hoists the flag of the association. The journal will be sent to every member of the association without extra expense to the individual, the association foots the bill. It will be run as an association journal, pure and simple, and the management requests the members to give it their assistance in the collecting of news. As part and parcel of the association, the journal is entitled to the support of every member and all should take an active interest in its upbuilding.

State Boards of Registration.

COMING EXAMINATIONS.

West Virginia State Board of Health, July 12 14, Point Pleasant. Secretary, Hugh A. Barbee, Point Pleasant.

Illinois State Board of Health, The Coliseum Annex, Chicago, July 20, 21 and 22. Secretary, J. A. Egan, M.D., Springfield.

Medical-Practice Law in Panama.

We print herewith a translation of the law regulating the practice of medicine and surgery in the Republic of Panama, for which we are indebted to Dr. Claude C. Pierce, assistant surgeon of the United States Public Health and Marine-Hospital Service. This law has been in force only since March 23, 1904, and no one had applied for examination in the first month or two of its enforcement. We are informed that the examination will be oral and in either Spanish, French or English, as all three of these languages are in general use on the isthmus. The law, however, says that the examination shall be in the form and according to the program established by the board in each case, and under that sort of a rule they have a right to do anything they please. The president of the National Board of Health is Dr. C. L. Urriola, Panama, Panama.

Many physicians in the states have made inquiries of the United States consul general at Panama as to the requirements for practice there, and the publication of the law fills a need. This law does not apply to the zone controlled by the United States Government. Laws for this zone will probably be passed by the Canal Commission. The fee mentioned as payable in the currency of the country is at the present time worth nearly $100, gold. The country will probably go on a gold basis, and if it does, the fee, of course, will be payable in gold.

The law is known as Law No. 18, of 1904, and was passed by the national convention of the Republic of Panama, under authority of paragraph 2, article 29, of the constitution of the republic. It is as follows:

Art. 1. In order to practice the profession of medicine or surgery in the Republic of Panama it is necessary, and sufficient, to possess a diploma of capacity, approved by the National Board of Health.

In those parts of the republic in which there are no graduates of medicine, either native or foreign, the authorities of these parts will tolerate, during the time that this state of things exists, certain persons that possess some knowledge of the practice of medicine to continue giving their advice when requested.

Art. 2. The National Board of Health shall constitute the examining board for the republic, but it shall not be a school of medicine, nor shall it have power to confer university degrees.

All persons that desire to practice medicine or surgery, or any of its branches, shall be required to present a diploma that shall be examined and approved by the board, after an examination in the form and according to the program that the said board may establish for each case.

If the examination results favorably, the physician shall have the right to the approval of his diploma, which will give him the right to freely practice his profession in all parts of the republic. Failing in the examination, a new examination will not be allowed until six successive months have passed.

The National Board of Health, in order to carry out the provisions of this article, shall have authority to name the supernumerary examiners that they may think necessary.

Art. 3. Those examined, each time that they shall request the approval of their diplomas, shall deposit previously, in the general treasury of the republic, the sum of $200, and shall pay, in advance, to each examiner, as a fee, $10 for each session that they attend.

These amounts shall be payable in the current national money on the day of payment.

Art. 4. The diplomas in medicine and surgery issued legally in Columbia in favor of Panamans before Nov. 3, 1903, are national, and are authority to practice medicine for life in any part of the Republic of Panama, without the necessity for further approval.

The Panamans that, before the date mentioned, had obtained a degree as a physician or surgeon in any medical college, shall have the right to practice the profession in the republic without examination or payment of fees. There are also authorized to practice medicine or surgery, without examination or payment of fees, all those physicians with a diploma of capacity that, at the date of approval of this law, were practicing medicine or surgery in the republic.

When any of the physicians to which this article refers desire to have their diploma examined and approved by the National Board of Health, it shall be done without other formality than the request of the owner of the diploma.

Art. 5. The natives of those countries that prohibit graduate Panamans from the practice of medicine or surgery will not be allowed to practice medicine or surgery in Panama, nor shall their diplomas be approved. This is in accordance with the provisions of article 9 of the national constitution.

Art. 6. In order to exercise the functions of medical officer, of whatever nature it may be, it is necessary to possess a university degree or diploma, in medicine or surgery, according to the circumstances, that has been approved by the National Board of Health, as required by this law; or, he shall be included in one of the excepted classes mentioned in article 4.

Art. 7. The National Board of Health is empowered to organize and regulate, when they think it necessary, everything relating to the practice of the dentists, midwives, undergraduates, pharmacists and veterinarians, according to the spirit of this law.

They shall also regulate the sale of medicines, drugs and poisons.

The persons authorized by this law to practice medicine shall have the right to dispense, for all time, the substances to which this article refers, but subject in this case to the regulations that the National Board of Health dictates for the pharmacists.

Art. 8. Those that break this law shall be subject to fines, that shall be turned into the general public treasury, of from $20 to $200 for each infraction, according to the gravity and recurrence of the offense. These fines will not relieve the offender of any criminal responsibility that he shall have incurred.

The National Board of Health shall fix in its regulations the penalties that shall be applied to those that exercise unlawfully any of the auxiliary branches of medicine, in the proportion established by this article for the physicians and surgeons; save in those infractions to which the penal code will apply.

The governors of the provinces are charged with the proper administration of this article, when infractions are noted officially, or on the report of any citizen. In case of doubt, the National Board of Health shall be consulted, and their decision shall be final.

The governors are personally responsible to the public treasury for the fines that are not collected as their own debt.

Art. 9. Excepted from this law are the stipulations contained in the public treaties that exist between the Republic of Panama and all foreign powers.

Art. 10. All resolutions or orders contrary to the letter or spirit of this law are hereby repealed.

Questions in Pennsylvania.—The State Medical Examining Board held the regular spring examination in Pittsburg and Philadelphia, June 28 to July 1. There were 260 candidates in Philadelphia and 120 in Pittsburg, making a total of 380. Following is a list of the questions asked:

ANATOMY.

1. Locate the appendix vermiformis and give its relations. 2. Name and locate the accessory sinuses of the face and describe their outlets. 3. Describe the elbow joint. 4. Describe the Y or ileo-femoral ligament and name the muscles concerned in a dislocation affecting it. 5. Describe the vessels, nerves and other structures found in Scarpa's triangle. 6. Describe the structure of the arteries, and give their nerve and blood supply. 7. Describe the lachrymal apparatus. 8. Give origin, course and distribution of the seventh nerve. 9. Give the classification of joints, with an example of each of two varieties. 10. Give origin and course of the optic nerve.

DIAGNOSIS.

1. Diagnosticate hypertrophy of the lymphoid tissue in the vault of the pharynx (adenoid vegetation). 2. Differentiate measles, rötheln, scarlet fever; also chicken-pox and smallpox. 3. Diagnosticate mastoiditis. 4. Differentiate paresis (paretic dementia) and alcoholic insanity. 5. Differentiate acute cystitis and acute prostatitis.

HYGIENE.

1. What measures should be taken to stamp out an epidemic of smallpox? 2. Describe methods for disposal of sewage, and state which you consider to be the most practical. 3. Describe in full the causes of malaria and its prevention. 4. Describe efficient methods for securing sanitary conditioos of street railway cars. 5. Does change in climate require modification of food, and, if so, what?

CHEMISTRY.

1. Give the chemical antidotes for the salts of silver, lead and mercury, used in medicine. 2. Detail a test for the detection of arsenic in the gastric contents, and differentiate from antimony. 3. Describe a test for the quantitative estimation of urea. 4. Describe two chemical tests for blood. 5. Describe the tests for acetone and diacetic acid in the urine.

MATERIA MEDICA.

1. Name the drug of which pilocarpin is the active principle and give the dose of its tincture that would be equivalent to 1/20 grain of pilocarpin. 2. Give the dose of tincture of nux vomica equivalent to 1/30 grain of its principal alkaloid, and name two official preparations into which this active principle enters. 3. Name and describe two drugs used to produce local anesthesia. 4. Criticise the following prescription:

R. Tr. nucis vomicæ ..... fluid drams 2
Ferri et ammonii citrat ..... dram 1
Tr. cinchonæ comp ..... fluid oz. 2
Syr. aurantii q. s. ad ..... fluid oz. 4
M. S. Two teaspoonfuls in water before each meal.

Suggest a pharmacentic preparation embodying the same therapeutic properties. 5. Classify arsenic, choral, phosphorus, iodin and turpentine.

OBSTETRICS.

1. Enumerate the perils of pregnancy and parturition. 2. In what different forms does puerperal sepsis manifest itself? 3. What are the attendant dangers and subsequent conditions liable to

follow abortion? 4. How would you manage a breech presentation? 5. Before the head engages, how would you convert an L. O. P. into an L. O. A. position? After the conversion, describe the mechanism of the labor. 6. What pelvic measurements would cause you to induce premature labor? 7. Under what circumstances should version be performed? 8. What attention should the obstetrician give to a child immediately after birth? 9. What injuries may happen to the bladder and rectum during labor, and how may they be avoided? 10. What is involution and how long a time is required for its completion.

SURGERY.

1. Describe the treatment for fracture of shaft of femur at middle third. 2. Give diagnosis and surgical treatment of carcinoma of female breast. 3. Give any one of the dislocations of the knee joint and method of reduction. 4. Outline the principles of treatment for a compound dislocation. 5. Describe the operation of cholecystotomy. 6. Give the diagnosis and treatment of Pott's disease. 7. Describe the operation for ligation of the femoral artery. 8. Describe the local and general symptoms of an infected wound. 9. Describe Pott's fracture, name the structures involved and outline the treatment. 10. Explain when and after what treatment for reduction of strangulated hernia operation must be resorted to.

PRACTICE.

1. Define locomotor ataxia and name the causes, structures involved and the symptoms. 2. Define croupous pneumonia; state what structures are involved, and give the symptoms and treatment. 3. What are the causes, varieties, differential signs and symptoms and treatment of dilatation of the stomach. 4. Describe the symptoms of arteriosclerosis; name the causes, and state what two important organs are mostly involved, and how it may cause sudden death. 5. Define renal colic, and give cause, symptoms and treatment.

THERAPEUTICS.

1. Either to increase or to diminish acidity of the stomach, explain when an alkali should be administered. 2. Explain how antitoxin causes immunity; effects cure; and the methods of administration as a prophylactic and as a curative agent. 3. Name two drugs, giving dose and method of adminstration, for the treatment of any one form of dropsy and explain how they act. 4. Describe the symptoms caused by a toxic dose of opium, show with what diseases they may be confounded and outline the indicated treatment. 5. Name two respiratory stimulants and two vaso-motor depressants; give the indications for use of each, the dose and method of administration.

PHYSIOLOGY.

1. Give a general description of the physiology of cell action as determined by intercellular lymph. 2. What are the functions of the pneumogastric nerve? 3. Explain the functions of the principal columns of the spinal cord. 4. Describe the functions of the structures composing a pulmonary vesicle. 5. Discuss reflex action.

PATHOLOGY.

1. Describe the formation of an acute abscess. 2. Describe a tubercle and give the characteristics of the bacillus tuberculosis. 3. Explain why and how obstructive disease of the coronary arteries causes myocardial degeneration. 4. Describe the lesions characteristic of chronic alcoholism. 5. Describe the pathologic characteristics respectively of exudative and productive renal degeneration.

Illinois April Report.—Dr. J. A. Egan, Springfield, secretary of the Illinois State Board of Health, reports that at the written examination held at Chicago, April 7-9, 1904, 110 questions were asked on 11 subjects, and a per entage of 75 was required; of 45 candidates, 44 passed.

PASSED.

College.	Year Grad.	Per Cent.
Illinois Medical College, Chicago	(1904)	81, 82, 81, 79, 86
Rush Medical College (1903) 89, 89; (1904) 89, 90, 86, 87, 86, 88, 88, 85, 88, 92.		
Hahnemann Medical College, Chicago (1904) 87, 81, 85, 86, 84, 81, 80, 81, 86, 78; (1902) 83.		
University of Iowa, Iowa City	(1897)	87
N. W. Univ. Med School, Chicago	(1904)	85
Trinity University, Toronto	(1896)	88
Royal University, Naples, Italy	(1892)	79
Coll. of P. and S., Chicago	(1902) 83; (1904)	82
Coll. of P. and S., St. Louis	(1904)	79
Eclectic Med. Coll. of City of New York	(1898)	75
Univ. of Michigan, Ann Arbor	(1901) 82; (1902)	90
University of Edinburgh, Scotland	(1890)	87
Herring Medical College, Chicago	(1902)	79
Keokuk Medical College, Keokuk, Iowa	(1903)	79
Chicago Homeo. Med. Coll., Chicago (1903) 80; (1904)		84, 84

FAILED.

Meharry Med. Coll., Nashville	(1903)	52

Book Notices.

AN AUTOBIOGRAPHY. By Herbert Spencer. Illustrated. In Two Volumes. Vols. I and II. Cloth. Pp. 654 and 613, Respectively. Price, $2.75 Per Volume. New York: D. Appleton & Co. 1904.

It takes two bulky volumes to contain Herbert Spencer's story of his own life. While it is full of philosophy, as is everything that Spencer wrote, one's interest is so sustained that one regrets when the end is reached. Here is a portrait of himself drawn by a most remarkable man, and it seems to be real and true to life. Spencer evidently wrote the truth regardless of consequences, either as it might influence his own reputation or the feelings of others. Those who expect to find in this autobiography a detailed account of Spencer's life will be disappointed. Except that which refers to his boyhood days, there is very little about purely personal matters, about the little things that go to make up the sum total of life. The little there is of this character is taken from his own letters, written to a few—and a very few—personal friends. One of these was "my American friend," a phrase so often used—the late Prof. E. L. Youmans of this country, to whom he wrote often and to whom he was greatly indebted for the early success of his books here. But, reading between the lines, the autobiography is a vivid portraiture of the peculiarities of the man, revealing his true character much more faithfully than could be done by any biographer. Evidently it was Spencer's plan to give all the facts bearing on the development of his ideas and the placing of them into concrete form, as they finally appeared in his volumes, and it is from this point of view that the autobiography has its greatest value. It is here where lies the fascination of the book, the following out, the gradual unfolding and the coordination of his philosophy in his great system. Spencer, in his works, discussed every phase of human thought and action. In his autobiography he has done the same, less fully, it is true, but nevertheless in the same popular manner. There is hardly a phase of intellectual or social life about which he does not have something to say, music, art, religion, government, education, botany, astronomy, chemistry, medicine—about all of these he has some remarks to make, and they are usually original, instructive and entertaining. It mattered nothing to him what others might say or think; he had his own ideas, and was never afraid to express them, but he never expressed views about something of which he knew nothing.

One can not but feel, while reading the first part of this book, that Spencer took up his great work more as a result of a series of accidents than from design. One of the most startling facts revealed is that he really drifted into what finally became his life work. He first started as a teacher, the profession his father and grandfather had followed all their lives. Then accident gave him a position as a civil engineer on one of the many railways then building in England. As an engineer he was very efficient and successful. This he gave up to assist his father in getting up "an electromagnetic engine," although "within a month . . . it became manifest that, in pursuit of a will-o'-the-wisp, I had left behind a place of vantage from which there might probably have been ascents to higher places." Soon after this he came near taking up medicine, and then architecture had a fascination for him. But he was doing little, if anything, except dabbling in various inventions. It was during these days of nominal idleness that he began to write an occasional article for the newspapers and reviews, on political matters usually. This led to his being selected as a subeditor on a paper just then starting as the organ of the Complete Suffrage Movement, but this position lasted only a month. Soon after this—he was now 24—he was again back at railroad work, although only for a short time, and so it went until he was 28, when, discouraged, he thought of emigrating to New Zealand. But the die was soon cast. He was appointed subeditor of the Economist, and this position only requiring part of his time, he began to write, and finally gave up editorial work and settled down to accomplish the great work to which he had now set himself.

And what tremendous courage and dogged perseverance it required to accomplish what he did can only be appreciated by reading his life. One of his first obstacles, and this lasted for years, was the precariousness of his means. He had to practice the most rigid economy to be able to keep up his work, and at times it seemed as though he would have to give up; but each time something developed to make it possible for him to go on. But his greatest and most persistent impediment was his poor health. From over-mental work he became a nervous wreck when but a young man. This developed until he had become a typical neurasthenic of an exaggerated type. To relieve his sleeplessness—one of his worst symptoms—he used opium occasionally, and finally was taking 1.5 gr. at a dose.

Those who have read Spencer's works will want to read this autobiography; those who have not, should read it, for it will

make them anxious to know more of what Spencer had to say on this and that phase of social life, for, whether his system of philosophy stands or falls, there is no writer who has influenced the intellectual and social development of his age and generation as has Herbert Spencer.

MODERN OPHTHALMOLOGY; A PRACTICAL TREATISE ON THE ANATOMY, PHYSIOLOGY AND DISEASES OF THE EYE. By James Moores Ball, M.D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. Pp. 820. 417 Illustrations in the Text and Numerous Figures on 21 Colored Plates. Philadelphia: F. A. Davis Co. 1904. Cloth. $6.00.

Even a cursory examination of this latest addition to our larger text-books on ophthalmology shows it to be one of the best works on the subject recently published. It may well be questioned whether a book designed both for undergraduate use and for the surgeon who makes a specialty of eye diseases is not in danger of falling between the too simple and the too exhaustive treatment of the subject. The student is likely to look askance at a volume of eight or nine hundred pages, while the specialist may complain that the same treatise lacks completeness—does not cover the ground as thoroughly and as exhaustively as it should. What the student very properly regards as likely to give him a literary indigestion, the ophthalmologist believes to be an insufficient meal. Dr. Ball has, we believe, skillfully sailed his ophthalmic bark between the student Scylla and the specialist Charybdis, and presents us with a series of chapters useful to both practitioner and senior student. We would suggest, however, that in the second edition, which we predict will be called for in a short time, such a list of chapters and headings be appended that, in the opinion of the author, the undergraduate student should regard as his particular province. The whole book belongs, of course, to the postgraduate scholar. In these labors the author has been judiciously assisted by a most capable corps of collaborators. Of these the following are Philadelphians: Dr. William Zentmayer has written chapter xx, on "Anomalies of the Muscular Apparatus"; Dr. Jay C. Knipe, chapter xxii, on "The Ocular Manifestations of Nervous Diseases"; Dr. William T. Shoemaker, chapter xix, on "Diseases of the Orbit"; Dr. John T. Krall, chapter xxi, on "Errors of Refraction"; Dr. Harold G. Goldberg, chapter xxiv, on "The Hygiene of the Eyes." Dr. W. E. Fischer of St. Louis furnishes a very practical chapter (xxv) on the methods employed in the microscopic examination of the eye.

Not only is the matter in this volume excellent, but very few errors, typographical or other, are to be found. Of course, there is the usual failure in the illustrations to reproduce accurately the peculiar coloration—physiologic and pathologic—either of fundus conditions or of many external diseases of the eye. The microphotographs are no worse than we have found them in other publications of the kind; perhaps they serve a useful purpose in suggesting the conditions seen by the microscope in the original section or smear. We do not blame Dr. Ball for this, as we have never seen, apart from the smaller Jaeger Atlas, half a dozen colored prints in any ophthalmic treatise that, in our opinion, faithfully portrayed fundus pictures. It seems impossible to limit the yellow and the blue used in such illustrations. There are some exceptions to the rule in this work, notably the two fundus prints on plate 23, and there are several others that are also above the average of excellence.

On the whole, we have nothing but praise for Dr. Ball's treatise. In view of its many excellencies, we leave others to point out such minor and unimportant slips as the spelling of Moorfields without the final "s," the use of "mydriatic" where cycloplegic is evidently intended, etc.

TUBERCULOSIS AND ACUTE GENERAL MILIARY TUBERCULOSIS. By Dr. G. Cornet of Berlin. Edited, with Additions, by Walter B. James, M.D., Professor of the Practice of Medicine in the College of Physicians and Surgeons (Columbia University), New York. Pp. 806. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

A disease that causes one-seventh of the deaths of human beings is worthy of the most exhaustive study and the most serious attention of physicians, especially when it is realized that the disease, in its earlier stages, is a curable one. Too many physicians have labored under the impression that consumption is a disease for which they can do nothing; that when they have made the diagnosis, they have done all they can do. Those who still hold such views should change them, for the disease is curable. It is, at least, important enough to demand that every physician in general practice should understand it and know what there is to be known about it. For those who desire to do this, we know of no single treatise that covers the subject so thoroughly in all its aspects as this great German work of Cornet. Having said this, we have said all that is necessary about the book. Among all the monographs that have appeared in the excellent series edited by Professor Nothnagel, none has been better received than this one. It came at a time when interest in the subject had become general, not only among the profession, but among laymen also. As we have said in noticing former volumes in this series, American readers have an advantage of not only the original work, but that which is added by the American editor. In this volume, consisting of over 800 pages, Professor James has added to its value by giving us much valuable matter of special interest to Americans, to which the German author had not access, as well as bringing it up to date by incorporating in it the latest knowledge obtained by the most recent investigations. Especially should be mentioned the chapter by Baldwin of Saranac Lake on the chemistry of the tubercle bacillus, together with a discussion by the American editor of the subject of the relation of bovine to human tuberculosis. Every phase of the subject is discussed, including the history, the methods of diagnosis, treatment, etc. The translation has been excellently done, and a bibliography of over 90 pages adds to the completeness of the work. All in all, it is one of the most exhaustive, practical and satisfactory works on the subject of tuberculosis in the English language.

MEDICAL DIAGNOSIS. Special Diagnosis of Internal Medicine. A Handbook for Physicians and Students. By Dr. Wilhelm v. Leube, Professor of Medicine and Physician-in-chief to the Julius Hospital, at Würzburg. Authorized Translations from the Sixth German Edition. Edited, with Annotations, by Julius L. Salinger, M.D., Late Assistant Professor of Clinical Medicine in the Jefferson Medical College. With 5 Colored Plates and 74 Illustrations in the Text. Cloth. Pp. 1,058. Price, $5.00. New York and London: D. Appleton & Co. 1904.

Leube's diagnosis has long been recognized as a standard work, and its translation from the sixth German edition is welcome. In general the translation has been well down, and the editor has made occasional valuable annotations. Once in a while a too literal adherence to the German idiom is seen, as when "pulsions diverticulum" is referred to, and when that puzzling word "respective" is translated "respectively," e. g., "Subacidity respectively anacidity" (p. 295). In some of the illustrations there is a strange mixture of Latin and English terms. Thus, Figure 27, p. 514, we find not only "canalis centralia," "commissura anterior grisea," etc., but also "posterior horn," "lateral cornu." Of Leube's work little need be said. The book is full of Leube's personality, the experience of a man of judgment, who has had years of varied clinical experience. It is distinctively a practical work, though the theoretical is not ignored, and one may be sure that anything described by Leube is viewed from the scientific standpoint. It is needless to say that such diseases as those of the stomach, ulcer, for instance, a subject in which Leube was one of the pioneers, are described in a wonderfully complete yet compact form, as can only be done by one who is fully master of his subject. We could pick flaws here and there, could wish that under epidemic meningitis, lumbar puncture and the Kernig sign were brought more to the front, that tricuspid stenosis, pylorus spasm, etc., were enlarged on a little more, but, take it for all in all, the work is quite a complete mine of information, imparted in a modest manner, and often helping out the perplexed practitioner just where he needs help, i. e., in the very places where Leube was perplexed some fifteen or twenty odd years ago, and which he now tells us about in a way both pleasing and instructive.

DIGEST OF RESEARCHES. By Laboratory Workers of the Smith, Kline & French Company. Volume I. Comprising Abstracts of Papers Published from 1893 to 1904. Published by Smith, Kline & French Co., Philadelphia. 1904.

This is a series of abstracts of important articles appearing in current drug and other journals, on drugs, oils, foods, etc.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Academy of Ophthalmology and Otolaryngology, Denver, August 24-28.

Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.

CLEVELAND ACADEMY OF MEDICINE.

Eighteenth Regular Meeting, held May 27, 1904.

The President, Dr. G. W. Crile, in the Chair.

Tuberculosis, Is It a Communicable Disease?

DR. H. B. ORMSBY, in this paper, reported three fatal cases of tuberculosis contracted by communication. Consumption may be contracted by those not having any hereditary tendency to it, and this is usually due to the dissemination of the tubercle bacilli in dry dust. The co-operation of the laity must be obtained in taking precautions against the spread of the disease, both through the medium of the societies for the prevention of tuberculosis and by individual members of the medical profession. In the crowded tenement districts of large cities, where the children live in a dust-contaminated atmosphere, one will often find positive proof of the contagiousness of tuberculosis. By a campaign of instruction, and by raising the sanitary standards in such districts, much may be accomplished. The infection of nurses and attendants in consumptive sanatoria is very uncommon, showing that the spread of the disease may be effectually checked by this means.

Action should be taken by the city authorities to prevent the dissemination of dust during the demolition of old buildings, which might be effectually prevented by first wetting the building thoroughly.

The three cases here reported illustrate the result of carelessness in the disinfection of tubercular sputum. A family, all in good health and having had no previous cases of tuberculosis, moved into a house formerly occupied by a consumptive; one of the rooms was found much soiled by the sputum of this patient, and was cleaned and repapered by the mother and daughter when the family moved in. This room was then occupied as a bedroom by two of the sons. Within a short time one of these sons, aged 17, was found to have consumption, and died within ten weeks. As soon as this case was discovered the house was thoroughly disinfected, and great care exercised to prevent the further spread of the disease. Eleven months after the death of the first case, however, the other son, aged 19, who at first occupied this room, was also found to have consumption, and died within three months. Shortly after his death the daughter, aged 20, who had helped clean the room, was also stricken with tuberculosis and died within eight months. The inference seems clear that these three cases became infected from the contaminated room, since every precaution against further spread of the disease was taken as soon as the first case was discovered. Only those specially exposed to the infection acquired the disease, with the exception of the mother, who was old and probably not so susceptible as the others. The youngest succumbed first and the oldest last, and after the proper precautions were taken further infection of the other members of the family was prevented.

DISCUSSION.

DR. MOOREHOUSE said the Cleveland Board of Health was at present drawing up a new health code, closely approaching that of New York City. He had noted a number of similar cases of infection from houses. Persons above middle age are still liable to infection, and often succumb to the disease.

DR. L. K. BAKER drew attention to the necessity of careful cleaning of the public school rooms, and strongly advocated the moist method of doing this; the raising of clouds of dust is thereby prevented. The hot-air system of heating the schools is also faulty, as the humidity is greatly reduced, and on leaving the schools the pupils are more subject to colds than if steam heat is used; by actual count, 10 per cent. more children had colds last winter in rooms heated by hot air than in steam-heated rooms.

DR. SPENZER also advocated moist cleaning, and thought some agent to dissolve the envelope of the bacilli should be used instead of bichlorid, which coagulates it.

DR. DOOLITTLE thought paper sputum cups, which could be burned, preferable to metal ones; or, if moist cloths are used, they should be saturated with an antiseptic.

DR. WILLIAM E. BRUNER recommended a roller bandage as an efficient receptacle for sputum, the soiled part to be continually wound up.

Fluid in the Pleural Cavity Simulating Pneumonia.

DR. C. F. HOOVER read this paper. The respiratory murmur, as heard through the normal lung and chest wall, is a mixed sound, composed of the sound produced at the glottis and the vesicular sound, which probably originates in the infundibula. The two may be differentiated only in pathologic conditions; the first may be heard alone as bronchial or tubular breathing, when the vesicular sound is eliminated by consolidation or compression of the lung. The elimination of the laryngeal sound has never been accomplished experimentally, and clinically he knew of only one recorded instance. A patient whom he saw suffering from pneumonia was seized with clonic spasm of the diaphragm, accompanied by closure of the glottis; at each spasm of the diaphragm a pure vesicular sound could be heard over the lungs. When the lung is compressed or consolidated the vesicular factor is lost, and we get bronchial breathing and bronchophony. Fluids are good conductors of sound, although there is a prevalent conception that fluid in the pleural cavity obscures sounds. These fluids, serum, blood and pus, transmit sounds, and if the lung, compressed by the fluid, transmits the breath sounds, why are they not always heard over the pleuritic fluid? The physical law of refraction and reflection of sound on passing through media of varying density, and the condition of the parietal and visceral pleuræ modify the transmission of the sounds. Both these factors vary very greatly owing to the density of the fluid and the degree of compression of the lung. A completely carnified lung, having an open bronchus and immersed in fluid, transmits sounds better than if the lung be partially compressed, since, in the first case, there is less refraction and reflection of sound waves during transmission between the media. Old, thickened pleuræ are found clinically to render the breath sounds inaudible.

The first case attracting his attention was that of a woman with fibrous myocarditis. There was moderate edema of the legs, but no free fluid in the abdomen. That portion of the chest corresponding to the lower lobe of the right lung was flat and very resistant on percussion. This was sharply defined, and extended to the normal upper limit of this lobe; tactile fremitus was absent, but loud, high-pitched, bronchial breathing and very distinct pectoriloquy were heard over the dull area. Subsequent autopsy showed a small carnified lung, with an accumulation of clear serum over it. The pleuræ were normal.

Another patient, with a pleura full of clotted and fluid blood as a result of a ruptured aortic aneurism, showed over the entire left chest flatness, absence of tactile fremitus and loud, high-pitched bronchial breathing.

A boy of nine years, with fever and marked dyspnea, showed displacement of the liver downward and of the heart to the left, with increase of the volume of the right thorax so as to produce a scoliosis. Loud, high-pitched bronchial breathing over the right chest, no râles, heart sounds heard in right axillary line. Three quarts of pus were aspirated, allowing the liver to ascend and changing the right to a left-sided scoliosis.

A moribund patient gave signs of pleural effusion, viz., displacement of liver and heart, flatness on percussion, but there were heard bronchial breathing, pectoriloquy and many medium and coarse mucous râles over the affected area. The chest was found filled with seropurulent fluid, and at autopsy a tubercular pleurisy, with compression of the right lung against the mediastinum.

All these four cases showed a large amount of fluid and a considerable area of compressed or carnified lung, but a small amount of fluid may give similar results as in another case, with fever, cough and pain in the lower left thorax. There

was a dull, resistant area posteriorly on the left side, tactile fremitus was very faint, high-pitched bronchial breathing, pectoriloquy, and medium moist râles were heard. One pint of serum was aspirated, the receding level of the fluid being apparent by the change from bronchial to vesicular breathing, as well as by the loss of dullness. The most likely explanation of this case is that there was narrow lateral limitation of the fluid, with central compression of the lung.

Text-books give the impression that pleural effusion and loud bronchial breathing are inconsistent, but a conservative estimate would give bronchial breathing and pectoriloquy in 30 per cent. of all cases of fluid in the pleura. The thickening of the pleura often accounts for the absence of sounds. Bronchial breathing and pectoriloquy are often overlooked because auscultation with the unaided ear is neglected. This method will often show their presence when a stethoscope will fail to do so. This was found recently in a patient who had had a small amount of fluid removed from the chest; apparently a quantity still remained, but repeated punctures failed to locate any. No breath sounds were audible with the stethoscope, but distinct bronchial breathing was apparent to the unaided ear. At one spot where this was most distinct fluid was aspirated.

An essential point in differentiating pleuritic effusion from pneumonia, when bronchial breathing and pectoriloquy are heard, is the absence of râles in cases of effusion, or, if râles be heard, they are not of the consonant variety heard over a consolidated lung.

This explanation of the recurrence of these sounds over accumulations of fluid will probably not suffice in all cases, although it seems to satisfy the physical conditions found in the above cases. The bronchi may be the source of the acoustic opacity in some instances where the physical sounds are absent. The difficulty lies in accounting for the absence, not the presence, of bronchophony and pectoriloquy in cases of fluid of the chest.

DISCUSSION.

Dr. Shiller thought it was often difficult to determine the presence of fluid following a pneumonia. The text-books certainly give the impression that, as a rule, fluid prevents the passage of breath sounds.

Dr. Hoover said that frequently in children the diagnosis of pneumonia was first made, and later that of empyema, whereas it had been empyema from the beginning. In this condition bronchial breathing is commonly heard in children. It was a great mistake to rely entirely on the stethoscope. Very often the unaided ear could detect sounds inaudible with the instrument, and, of course, the stethoscope had advantages over the ear in other cases. In doubtful cases he would make an exploratory puncture at the spot where bronchial breathing and whispered pectoriloquy were not distinct.

Some Cases of Placenta Previa.

Dr. D. S. Hanson read a paper with this title. The cause of placenta previa is uncertain, but endometritis seems generally recognized as one of the causes. Hemorrhage during the later months of pregnancy or early in labor is a prominent symptom, and is often profuse, without warning and painless. The mortality is high—20 to 25 per cent. for the mother and 50 to 70 per cent. for the child. The rules for treatment are well defined, but often difficult to apply in individual cases. The frequency of the complication is about 1 in 1,000 or 1,500 pregnancies.

A few details of the seven cases seen by him are as follows: Case 1 was seen in the second stage of labor and had a lateral implantation. She was terribly exsanguinated, but by rapidly delivering and removing the placenta, and freely using stimulants, the patient recovered. Case 2, a vertex presentation, considerable hemorrhage had occurred, the pulse was rapid and the patient much exhausted. Manual dilatation of the cervix and turning had to be performed under anesthesia; this proved very difficult. Both mother and child succumbed shortly after delivery. Case 3 was moribund from loss of blood when first seen. Podalic version and delivery were rapidly done without difficulty, but death occurred within a few hours. Case 4 was seen first in labor, and had lost but a moderate amount of blood. Under chloroform the cervix was dilated, and the child turned and delivered. The placenta was scraped off clean, and the patient made a good recovery. Case 5 had had two previous forceps deliveries on account of a contracted pelvis; hemorrhage was moderate, and, after turning, delivery was easy. Both mother and child were saved. Case 6 was bleeding profusely when first seen, placenta partially covering os, and had to be extensively detached in dilating the cervix and performing version. Both mother and child survived. Case 7 had a prolapsed cord and the placenta previa was discovered on turning. Hemorrhage had been slight. The mother survived, but the child was premature and syphilitic, and died.

The results in the latter cases were better than in the first, due partly to improved technic and greater experience; also to the use of salt solution infusions, which were not generally known at the time of the earlier cases (1879). Internal version was employed in all cases when indicated. This series shows that 71 per cent. of the mothers and 43 per cent. of the children were saved, excluding the last child, which was premature and syphilitic.

DISCUSSION.

Dr. F. S. Clark thought that there was no set rule of procedure, a great deal depending on the dilatability of the cervix and also on the implantation of the placenta. With a rigid os it is often difficult or impossible to turn or to draw down a leg, and there was often trouble in such cases from the after-coming head. In the future, probably, cesarean section would be more often indicated in this condition.

Dr. J. J. Thomas showed a specimen of fetus papyraceous. It had reached a development of about six months, and then died, while the other twin was born alive at the eighth month. The dead fetus was only discovered after delivery of the placenta.

Dr. William E. Lower reported the action of the committee appointed by the academy to procure legislation by the city council to prohibit the use or sale of toy pistols and cannon crackers.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Mucous Colitis.

Runyon, in *N. Y. Med. Jour.*, gives the following suggestions for the treatment of this disease: Most cases are the result of mechanical irritation, resulting from chemical processes in the intestinal canal, or from fermentative processes the result of germs in the intestinal tract. 1. Suggestion is of great value and should be constantly employed. 2. Rest in bed until all acute symptoms have subsided, then have patient up and out. 3. Diet, most important, if constipation is present use liquids, preferably beef juice and broths, made more nutritious by addition of bread or some of the cereals and strained. He believes milk favors the formation of scybalous masses and thus aggravates the constipation, and predisposes to fermentation when diarrhea is present. Avoid all foods which mechanically irritate the bowel or tend to increase the existing constipation. He also allows fruit juices. If diarrhea is present, a dry diet is to be preferred, as beaten biscuit, toasted soda biscuit, or toasted light bread, crackers or rice; broiled meats in moderation, as steak, thigh of a young chicken, or game. Tea may be allowed in moderation. After all symptoms have disappeared the patient is permitted to eat any food simply prepared, easily digested, which contains no coarse substances. This excludes cornmeal, oatmeal, tomatoes, pastry, fried stuffs

and sweets. 4. Hygienic condition should receive appropriate attention. Cold baths, massage and electricity (the latter is of value chiefly on account of the mental effect) should be used with good judgment. 5. General tonics, provided they do not irritate the intestinal canal. 6. Elimination to free the bowels of all irritants. Patient should take enough Epsom salts each morning to insure one to three passages. Avoid all hepatic stimulants and irritating purgatives, even for some time after the patient has recovered because of the sensitive condition of the bowel, which persists. 7. Local treatment by rectum; one hour before retiring the patient is instructed to take a warm normal saline enema, not to be retained but enough to cleanse the bowel. One hour later inject into the bowel (better through a Wales bougie) the following:

R.	Iodoformi ..... gr. v	30
	Bismuthi subnitratis ..... gr. x	65
	Olei amygd. dulcis	
	Aquæ (hot), āā ..... ʒi	30

Insist that it be retained. The oil is soothing, helps to overcome constipation and prevent the formation of scybalous masses. If blood is present fluid hydrastis may be used. When diarrhea is present less of the almond oil may be used and add mucilage of acacia to the mixture. Surgical measures must be used if polypoid growths, etc., are causative factors, or a right colotomy when the disease resists all treatment.

Menopause.

The following has been recommended by Herzen for the nervous excitement and neuralgia during the climacteric period:

R.	Zinci valerianatis ..... gr. 5/6	05
	Ext. hyoscyami ..... gr. 1/3	02
	Ext. belladonnæ ..... gr. 1/6	01
M.	Pilulæ No. i. Sig.: Take three such pills daily; or:	
R.	Camph. monobromatis	
	Quinin valerianatis, āā ..... gr. iss	09
	Ext. hyoscyami ..... gr. 1/3	02
	Ext. belladonnæ ..... gr. 1/6	01
M.	Pilulæ No. i. Sig.: Four or five such pills daily.	

Menorrhagia or Metrorrhagia.

Le Progrès Médicale recommends the following when the menstrual flow is abundant:

R.	Ext. hydrastis fl.	
	Ext. hamamelis fl., āā ..... ʒiiss	10
	Ext. viburni fl. ..... ʒi¼	5
M.	Sig.: Twenty drops in a little water three times a day.	

Lumbago.

The *Med. Rev. of Reviews* recommends the following as a local application:

R.	Tr. iodi ..... ʒii	8
	Tr. aconiti rad. ..... ʒiii	12
	Spts. chloroformi ..... ʒiv	15
	Linimenti saponis co. q. s. ad ..... ʒiii	90
M.	Sig.: Apply locally several times daily.	

Toledo suggests the following as an excellent remedy for lumbago in women:

R.	Ferric phosphatis ..... gr. i	06
	Ext. belladonnæ	
	Ext. nucis vomicæ, āā ..... gr. 1 10	006
	Ext. cascaræ sagrad. ..... gr. i	06
M.	Ft. pilulæ No. i. Sig.: One pill three times a day; or, the following has been recommended in gouty or rheumatic subjects:	
R.	Vini colchici radici ..... ʒii	8
	Sodii salicylatis ..... ʒiv	16
	Potass. iodidi ..... ʒii	8
	Essen. pepsini ..... ʒii	60
	Aquæ dest. ..... ʒss	15
M.	Sig.: Teaspoonful in water after meals. Used in conjunction with heat applied to back in form of hot bricks or hot water bottles.	

Acetanilid.

Johns, in *Amer. Med.*, states that acetanilid is not primarily an antipyretic but an analgesic; it is also an antipyretic, sedative, antispasmodic and antiperiodic. It is the best remedy for the relief of pains due to disturbance of nerve centers, dyscrasia of sensory nerve apparatus, fury of nerve storms, e. g., gastralgia, functional dysmenorrhea, sciatica, rheumatism, neuralgia, and migraine; when accompanied by marked irritability use the bromids. Acetanilid is good as an adjunct to modify the action of quinin, salicylates, opium, and calomel; aids the effect of quinin, relieves the bad effect of opium, and the author writes: "I know of no condition in which small doses of calomel, with or without soda bicarbonate, are generally used in which acetanilid could not be advantageously combined in the treatment." Dose .13 gm. to .52 gm. (gr. ii to gr. viii), maximum dose in 24 hours is 2 gm. (gr. xxx). Effect of the drug appears in half an hour, reaches its height in three hours, disappears in six hours.

Chlorosis and Amenorrhea.

Fothergill, in *Med. Record*, recommends the following formula:

R.	Acidi arsenosi ..... gr. i	06
	Ferri sulph., exsic. ..... ʒss	2
	Pulv. piperis nigri	
	Pilulæ aloe et myrrhæ, āā ..... ʒi	4
M.	Ft. pilulæ No. xl. Sig.: One pill three times a day after meals.	

Hemoptysis.

The *Therapeutic Gazette* for June discusses Mr. Milton's paper on this important subject in the *British Med. Jour.* of March 10. Milton divides the cases into three classes, or better, three stages, and recommends treatment according to the stage. Rest is of prime importance in any stage of this disease. In those cases where the hemorrhage is the initial sign of a pulmonary tuberculosis, he advises perfect rest until the hemorrhage ceases, followed by the gentlest form of exercise for a considerable period of time. The exercise causes the distribution of the blood to other parts of the body and thus actually diminishes the tendency to hemorrhage. The patient is not depressed by confinement to bed. If fever is present rest in bed is absolutely necessary. Food should be moderate in amount and easily digestible. When a large amount of blood is lost rest in bed and a liberal diet is essential. Assure the patient, and with perfect truth, that patients rarely die as the direct result of pulmonary hemorrhage. This same treatment may be applied to those cases in which the physical signs of consolidation are well developed. But in the cases which have cavity formation the condition is more grave and the lesion which produces it is more widespread. Rest, both general and for the cardiac and respiratory activity. The patient should be put to bed and the friends absolutely excluded; apply hot-water bottle to the feet. Administer morphin gr. ¼, preferably hypodermically; it should be repeated, if necessary, to relieve the patient's anxiety, quiet his nervousness, decrease the number of heart beats per minute and diminish the respiratory activity. A piece of ice in the mouth is refreshing and quieting. Milton doubts the advisability of applying an ice bag to any part of the chest. After the hemorrhage is controlled the diet should be light and non-stimulating, raw eggs and beef, raw beef sandwiches, beef juice, gradually increased to general diet. Avoil alcohol; if there is evidence of the bronchial tubes being blocked with blood morphin must not be given, as it is essential that the bronchial tubes be emptied by coughing. In a fourth class of cases, which are plethoric and have a weak spot in a pulmonary vessel, Milton believes there is an indication to lower the blood pressure by administering full doses of magnesium sulphate, a moderate and non-stimulating diet and 30 grains of sodium salicylate daily.

Stroud, in *Merck's Archives*, deprecates the use of ergot in pulmonary hemorrhage because of the action of this drug in raising arterial pressure. He likewise recommends rest, the strictest quiet, morphin and ice, and further, if the hemorrhage is unchecked, the extremities should be corded at the body, just tight enough to check the return of venous blood. The cords should be loosened gradually to allow the blood to return to the general stream. To prevent recurrence he recommends rest and quiet. The best remedy to use in these cases is calcium chlorid. The drug has no immediate effect, but its effect is more permanent than any other drug.

Calcium chlorid may be given as follows:

℞ Calcii chloridi
Glycerini, āā ..... ℥i 30
Aquæ dest. q. s. ad ..... Oi 480
M. Sig.: Tablespoonful three or four times a day; or:
℞ Codein sulphatis ..... gr. ¼ 015
Ext. suprarenal ..... gr. iii 20
Calcii chloridi ..... gr. xv 1
M. Ft. capsulæ No. i. Sig.: Give one such capsule three or four times a day.

Drug Therapy.

Abbott, in *N. Y. Med. Jour.*, makes a plea for "Truer Therapy" and more rational treatment of disease by the proper selection and administration of reliable preparations of drugs." It has become the fashion to deride drug treatment; it has become irreligious to take drugs. The tendency is to surrender to "quackery." We need a revival of faith in drugs, and this revival must be founded on a much-needed reform in the drugs themselves, in the methods of their application and a more precise knowledge and clearer conception of their physiologic and therapeutic action. The old-fashioned "shotgun" prescription should be relegated to oblivion. He believes that the development of the so-called "therapeutic nihilism" is due to the loss of confidence in medicinal methods of treatment, which in turn results from failure to obtain effects by the administration of unreliable preparations of drugs. He believes that error in dosage will often cause failure of the remedy, and hence the necessity for obtaining an accurate rule for dosage. Such a rule is "give to effect, disregarding quantity." This rule is a perfectly safe one to follow if the physician uses trustworthy preparations. To obtain accurate results he believes in the use of active principles rather than trust to the uncertainty of the preparations of the crude drugs.

Medicolegal.

Damages for Wrongful Destruction of an Eye.—The Kansas City Court of Appeals holds, in the case of Orscheln vs. Scott, that a verdict for $2,500 is not too much for the wrongful destruction of an eye, there being no mitigating circumstances connected with the injury.

Admissibility of Evidence of Sclerosis of the Brain.—The Court of Appeals of Kentucky says that, in the will contest of Henning vs. Stevenson, the contestants complained that two physicians called by them as experts were not allowed to take the will and explain to the jury from the will what evidences they saw, from the handwriting and the structure of the instrument, that the testatrix was suffering at the time from arteriosclerosis of the brain. The witnesses were allowed to state to the jury fully the symptoms of the disease, and also to state, from a hypothetical case put to them, their judgment as to the testable capacity of the person indicated. To have allowed them to have taken the will and gone over it, stating what here and there they saw, in the omission of letters or proper punctuation, to indicate sclerosis, would have been to have opened up a wide field of inquiry. The court has a discretion in matters of this sort. The record before this court comprised something like 1,000 pages. The real facts about the testatrix were proved by a number of witnesses, and this court does not see that there was an abuse of discretion on the part of the court in refusing to allow the evidence in question, or that, if admitted, it could have had any appreciable effect on the case. The will was before the jury. They could see and any attorney could call their attention to anything in the will, either in the shape of the letters or the punctuation or the structures of the sentences that indicated sclerosis. The experts were permitted to tell all the signs of the disease, and one person could apply the symptoms to the writing as well as another. Bad punctuation, or the omission of a letter here and there, or badly constructed sentences are not confined to people who are suffering with sclerosis of the brain; and, therefore, what the writing really indicated was to be determined, not alone from expert testimony, but from common experience, as other like questions.

Things to Which Experts and Non-Experts May Testify.—The Supreme Court of Illinois says, in Chicago City Railway Co. vs. Bundy, a personal injury case brought by the latter party, that many objections were made to testimony by physicians and others as to the physical condition of the party suing after the injury, but that it sees no valid objection to any of that evidence. It was proper for witnesses to say that the plaintiff was in a nervous condition, even though they were not experts. This court has held that whether a person was sick or not is a fact requiring no special skill or science to understand, and that the fact may be proved by any one who knows it. City of Shawneetown vs. Mason, 82 Ill. 337. Again, it was earnestly insisted that it was error in the trial court to permit witnesses testifying to the nature of the plaintiff's injuries to state what she said to them in describing her bodily condition. But the Supreme Court says that these statements were made to physicians during actual treatment and in immediate connection therewith, though some of them were made after the commencement of the suit. This court has held that a physician, when asked to give his opinion as to the cause of a patient's condition at a particular time, must necessarily, in forming his opinion, be to some extent guided by what the sick person may have told him in detailing his or her pains and sufferings; but such declarations, being in favor of the party making them, are only competent when made a part of the *res gestæ* (the essential circumstances of the case), or to a physician during treatment, or on an examination prior thereto, and without reference to the bringing of an action to recover damages for the injury complained of, unless the examination should be made at the instance of the defendant with a view to the trial. The evidence objected to in this case came clearly within the rule. The Supreme Court further holds that counsel have a right to assume, within the limits of the testimony, any state of facts which they claim to be justified by the evidence, and to have the opinions of experts on the facts so assumed. The question may embrace such facts as are claimed to be established by the evidence, and, if the other side does not think all of the relevant facts are included in such questions, it may include them in questions propounded on cross-examination.

Fraud Order Against "Vitality Pills" Advertiser Upheld.—The United States Circuit Court in Missouri (Thayer, Circuit Judge), says that in the case of the Missouri Drug Company vs. Wyman, the company contended that all of the representations made by it to induce people to purchase its "vitality pills" were matters of opinion, and, being of that character, that persons who purchased on the strength thereof could not be said to have been defrauded. It further insisted that because all of the fraudulent representations that were relied on to prove the existence of a scheme to defraud were mere expressions of opinion, they could not, as a matter of law, accomplish a fraud; and that the postmaster general had no jurisdiction to find that the company was engaged in a scheme to defraud, and on the strength of that finding deprive it of the privilege of using the mails. This argument was based largely on some observations of the Supreme Court of the United States which were made *arguendo* in the case of School of Magnetic Healing vs. McAnnulty, 187 U. S. 94, reported on page 122 of THE JOURNAL, Jan. 10, 1903. In that case, however, it was a conceded fact (the case having passed off on a demurrer to the bill, which admitted all of its allegations), that the defendant who was proceeded against was doing business and inviting patronage from those having physical ailments on the professed theory that the human mind is largely responsible for bodily ailments, and that these could be cured or ameliorated by influences brought to bear on the mind of the patient, and that persons received treatment from the defendant with full knowledge that it was administered on that theory. In view of these facts the Supreme Court said, in substance, that the theory on which the defendant administered medical treatment might be erroneous, but no one could say with certainty that it was erroneous inasmuch as the truth or

falsity of the theory was wholly a matter of opinion; that those who received treatment with knowledge of the principle on which it was based could not be heard to say that they were defrauded; that, in view of the admission made by the government, it was legally impossible to say that the defendant was engaged in a scheme to defraud, and that the postmaster general had made a mistake of law (on account of which a court of equity could afford relief), in finding the existence of a scheme to defraud on an admitted state of facts where no fraud was possible. That case, the Circuit Court says, bore little analogy to this one, in which it appeared that the company, to induce the sale of its "vitality pills" for the cure of lost manhood, by its advertisements and circulars made certain statements of matters of fact which the postmaster general may have found, and probably did find, to be false and misleading, and to have been made with intent to deceive the public. It must also be borne in mind, the court says, that it is not always true that a misrepresentation, to amount to a fraud, must be a misrepresentation as respects some matter of fact, although such is the general rule. There are well-established exceptions to this rule. An opinion may sometimes be expressed under such circumstances as will render a person guilty of fraud; as, where one who is an expert, or who possesses peculiar knowledge of the value or the quality of an article expresses to another, who lacks such special knowledge, and who relies on the superior information of the person with whom he is dealing, an opinion as to the value or quality of the article which he does not honestly entertain, doing so for the purpose of deceiving him. In view of this exception to the general rule, some of the statements which the company appeared to have been in the habit of making with respect to the merits of its "vitality pills," treating them as expressions of opinion, might well be found to be false and fraudulent if they were not entertained by the company, but were made solely with a view of inducing the unwary to purchase its "vitality pills." Even if it believed that these pills had some medicinal value—which they may have had, as they appeared to be compounded in part of some old and well-known drugs which possessed some tonic properties—yet the latitude ordinarily allowed to a vendor to puff his wares would not justify such representations as the company's literature disclosed. And the court holds that the finding of the postmaster general that the company was engaged in a scheme to obtain money through the mails by means of false and fraudulent representations was one which this court was not authorized to review or overrule, inasmuch as the finding was based on evidence which certainly tended to sustain it, and in that event the statute empowered the postmaster general to judge of its weight and sufficiency.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 2.

1 More Remote Consequences of Infectious Bile. J. B. Deaver.
2 *Edema. S. J. Meltzer.
3 Pneumopericardium. W. B. James.
4 *Tuberculosis as It Affects the Skin. M. B. Hartzell.
5 Case of Ruptured Intestine with Artificial Anus, Fecal Fistula and Opening Through the Scrotum. E. A. Vanderveer.
6 *Measurements of Blood Pressure in Fevers Before, During and After the Administration of Strychnin. R. C. Cabot.

2. Edema.—This is the first of a series of lectures on the physiologic and pathologic factors concerned in the formation of edema, delivered by Meltzer. He discusses the several theories on the formation of lymph and the pathology of edema, the vitalistic and the mechanical theories of the phenomena of life.

4. Tuberculosis of the Skin.—Hartzell says the most frequent form of tuberculous diseases of the skin, due to the presence of the tubercle bacillus, is that known under the name of lupus vulgaris. It is found in less than one-half of 1 per cent. of the diseases of the skin met in the United States and Canada. Another variety of skin tuberculosis is tuberculosis verrucosa cutis, which is closely related to lupus. In all probability it is due, in most instances, to direct inoculation. Tuberculosis of the internal organs may follow it. A very infrequent variety is the verruca necrogenica, the so-called "anatomic wart." One of the earliest recognized forms of tuberculous affections of the skin is the tuberculous ulcer known as miliary tuberculosis of the skin. It is usually easy to demonstrate the tubercle bacillus in considerable numbers in the secretion from these lesions or in scrapings obtained from the bottom of the ulcers, whereas in lupus it is usually necessary to examine many sections before this demonstration succeeds, owing to the scanty numbers of the organism. In the majority of cases it is secondary to pulmonary or intestinal tuberculosis and runs an acute course. A scrofuloderm is an ulcerated tubercular lesion of the skin occurring usually in connection with tuberculous adenitis, especially in the region of the neck. Erythema induratum is a tuberculous nodule situated most frequently on the calf of the leg, as a rule in young women. Lichen scrofulosorum is a papular eruption seen usually in children and young adults who, as a rule, present other evidences of tuberculosis elsewhere. The so-called tuberculides are eruptions due, not to the tubercle bacillus, but to the toxins produced by this organism in some focus more or less remote from the seat of the eruption. The tubercle bacillus can not be demonstrated in these lesions, as a rule. When present, the lesion is called "bacillary tuberculides." Under the name "folliclis" a peculiar eruption has been described, occurring usually on the extremities. It begins as a bright red nodular which, in the course of a few weeks or a month, becomes pustular; a small crateriform ulcer forms, covered with a blackish or brown crust, which in time falls off and leaves a small pocklike scar. The disease is a chronic one, lasting months and even years. Lupus erythematosus is not a tubercular disease of the skin, all efforts to find the tubercle bacillus having failed completely. Pityriasis rubra probably bears some relation to tuberculosis of the skin. Constitutional treatment of tuberculosis of the skin differs in no respect from that of tuberculosis of other organs. As to the local treatment—in lupus vulgaris two remedies are of value, concentrated light employed after the method of Finsen, and the Roentgen ray. The Finsen light is preferable when the area of disease is moderate in extent, but the length of time required for the exposures almost prohibits use in very extensive cases. In such the Roentgen ray is preferable. If there is but a single patch of disease, of moderate extent, and favorably situated, excision with subsequent transplantation of a flap of sound skin is the best treatment. In verrucose tuberculosis, curettement followed by cauterization with caustic potash, or the application of a strong pyrogallol plaster, gives the best results. Lichen scrofulosorum responds promptly to cod liver oil given internally and applied locally. Scrofulous ulcers should be kept as nearly aseptic as possible and some stimulating ointment, preferably one of the mercurial ointments, applied two or three times a day. The application of dry powder of iodoform, europhen, aristol or other iodin compound is frequently of value.

6.—See abstract in THE JOURNAL, xlii, p. 1378.

Medical Record, New York.

July 2.

7 Distinctive Character of the Temperature Curve of Measles and of Scarlet Fever; and the Treatment of Hyperpyrexia in These Diseases by Baths of Increasing Temperature. H. W. Berg.
8 *Grave Anemia Due to Hook-worm Infection. L. M. Warfield.
9 *Acute Tetanus Cured by Intraneural Injections of Antitoxin. J. Rogers, Jr.
10 Non-significance of Clinical Symptoms in Determining the Pathologic Conditions of Appendicitis. A. P. Stoner.
11 Hygiene and Gynecology. C. A. Von Ramdohr.

8. Hook-Worm Infection Anemia.—Warfield urges that in cases of anemia one should always examine the stools for intestinal parasites because these latter may be the cause of the anemia; in fact, if the cases come from the country and give a history of previous ground itch and attacks of diarrhea, it is sure to be an anemia caused by parasites. He has studied these cases very carefully and has found that many so-called

cases of malarial anemia really are cases of anemia due to uncinariasis, and that in most cases it is possible to trace the history back to one or more attacks of ground itch. From the histories and general appearances, cases of uncinariasis may resemble those of pernicious anemia. The blood conditions in the two diseases may be similar, except for the eosinophilia, which always occurs in grave cases of uncinariasis. It is of paramount importance to make an exact diagnosis because one condition is easily curable, whereas the other is rarely ever cured, and therefore proper treatment should be instituted in the former condition right in the start so as to reap the benefits from it early. The treatment in these cases of parasitic anemia is simple and successful, although in severe cases it is necessary to continue specific treatment at intervals until the stools are free from eggs. A dose of castor oil or Epsom salts is given in the evening, and from then until noon of the following day no food is allowed. At 8 a. m. 30 gr. of finely powdered thymol are given either in capsule or with a little water; at 10 a. m. this dose is repeated, followed at noon by a large dose of castor oil or salts (1 to 2 ounces). In order to facilitate the action of the thymol some give whisky or brandy with it, but as the combination on several occasions has proven to possess distinctly depressing and toxic actions, it is safer to administer the drug in capsules or with water alone.

9. **Cure of Acute Tetanus.**—Rogers reports a case of a boy of 11, who sustained a punctured wound of the sole of the left foot from a rusty nail. On the morning of the seventh day symptoms of tetanus developed. The boy was immediately put to bed and given 20 c.c. of antitoxin subcutaneously, and the same dose again in the afternoon. The symptoms became progressively worse and on the morning of the following day it was decided to resort to intraneural injections of antitoxin. Under general anesthesia the anterior crural nerve was exposed just below Poupart's ligament and about one-half dram of antitoxin injected into its substance. The same procedure was adopted with the great sciatic nerve, opposite the gluteal fold posteriorly. A rather fine needle was employed, and while the nerve was held on the index finger the needle was several times withdrawn and reinserted into the substance of the nerve to insure some wounding of its fibers, as experimentally this seems essential to secure entrance for the antitoxin. The patient was then turned over and the needle introduced into the spinal canal between the laminæ of the second and third lumbar vertebræ. The needle was manipulated back and forth in the spinal canal until its motion produced a twitching of the left leg (the right leg contained the source of the infection). This was intended to make an abrasion of some of the nerves in the cauda equina, and the twitching was considered evidence of the success of the maneuver. One and a half drams of antitoxin were injected into the spinal canal subdurally. The wound in the foot was opened up widely, scraped out, swabbed with tincture of iodin and packed with iodoform gauze. The presence of tetanus bacilli in the wound was demonstrated culturally. The condition of the patient continuing the same, another injection of antitoxin was made into the spinal canal between the laminæ of the second and third dorsal vertebræ. The condition of the patient was changed within a few hours from one of impending death to one of comparative well-being. The author is convinced of the efficacy in tetanus of injections of antitoxin into the substance of the motor nerves of the part of the body primarily infected and into the spinal cord. The tetanus toxin and antitoxin can only reach nerve cells through nervous tissue, and normally, this course begins with the terminal filaments of the axis cylinders.

Medical News, New York.

July 2.

12 Medical Education in Colorado. S. G. Bonney.
13 Drainage in Cases of Acute Appendicitis with Spreading Peritonitis. L. W. Hotchkiss.
14 *Primary Myokymia; with Report of a Case. R. M. Daley.
15 *Diagnosis and Treatment of Internal Hemorrhoids. H. A. Brav.
16 Observations on Obstetrics in General Practice. J. F. McNulty.

14. **Myokymia.**—This is a disorder characterized by fibrillary and wavelike contraction of the individual fibers of various muscles of the body without locomotor effect. The condition rarely occurs primarily. Usually it is a minor symptom occurring in diseases of toxic origin such as lead and mercurial poisoning, etc.; and after attacks of poliomyelitis, neurasthenia, sciatica, and diseases characterized by rapid bodily wasting. The author's case was primary, occurring in a young man aged 28. About a year ago, after walking for eleven hours steadily, he noticed a twitching in the muscles in the calves of his legs. The symptom has increased in severity, but otherwise he feels well except for some occasional slight disturbance. Physical examination was negative except for a very faint mitral systolic murmur transmitted only to the anterior axillary line. There is a fibrillary twitching of all the muscles of the legs and the posterior muscles of the thigh (the adductors and the quadriceps not being involved); moderate tremor of the hands. The distribution of the muscles affected is symmetrical, the contractions occurring in every visible portion of the muscle and, evidently, throughout the entire muscle substance. Contractions may occur in different parts of the muscle at the same time, and the strength and rapidity of the contractions vary considerably. A sharp blow on the muscle brings out a marked contraction. There is no atrophy; the electrical reactions are negative; no ocular disturbance; superficial reflexes are undisturbed, but the deep reflexes are increased; no Babinski. The patient has been under increasing doses of strychnin up to gr. 1/15 t. i. d.; arsenic in increasing doses up to minim 15 t. i. d. The author believes that the contractions are due to a perversion of the normal efferent impulses, and that the cause of the perversion is due to some disturbance of the peripheral motor neuron. The case is still under treatment.

15. **Hemorrhoids.**—Brav considers the diagnosis and treatment of internal hemorrhoids, cites two cases in point, and describes his non-operative treatment, which consists of an injection into the hemorrhoid of from 5 to 10 drops of a solution consisting of one part of pure carbolic acid to two parts of glycerin and two parts of water. Two and sometimes three tumors are injected at a time, and the injection may be repeated after the lapse of one week. This is followed by gradual decrease in the size of the tumor, the prolapse disappears in a few weeks, and with it the bleeding, pain and discomfort. He does not advocate this method in preference to the radical cure by operation, but resorts to it when patients refuse surgical treatment. It is important, in the first place, to determine whether the disease is primary or secondary to some affection of the pelvic organs. Operative treatment is not indicated in the first stage of hemorrhoidal disease, but in the third stage no other treatment is indicated. The true value of the non-operative treatment in the second stage of hemorrhoidal disease frequently is under-estimated.

New York Medical Journal.

July 2.

17 Herman Brehmer and the Semi-centennial Celebration of Brehmer's Sanatorium for the Treatment of Consumptives; the First Institution of Its Kind. S. A. Knopf.
18 X-ray Therapeutics. G. H. Stover.
19 *Results of X-ray Treatment. S. B. Childs.
20 Carbohydrates as Etiologic Factors in Stomach Disorders. (Concluded.) W. E. Deeks.
21 The Fever of the Puerperium (Puerperal Infection). (Concluded.) J. H. Burtenshaw.

19. **Results of X-Ray Treatment.**—Childs summarizes some of the results he has obtained from the use of the *x*-ray in the treatment of epithelioma, carcinoma, sarcoma, epulis, rodent ulcer, tuberculous glands and joints, Hodgkin's disease, lupus erythematosus, and acne rosacea. He concludes as follows:

First.—The therapeutic field of greatest usefulness of the *x*-ray is with superficial epithelomata, rodent ulcer and lupus vulgaris, when the area involved is conspicuous, as on the face or neck, and where a cosmetic result is particularly to be desired.

Second.—Healing by the *x* ray leaves the smallest and least perceptible scar; for, when properly applied, it destroys only diseased tissue, and particularly commends itself for use in those localities where it is undesirable to sacrifice the surrounding tissues.

Third.—The *x*-ray is very efficacious in many obstinate cases, which have resisted the ordinary methods of treatment, such as acne rosacea, chronic localized patches of eczema and psoriasis, lupus erythematosus and kindred skin diseases.

Fourth.—The results in tuberculous glands, when no suppurating focus is present, are encouraging, and the enlarged masses of

glands in Hodgkin's disease appear to be susceptible to the treatment.

Fifth.—The *x*-ray should not be employed in any operable, deep, malignant growth, with two exceptions: First, as pointed out by Coley, where a surgical operation would sacrifice an extremity, and even in this case the value of the *x*-ray is uncertain, and is determined by a few weeks' trial. Second, as mentioned by Pusey, with a view to limiting the operation by checking the growth, when immediate operation is inadvisable.

Sixth.—The *x*-ray may be of service even in inoperable malignant growths, by relieving pain, diminishing discharges and lessening their offensiveness, and in many cases life may be prolonged in comparative comfort for a considerable period of time. Furthermore, from these apparently hopeless cases a number of remarkable improvements and a few recoveries have been reported.

Seventh.—The *x*-ray should be used as a prophylactic against return after all operations for the removal of deep malignant growths.

Eighth.—The area of exposure should be wide, and the intensity and quality of the rays should be adapted to each case.

Boston Medical and Surgical Journal.

June 30.

22 Anomalies of Thyroid Secretion. F. C. Shattuck.
23 Significance of the Tuberculosis Crusade and Its Future. E. O. Otis.
24 Physiology of the Ureter. B. Robinson.
25 *Conservative Surgery of the Uterine Appendages with Especial Reference to the Ovaries. E. L. Twombly.

25. **Conservative Surgery of Uterine Appendages.**—The pendulum of surgery in women's diseases, says Twombly, swings back and forth. In former years it was for the complete removal of all diseased organs, but now it is for the preservation of the same and of any part which may perform its function again. While each man has his individual way in doing his work, yet all concur in the following conclusions: For myomectomies by the abdominal route no deaths or bad results have been noticed, and the animal suture has invariably been used. If one ovary is diseased and the other ovary healthy, the diseased one is generally removed. Where both ovaries are diseased, resection of one or both is practiced. Whatever healthy ovarian tissue there seems to be, however, small, is left. With regard to the preservation of the ovaries or resection of the same, a conservative operation is not indicated (1) in women 40 years and over; (2) in gonorrheal affections, where the pain and distress cause continuous suffering; (3) in malignant disease of one ovary such as papilloma, sarcoma or carcinoma; (4) in tumors involving the whole organ; (5) in tuberculosis of the ovary. In all other cases, and especially in young women where some risks must be taken to preserve the menstrual life, the conservative operation should be done. Resection should be done in the case of non-proliferating cystic tumors which have their origin in the parenchymatous zone or cortical portion. If seen early much of the ovary may be saved. If seen later, when much of the cortex is involved, and we have the so-called adenoma, the whole ovary will have to be sacrificed. The author pleads that an exploratory incision should be made in an ovary which has been the seat of constant pain, with exacerbations during the menstrual periods even if it appears normal or slightly enlarged. The same is true of both ovaries. As a large cyst involving the ovary is likely to be duplicated on the other side, exploratory incision in the second ovary is advisable, thereby lessening the chance of recurrence and saving a secondary operation. Careful resection of the ovaries presenting any abnormalities would eliminate many a cyst and the ovaries still perform their functions. Pain would be relieved by a wedge-shaped incision and the wedge removed in thickened capsules, and by more careful approximation, adhesions, which are stated to be the greatest cause of secondary operations, would be more and more avoided. Conclusions drawn from all observers agree that in young women who are desirous of having children part of the ovarian tissue should be preserved even at some risk. They also affirm that resection of an ovary is not a cause *per se* of secondary operation or of increased mortality. In doubtful cases the author advocates the exploratory incision because (1) it has not been proven to increase the danger; (2) it is a wise proceeding when the other ovary is cystic or contains a papillary growth; (3) it may prevent a secondary operation; (4) it should prevent removal of a normal ovary; (5) it may disclose a growth within or beginning cystic formation which can be easily excised; (6) it is a conservative operation, consuming but little time.

St. Louis Medical Review.

July 2.

26 Chronic Appendicitis. C. Lester Hall.

Buffalo Medical Journal.

July.

27 *Surgical Treatment of "Dyspepsia." R. Park.
28 Present Status of Vaccination. H. D. Wey.
29 Accurate Determination of Blood Pressure as an Aid to Diagnosis. W. H. Glenny.
30 Intestinal Surgery. M. Clinton.

27. **Surgical Treatment of "Dyspepsia."**—Under this title Park discusses conditions in the abdomen which are more or less associated with those disturbances so often collectively spoken of as "dyspepsia" and "indigestion." Although some of these conditions may be treated medicinally with some benefit, yet many of them would more certainly end in a cure if subjected to early surgical treatment. An apparently simple disease may terminate in a fatal one, and unless appropriate treatment be instituted early the prognosis always is bad. The diseases of the stomach coming under this category are cardio-spasm, pylorie obstruction, gastric ulcer, gastric dilatation, gastroptosis, cancer of the stomach and ulcer of the duodenum. Other conditions which may give rise to the symptoms mentioned in the title are diseases of the gall bladder and of the bile ducts, and disease of the pancreas. In conclusion Park summarizes thus: Operation is indicated in:

Gastric Ulcer.—Either gastrotomy with direct attack on the involved surface, or gastroenterostomy (posterior), to afford rest and a more direct outlet.

Gastric Dilatation.—When lavage and the customary internal measures have proved disappointing, and always when pylorostenosis exists.

Gastric Cancer.—Early if possible, hoping to effect a cure; when late it may be still possible to make a gastroenterostomy which shall prolong life. In the most advanced cases, one may have to be content with a jejunostomy for temporary purposes.

Gastric Anomalies.—Such as hour-glass stomach.

Pyloric Obstruction.—Here one must choose as between excision with end-to-end reunion, pyloroplasty or anastomosis, preferably posterior.

Duodenal Ulcer, Cancer and Stricture.—A posterior gastroenterostomy is clearly indicated.

Biliary Obstruction.—All chronic and many acute cases, whether due to intrinsic or extrinsic causes (cholangitis, gallstones, cancer, old adhesions). In these some operative intervention is imperative; whether it shall consist of extirpation, opening and drainage, or anastomosis, depending on the conditions revealed through the exploratory incision.

Pancreatic disease of almost every type, whether acute or chronic. In the former, posterior drainage must usually be added to the attack from the front. In the latter, it will usually suffice to open and drain the biliary passages; rarely a cholecystenterostomy may be called for.

Finally, in all cases of acute pain in the upper abdomen accompanied or followed by vomiting, especially of recent or old blood, by tympanitis, muscle spasm and collapse, and in all chronic cases of pain and tenderness in the region described, with a history of recent and particularly of long standing symptoms, of emaciation, dyspepsia and indigestion, with or without perceptible tumor, but with rigidity of the rectus and other abdominal muscles, surgical exploration, after due preparation, is indicated, and under circumstances which may allow the surgeon to resort to every technical and life-saving expedient known to the art.

Ophthalmic Record, Chicago.

June.

31 Determination of Heterophoria. E. H. Schild.
32 Mr. Worth's Opinion of Muscle Training. D. W. Wells.
33 *Case of Exophthalmus of the Left Eye of Obscure Origin. E. Swasey.
34 New Operative Procedure for Correction of Badly Placed Canalicular Cuts. W. H. Snyder.
35 Transient Monocular Blindness. T. H. Jamieson.
36 *Case of Retinal Detachment That Yielded Immediately to Treatment. H. M. Fish.
37 *Method of Advancing the Tendon of the Recti Muscles. H. D. Bruns.
38 An Eye Bandage. R. Murdoch.

33. **Exophthalmos of Obscure Origin.**—Swasey reports a case of well-marked exophthalmos of the left eye. The patient's family and personal history were negative except that her mother was very myopic and one maternal aunt is blind from optic nerve atrophy. Her trouble came on suddenly, the first symptom being diplopia, which was followed by vertigo and some headache. There was no exophthalmos at first, and when it did appear there was no pain in or about the eyes, no congestion of conjunctiva or lids and no discoloration. The eye could be partially returned to the socket under gentle pressure and without special pain. There was plus tension, but the eyeball was not hard. Examination by the ophthalmoscope revealed a well-marked neuroretinitis, with prominence of the disc, blurred outline, large veins, and congestion of the retina. The macular region was surrounded by a cluster of

bright white spots, a typical picture of albuminuric retinitis. The patient was blind in this eye. The heart, kidneys and thyroid gland were normal. Power in the muscles of the eyeball was deficient. Treatment consisted of 45 gr. of potassium iodid daily, mercurial inunctions at night, also some headache powders and bromid of potash and the faradic current. The exophthalmos has disappeared, the eye moves fully over the normal area and is normal in appearance.

36. **Retinal Detachment Yielding to Treatment.**—Fish reports a case of retinal detachment, occurring in a lady 38 years of age, due to a serous exudate between the retina and choiroid, caused by an inflammation of the left frontal sinus. Treatment consisted of thorough cleansing and drainage of the frontal sinus.

37. **Advancing Tendons of Recti Muscles.**—Bruns describes his operation as follows: The eye being cleansed, and a few drops of a solution of cocain and adrenalin (cocain, 4 per cent., 2 minims; adrenalin chlorid, 1 to 1,000, 2 minims; water, 14 minims) having been injected along the tendon to be shortened, the conjunctiva is caught up and snipped with scissors so as to give an opening perpendicular to the length of the tendon and a little behind its insertion. Dissect up forward and backward to expose the field of operation. The middle blade of a Clark hook is pushed under the tendon; it is passed backward and forward so as to rip up the tendon and cause it to lie flat on the hook. The little nut or sleeve on the stem is turned until the central hook holding the tendon comes level with the two side ones and then, still carrying the tendon, rises above them. The two lateral hooks press the tendon against the eyeball, the central hook raises the narrow portion of the tendon between them into as large, long or high a tuck as may be desired. His description continues as follows:

> While the loop or tuck is held up, the needle carrying the doubled thread is passed between the eyeball and the two lateral hooks through both folds or sides of the tuck at a point midway the breadth of the tendon. The needle is cut off, the two sutures thus formed are tied under the lateral hooks, the one at the lower and the other at the upper edge of the tendon, as tightly as the strength of the silk will allow. Before withdrawing the hook one small needle of a suture carrying a needle at either end is passed through the hole in the beak of the central hook; the sleeve or nut is turned down, the pressure of the hook carrying the tendon is relaxed, and it is withdrawn, carrying the double-needled thread with it. After the central hook is free from the loop of the tendon, the thread, which is doubled on the side to which the hook has been drawn, is cut and immediately re-needled. The tuck, securely formed and fastened in the course of the tendon, now stands erect, carrying in its loop a double-needled suture. The upper needle of this suture is passed beneath the anterior lip of the conjunctival wound, getting a firm hold on the episcleral tissue, until it emerges at a point perpendicularly above the center of the cornea; the lower needle is passed in a similar way until it emerges at a point perpendicularly below the center of the cornea. If, now, the upper needle is carried back and passed (from without inward) through the posterior lip of the conjunctival wound, above its center and about one-eighth inch from its edge, carried along beneath the conjunctiva about one-fourth inch, made to emerge and the suture it carries is tied to that which was brought out below the corneal margin, we will have, not only a pulley suture, *à la Prince*, which closes the conjunctival wound, but a "guy-suture," which holds the loop of our tuck flattened down and drawn strongly forward and held firmly in place until organic adhesions seal it permanently in its new position. This guy-suture also prevents the possibility of the sutures by which the tuck is formed and fastened from slipping or coming away, and holds the eyeball drawn toward its new position until adhesion is complete. This takes place in about a week or ten days, when the guy suture, having fallen slack, should be cut at any point of its course and drawn out.

Therapeutic Gazette, Detroit.

June 15.

39 Treatment of Syphilis. H. M. Christian.
40 Antiseptic Treatment of Typhoid Fever. L. Kesteven.
41 Carbonate of Creosote in Pneumonia. I. L. Van Zandt.
42 Clinical Importance of the Specific Gravity and Alkalinity of the Blood. H. Richardson.
43 *New Modification of Operative Procedure for Retroflexion of the Uterus. E. E. Montgomery.

43. **New Operation for Retroflexion.**—Montgomery describes his new modification of an operation for retroflexion of the uterus. He opens the abdomen in the median line, picks up a loop of the round ligament about one and one-half inches from the angle of the uterus, passing the ligature beneath the entire ligament. Both ends of the ligature are carried by a Deschamps needle through an opening in the peritoneum anterior to the round ligament to the parietal surface, and beneath the parietal peritoneum to a point about the outer margin of the rectus muscle, where it is carried through the abdominal wall. The two ends of the ligature drawn taut, the opening is enlarged by introducing the point of the scissors and separating them so that the ligament is brought up easily. The same is done to the opposite ligament, and the projecting loops are fastened by sutures to the aponeuroses, the final suture being introduced in such a way as to decrease the size of the opening through which the loop has been brought. This operation holds the uterus forward, affording it mobility, introduces no adhesions or extraneous material within the abdominal cavity, yet affords structures which will undergo hypertrophy and involution in the event of pregnancy. The operation is of advantage in cases in which there is a tendency to prolapse of the ovary and tube, the relation of the retracted broad ligament to these organs forming a shelf on which they are more likely to rest; in cases of femoral hernia, decreasing the directness of the pressure of the intestine on the femoral opening.

Annals of Surgery, Philadelphia.

June.

44 *Operative Treatment of Hypertrophied Prostate. F. S. Watson.
45 Primary Carcinoma of the Prostate. G. W. Hawley.
46 Revival of Suprapubic Prostatectomy. F. D. Gray.
47 Intradural Tumor of the Cervical Meninges. H. Cushing.
48 Sarcoma of the Tongue. C. B. Keenan.
49 Malignant Disease of the Larynx; Total Laryngectomy. W. I. Terry.
50 Self-retaining Abdominal Retractor. F. F. Simpson.
51 Extensive Subcutaneous Laceration of the Abdominal Muscles. D. N. Eisendrath.
52 *Radical Cure of Femoral Hernia. F. C. Kammerer.
53 Experimental Surgery. D. Gordon, Jr., and J. W. D. Maury.

44. **Treatment of Hypertrophied Prostate.**—Watson contributes a very exhaustive paper on the operative treatment of the hypertrophied prostate, in which he gives a historical review, a summary of operative methods and modifications, describing at length the various perineal radical operations, suprapubic radical operations, combined operations, indirect operations, their advantages and disadvantages, and the so-called palliative operations. He considers in particular the Bottini operation, quoting statistics as to the results obtained. The length of the article and the number of subjects considered, make an abstract an impossibility, therefore we submit some of the author's conclusions:

> When there is not a free choice of method, because of conditions presented, the most important single factor in determining whether or not radical operative treatment should or should not be applied is the capability, or the reverse, of the renal function. Other factors to be considered are the general strength or feebleness of the patient, his comfort or suffering, and the probability of the continuance of the one or the occurrence of the other, if operative treatment is not applied. Radial operative treatment has not as yet reached the status at which we are justified in saying that all cases of prostatic hypertrophy should be submitted to it as soon as the condition is clearly made out and has begun to give rise to slight symptoms.
>
> But we are justified in saying that patients should be given the benefit of it at a much earlier stage of the malady than it has been customary to apply it, and that where it is applied by those skilled in its performance, as soon as the hypertrophy can be clearly detected by examination, and if at the same time it is already giving rise to well marked symptoms, and the patient's condition is not unfavorable to the performance of an operation of this magnitude, the mortality of the operations, were they applied at that time, will be a trifling one, and their risks not nearly so great as those entailed by the use of the catheter, assuming the latter to have been employed instead and under the same conditions.
>
> The operations should be undertaken under favorable circumstances as soon as the above conditions occur.
>
> With regard to choice of operation the following are the writer's conclusions:
>
> Under conditions in which there is nothing to prevent a free choice of method:
>
> 1. The total removal of the gland by the best of the perineal technic is that of choice.
>
> 2. When any condition is present which makes the perineal operation too difficult of performance, or is a contraindication of any sort to its application, the suprapubic operation is the operation of choice, and when contraindications are present which make this operation undesirable, the Bottini becomes the operation of choice, and when the patient's condition is such as to make any of the above three methods inappropriate, and we are obliged to do something, we will do a palliative operation for drainage.
>
> Cystoscopic examination should, when it can be readily done, precede operations of all sorts in which there is any doubt as to the exact nature of the hypertrophies, and is essential to the proper performance of the Bottini. Its utility with regard to the other operations is that of learning whether or not there is present a middle lobe of such size and position as to make the perineal operation especially difficult of performance.

52. **Femoral Hernia.**—Kammerer believes that the Lotheissen operation for the radical cure of femoral hernia is far superior to other similar operations; that the modification by

Gordon is based on the best anatomic and mechanical principles, and therefore is preferable to the operation as originally devised. He has operated by this method on seven cases, but it is too early to make any definite statement as to the ultimate success of the operation. Quite a large number of cases have been published by other surgeons, and in none of them has there been a recurrence of the hernia. It must be remembered, however, that most femoral herniæ can be radically cured by simple ligation and removal of the sac, that some of them recur even five years after operation (Schede); therefore, it is difficult to compile satisfactory statistics because the question at issue involves only a small percentage of all the cases operated on.

American Journal of Obstetrics, New York.

June.

54 Peritoneal Drainage. H. C. Taylor.
55 *Placentation in a Uterus Duplex Bicornis Gravis Menses 1-2. M. Hertzog.
56 *The Progress of Ureteral Surgery. J. W. Bovée.
57 Puerperal Hematoma. W. A. N. Dorland.
58 Cystic Degeneration of the Ovary. T. Findley.
59 Care of Premature Infants. V. P. Blair.
60 Report of 975 Consecutive Recorded Cases of Childbirth, in Private Practice, Without a Maternal Mortality. J. S. Hammond.
61 Relations of the Alimentary Canal to Pelvic Disease. W. P. Carr.
62 *Nasal Dysmenorrhea. G. Kolischer.

55. Placentation in Uterus Duplex Bicornis.—Herzog reports a case of this kind, with the exhibition of gross and microscopic specimens and presents the following conclusions:

1. The syncytium, as clearly shown by a comparative study of the right and the left side of this uterus duplex, containing an ovum in the right cavity, is neither derived from the maternal vascular endothelium nor from the lining epithelium of the uterine mucosa. Positive evidence that the syncytium has phagocytic properties has not been found, but the conditions as far as demonstrable rather speak in favor of the view that the rapidly extending syncytium insinuates itself into the clefts of the decidua, and between the decidual cells, and finally penetrates into the enlarged capillaries through the stomata of their extremely thin walls. In so doing the endothelia are to some extent displaced.

2. The cervix shows hypertrophied muscle cells, but its mucosa does not show the structure of a decidua, but rather a very moderate amount of hypertrophy.

3. *Fetal and Maternal Blood.*—The chorion and the villi in a placenta one to two months old contain blood vessels. The statement made by Gebhard that no blood vessels appear in the villi before the third or fourth month is not correct. The chorionic and villous vessels of a placenta one to two months old contain nucleated red blood corpuscles only of the type of metrocytes of the first generation. Leucocytes are entirely absent. The intervillous space contains maternal blood of the type of the normal blood of the adult.

56.—See abstract in THE JOURNAL, xlii, p. 118.

62. Nasal Dysmenorrhea.—Kolischer discusses the relationship between the sexual spots in the nose and dysmenorrhea. He believes that we are in error when we associate these two, and that the so-called Fliess treatment for the relief of menstrual pain is not founded on pathology *per se*, but is purely psychic. He says that many cases of dysmenorrhea are based on general hysteria, and often a cure of the latter will also cure the former. At the same time, any interferences may relieve hysterical pain, and such relief may last for varying periods of time. He has treated quite a number of cases according to the Fliess method, but without permanent success. According to the advocates of this method, these unsuccessful cases would be classed as not being of nasal origin, the claim usually put forth when cocainization of the nares fails to relieve menstrual pain. He cites several cases in support of his view. In all of them cocainization gave the patient more or less relief for the time being, but when subjected to a general treatment for hysteria, the relief was permanent. In two cases in which nasal cocainization furnished prompt temporary relief he succeeded at the next two periods in completely subduing the beginning pains by the internal administration of antipyrin. He believes (1) that the right to proclaim nasal dysmenorrhea as a clinical entity is not established; (2) the influence of cocain on dysmenorrhea can be explained by the general intoxication of the system with this alkaloid; (3) every patient suffering from menstrual pains should be examined as to general hysteria; (4) the administration of cocain, especially in nervous patients, is not to be recommended on account of the deletory influence of this drug on the nervous system and the danger of habituation; (5) in the absence of anatomic abnormalities and of hysteria massage should be given, or the patient should be advised to ride a bicycle.

Pennsylvania Medical Journal, Pittsburg.

June.

63 *Treatment of Suppurating Ulcers of the Cornea. L. H. Taylor.
64 Concerning Certain Cases of Asthenopia and Eyestrain Which Are Independent of Refractive Error and Muscular Imbalance. G. E. de Schweinitz.
65 *Report of a Case of Cerebral Thrombosis. C. W. Barr and D. E. Pfahler.
66 Affections of the Eye Associated with Disease of the Contiguous Sinuses. S. D. Risley.
67 Result of a Year's Observation of Gastroptosis. J. D. Steele and A. P. Francine.
68 *Operative Treatment of Strabismus. W. Reber.
69 Differential Diagnosis of Exophthalmos. J. E. Willetts.
70 *Surgical Treatment of Facial Palsy. C. H. Frazier.
71 *Heredity in Atrophic Rhinitis. L. S. Somers.

63.—See abstract in THE JOURNAL, xli, p. 1105.

65.—Ibid., p. 1040.

68. Strabismus.—Reber says that it is unjustifiable to advocate operation for strabismus until we have considered carefully the following factors: Hereditary influence, refractive status, degree of deviation, age, visual acuity, status of fusion faculty and outward swing of visual axis. Among the operations directed to the cure of squint are tenotomy, advancement of the tendon with and without Tenon's capsule, and resection of the tendon with and without the capsule. For low-grade deviations tendo-muscular operations suffice, but for strabismus of 20 degrees or more, resection, including the conjunctiva and capsule, offers the best results. The operation brought forward by Worth has furnished uniformly good results in the author's work. He recommends this operation because of its simplicity, ease of performance and, because advancement is tedious and tenotomy simple. He concludes by giving the following indications for tenotomy and advancement in adults:

1. In monocular convergent strabismus, advancement of the external rectus of the squinting eye if of moderate degree; combined with tenotomy of the internal rectus of the same eye if of high degree.

2. In binocular or alternating convergent strabismus, advancement of both external recti if of moderate degree. In rare cases it must be combined with tenotomy of both internal recti.

3. In monocular divergent strabismus, advancement of the internal rectus and the accompanying structures, along with tenotomy of the external rectus.

4. Binocular divergent strabismus, advancement of both internal recti (by Worth's method) and if necessary tenotomy of both external recti later.

5. If there is a plainly manifest upward or downward deviation of either eye, correction of such deviation by tenotomy should always precede by a week or two any surgery directed to the lateral muscles.

70. Facial Palsy.—Frazier reports a case of facial palsy the result of a self-inflicted gunshot wound. The ball entered the external auditory meatus and there was every reason to believe that the facial nerve was completely severed in its course through the petrous portion of the temporal bone before it made its exit from the stylo-mastoid foramen. Because of the nature of the injury there was no question as to the justifiability or propriety of recommending an operation. An incision was made along the anterior border of the sternum stylo-mastoid muscle from a point 2 cm. above the tip of the mastoid process to a point below the bifurcation of the common carotid artery. Exposed to view were the diagastric muscle, the decendens noni nerve, and the occipital artery, the posterior surface of the parotid gland and the root of the facial nerve. The hypoglossal nerve was dissected free for a distance of about 2 cm. after it passes around the external carotid artery, thus exposing a sufficiently long section of the nerve, which, when reflected, could be brought in apposition with the stump of the facial nerve without undue tension. By retracting the sterno-cleido mastoid muscle and displacing the parotid gland forward, the trunk of the facial nerve was exposed. It was divided as close to the bone as possible and an end-to-end anastomosis effected between the two nerves thus exposed, the line of anastomosis resting on the posterior belly of the diagastric muscle. It is essential to select a suitable nerve for anastomosis, and the facial nerve being a motor nerve, should

have for its anastomotic complement a motor or mixed nerve, such as the spinal accessory and the hypoglossal. In performing this operation post-operative phenomena should be studied with a view to selecting the nerve most suited for anastomosis.

71. **Heredity in Atrophic Rhinitis.**—That hereditary transmission is a strong factor in the development of atrophic rhinitis is certain, says Somers. A careful examination usually will reveal a history of atrophic rhinitis in several members of the same family and often extending through two or more generations. The deviations from the normal in the osseous framework of the nasal chamber which present evidence of hereditary acquisition consist in an abnormal width of the nasal fossa, with an antero-posterior flattening, which in some cases is seemingly explicable only by the congenital shortness of the nasal fossa. Associated with these are epithelial metaplasia, and often a corresponding facial skull form. Undoubtedly a certain proportion are due to hereditary syphilis.

Medical Age, Detroit.

June 25.

72 Surgery of the Prostate. G. F. Lydston.
73 *Papilloma Giganticum of the Genital Tract. N. E. Aronstam.

73. **Papilloma Giganticum.**—Aronstam discusses this condition which attacks most often the mucous membrane of the male and female genitalia, the perineum, the inner aspect of the thighs, and the ischio-rectal space. The anal region is a very favored location and may be completely encircled by the tumor. The etiology of this affection is obscure; venereal diseases do not seem to have much influence over its production; in fact, few of the patients are the recipients of venereal affections. The pregnant state is a potent predisposing cause, as are also nervous diseases, rectal diseases and inflammations of the birth canal. It gives rise to subjective disturbances, such as smarting, pricking, burning and itching, occasioning great discomfort, bordering on actual suffering. Treatment consists in the extirpation of these growths by the knife. The cautery and local applications may be tried, but, as a rule, prove ineffectual. Concomitant affections must be remedied. The internal treatment deserves attention though not much reliance can be placed on it. The author gives 10 gr. of magnesium sulphate three times a day. He has seen papillomata dwindle away under this treatment, but confesses that he can not explain the rationale of the treatment. Tincture coccicacti, arsenic, thuja occidentalis, potassium permanganate and ichthyol have been used more or less successfully by various clinicians.

Archives of Otology, New Rochelle, N. Y.

June.

74 Nasal Fibroid. Hilliard Wood.
75 *Report of a Fatal Case of Chronic Suppurative Otitis with Cholesteatoma in the Drum Cavity and Antrum, Cellulitis of Almost the Entire Scalp, Thrombosis of the Transverse Sinus, Cerebral Abscess and Softening of the Cerebellum. John Guttman.
76 Report of a Fatal Case of Multiple Otitic Abscesses in the Temporal Lobe, with Remarks. C. H. R. Jordan.
77 The Ear of the Sperm Whale and Sound Conduction. George Boenninghaus.
78 Operative Opening of the Mastoid Bone in Otitis Media Purulenta, with Extension of the Disease Beneath the Mastoid Process. Ferdinand Leimer.

75. **Chronic Suppurative Otitis with Cholesteatoma.**—Guttman reports a case of septic thrombophlebitis and abscess of the cerebrum and cerebellum, complicated by a cellulitis of the scalp, all of which originated from a chronic suppuration of the middle ear and cholesteatoma of the antrum and attic. The most important and most pathognomonic symptom in these cases is the pyemic fever, produced by the introduction of septic material into the circulation through the small diploic veins in the temporal bone. The next most important symptom was the choked disc in the right and the optic neuritis in the left eye. The extensive cellulitis of the scalp, extending to the eyelids and face, obscured the diagnosis and interfered with the treatment. This cellulitis probably was only an extension of the small edematous swelling which appeared in the posterior part of the mastoid, in the region where the emissary veins emerge. This is called the Griesinger symptom, which, together with the lack of swelling in the anterior part of the mastoid, is a valuable sign of an intracranial complication. The headache was purely a subjective symptom and not at all pathognomonic for any of the cases. The slow pulse which made its appearance toward the end of the disease was a strong indication of the necessity for exploration of the brain. As to the treatment, a conservative expectant plan hardly is justified in cases where suppuration is progressing in such dangerous regions of the body. The patient was anesthetized and the usual incision for a radical operation made; this was extended backward for three inches and upward over the pit of the auricle for about two and a half inches. Several openings were made through the scalp for drainage. Not being able to find any fistula, the bone was chiseled at the antrum, which contained a slight amount of pus and a good deal of soft, brittle, cholesteatomous masses. The posterior wall of the ear canal connecting the two cavities was chiseled away. Cholesteatomous masses were found in the attic and were cleared away. In the posterior wall of the antrum was found a fistula in which was a mass of soft, white pulsating tissue. Owing to the condition of the patient the operation was discontinued. The patient died within a week with symptoms of coma and edema of the lungs.

Virginia Medical Semi-Monthly, Richmond.

June 24.

79 Ununited Fractures. Stuart McGuire.
80 Acute Edema of the Lungs. Wade H. Atkinson.
81 *Cure of Consumption by Feeding the Patient with Subcutaneous Injections of Oil, and Its Digestion by the White Globules of the Blood. Thomas B. Keyes.
82 Prevention of Tuberculosis. Henry W. Cook.
83 Adenoids in Children—A Plea for Early Recognition and Treatment. R. J. Teague.
84 Preliminary Communication on the Surgical Aspects of Typhoid Fever, with Special Reference to Intestinal Hemorrhage. M. E. Gardner.

81.—This article has appeared elsewhere. See THE JOURNAL, xlii, title 123, p. 1596.

Medical Mirror, St. Louis.

May.

85 Psychical Epileptic Equivalence. Marc Ray Hughes.
86 Stricture of the Esophagus Due to Typhoid Ulceration. James E. Thompson.

Woman's Medical Journal, Toledo, Ohio.

May.

87 Dermatitis Exfoliativa, with Report of a Case. Ingeborg Rasmussen.
88 Original Method of Delivering a Generally Contracted Pelvis with Pendulous Abdomen. Alice Conklin.

University of Pennsylvania Medical Bulletin, Philadelphia.

June.

89 Study of Physiology. H. P. Bowditch.
90 Relation of Physiologic Chemistry to the Development of Medical Education. Russell H. Chittenden.
91 The Study of Pathology. George Dock.
92 Growth of the Laboratories. Horatio C. Wood.

Kansas City Medical Record.

June

93 Symposium on the Treatment of Pneumonia. Calvin Atkins, P. S. Fulkerson, S. S. Glasscock and J. W. Miller.
94 Malnutrition. T. W. Foster.

St. Louis Courier of Medicine.

June.

95 Treatment of Non-malignant Diseases of the Skin by the X-ray. Joseph Grindon.
96 Femoral Hernia. Roland Hill.
97 Taenia in a Child. M. J. Lippe.

Proceedings of the Pathological Society of Philadelphia.

May.

98 Early Lesions of Arteriosclerosis with Special Reference to Alterations in the Elastica. W. M. L. Coplin.
99 Earlier Changes in Arteriosclerosis of the Nervous System. Wm. G. Spiller.
100 Early Changes in Arteriosclerosis of Gastrointestinal Tract. W. T. Longcope.

Western Medical Review, Lincoln, Neb.

June.

101 Epilepsy—Diagnosis and Treatment. F. E. Coulter.
102 Is Epilepsy Increasing? If So, Why? J. M. Alkin.
103 The State's Duty in Providing Institutional Care for Epileptics. S. K. Spalding.
104 Case of Traumatic Cerebral Hemorrhage. Wilson O. Bridges.
105 Malignant Growths of the Vascular Tunic of Eyeball. D. C. Bryant.
106 The Operation for Pterygium. H. B. Lemere.
107 Iodin Treatment of Puerperal Infection. A. B. Somers.

Colorado Medical Journal, Denver.

March.

108 Tuberculosis as an Economic Factor. C. F. Taylor.
109 The Pathology and Bacteriology of Tuberculosis. William Kranss.
110 Relationship Between Human and Animal Tuberculosis. David H. Bergey.
111 Human Immunity (Natural and Acquired) in Tuberculosis. Frank B. Wynn.
112 Susceptibility to Tuberculosis Under Different Conditions. E. L. Shurly.
113 Prophylaxis of Tuberculosis, Including Prevention and Restriction and the Legal Questions Arising Therefrom. Antonio Fanoni.
114 Some Help in the Diagnosis of Early Pulmonary Tuberculosis by Signs and Symptoms Outside the Lungs. James B. Herrick.
115 Classification and Diagnosis of Pulmonary Tuberculosis. Albert Abrams.
116 What Determines the Clinical Form of Pulmonary Tuberculosis? Wm. N. Beggs.
117 Medical Treatment of Tuberculosis. A. Zederbaum.
118 Specific Medication in Pulmonary Tuberculosis. F. M. Pottenger.
119 Advantage of High Altitudes in Tuberculosis. Charles Denison.
120 Denver and Pulmonary Tuberculosis. Wm. N. Beggs.
121 Climate of Southern California with Reference to Pulmonary Tuberculosis. George E. Ahlott.
122 The Arid Climates. J. Frank McConnell.
123 Effect of the Climate of the Atlantic Coast on Pulmonary Tuberculosis. Guy Hinsdale.
124 Favorable and Unfavorable Climates for Tuberculosis. Henry B. Dunham.
125 Residence Treatment in Unfavorable Climates. Joseph Eichberg.
126 Sanitarium Treatment of Pulmonary Tuberculosis, Including Hygienic and Dietetic Treatment. Alfred Meyer.
127 Tuberculosis of the Larynx. F. E. Waxham.
128 Cerebral Tuberculosis. David L. Wolfstein.
129 The Cardiac Complications of Pulmonary Tuberculosis. Joseph M. Patton.
130 The Digestive System in Pulmonary Tuberculosis. James Rae Arnelll.
131 Aural Tuberculosis. Melville Black.
132 Genito-urinary Complications of Pulmonary Tuberculosis. Donald Kennedy.
133 Preliminary Observation on the Effect of Air on Tuberculous Inflammation of the Urinary Tract. Bransford Lewis.
134 Pulmonary Tuberculosis as a Primary Factor in the Causation of Surgical Tuberculosis. Hamilton Fish.
135 Psychology of the Consumptive. John Punton.
136 A Case of One Lung. J. A. Wilder.

Medical Fortnightly, St. Louis.

June 25.

137 Testimonies of Ancient Sepulchres on the Question of Paleolithic Man in the Western Hemisphere—A Contribution to Paleo-American Medicine. Albert S. Ashmead.
138 Amputation of Both Thighs in Cases of Embolic Gangrene. Richard Muhsam.

Annals of Gynecology and Pediatry, Boston.

June.

139 Bossi's Dilator in Obstetric Practice. A. Parmenide Ricci.
140 Clinical Gynecology at the Tufts College Medical School, Boston. George W. Kaan.

Journal of the Association of Military Surgeons, Carlisle, Pa.

July.

141 Prophylaxis of Venereal Diseases. Valery Havard.
142 Dislocation of First Metatarsal Bone Downwards and Outwards Into Plantar Arch Direct Reduction Through Opening Made by Incision. Recovery. Henry W. Sawtelle.
143 Needs and Equipment of Regimental Hospitals of the National Guard for Duty in the Field, Practice Marches, Strike Duty and Guard Duty in the Armory. Vertner Kenerson.
144 "The Degree of Doctor of Public Health." Paul Fitzsimons.
145 United States Army General Hospital at the Presidio of San Francisco, Cal., 1901-1902. Alfred C. Girard.
146 Apparatus for Transferring Patients from Bed to Bath. George G. Craig.
147 Note on Filipino Midwifery. Melville A. Hays.

Journal of Comparative Neurology and Psychology, Granville, Ohio.

June.

148 Enumeration of the Medullated Nerve Fibers in the Ventral Roots of the Spinal Nerves of Man. Charles E. Ingbert.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 25.

1 I.—I-Em-Hotep, the Egyptian God of Medicine; Egyptian Views as to the Circulation. 2. Rest in Incipient Valvular Disease. Richard Caton.
2 The Irish Poor-law Medical Service. Joseph O'Carroll.
3 The Strike in the Irish Poor-law Medical Service. Richard F. Tobin.
4 *Congenital Hypertrophic Stenosis of the Pylorus; Pyloroplasty; Result. John McCaw and Robert Campbell.
5 *Acute Dermatitis Produced by Satin-wood Irritation. H. E. Jones.

4. **Congenital Hypertrophic Stenosis of Pylorus; Pyloroplasty.**—The authors call attention to the fact that failure on the part of an infant to make satisfactory progress after the first few weeks of life may be due not to the nutriment, but to a congenital stenosis of the pylorus. Vomiting is one of the earliest, most prominent and persistent symptoms of this condition, and when the infant loses ground steadily from day to day in spite of a careful modification of the diet, a careful examination of the stomach should be made. The vomiting is characterized at first by its frequency and the small quantity of food vomited; later, when there exists some dilatation of the stomach, larger quantities are brought up and the intervals between the vomitings are increased until the child takes and retains several feedings and ejects a large portion of them at one time. There is no nausea or collapse, and the fluid is never seen to contain bile, a further evidence of the condition of the pylorus. With the infant stripped and placed in a good light the outline of the dilated stomach can be defined clearly, in some cases extending below the umbilicus. Visible peristalsis of the stomach generally is well marked. The thickened pylorus can be palpated as a hard nodule about the size of a hazelnut, but more elongated. This nodule consists of hypertrophy of the circular muscle fibers, which undoubtedly is the prime factor in the causation of this affection. In the course of time the obstruction leads to hypertrophy of the muscular and mucous coats of the stomach, and the longer the obstruction remains unrelieved the greater this hypertrophy becomes. The hypertrophied condition of the mucous membrane becomes a most important factor, inasmuch as it effectually blocks the already contracted pylorus, and whatever form of operation is adopted, it should be done with the object of relieving the obstruction and dealing with the mucous membrane in such a way as to prevent its acting like a valve at the already contracted pyloric orifice. In the case reported, on which a pyloroplasty was performed, this redundancy of the mucous membrane proved to be the cause of death, because when fluids entered the stomach they caused the mucous folds to act like aortic valves when the column of blood falls back in the aorta. A second operation for the purpose of dealing with these mucous folds was refused.

5. **Satin-Wood Dermatitis.**—Jones reports a case of acute inflammation of the face, neck, hands and wrists, resembling erysipelas, due to satin-wood irritation. There was no pain and no sickness. Whenever the man ceased working for a time the inflammation subsided, but as soon as he commenced work again the inflammation reappeared in all the exposed parts. The inflamed area became moist, and this was followed by desquamation. Investigation revealed the fact that the cause was some irritant in the dust arising from East Indian satin-wood, with which the man was working at the time. The first attack is rather slow in its onset, but relapses come on with great rapidity. As regards treatment, it was suggested that the man remain off duty until the epidermis was fairly strong, and that then vaselin or some oily substance should be smeared over hands and face, and allowed to remain there while the men were at work in the shop.

The Lancet, London.

June 25.

6 Same as No. 1 above.
7. Deaths in Childbed; a Preventable Mortality. W. Williams.
8 *Diagnosis of Tumors in the Upper Rectum and Sigmoid Flexure by Means of the Electric Sigmoidoscope. P. Lockhart Mummery.
9 *Strangulation of the Fully Descended Testicle from Torsion of a Pedunculated Mesorchium. G. H. Edington.
10 *Prophylactic Use of Morphin in Cases of Severe Cerebral Injury. J. A. MacDougall.
11 Notes on Three Cases of Intestinal Obstruction. G. R. Anderson.
12 *Case of Perforative Gastric Ulcer with Appendicitis; Operation; Recovery. V. Warren Low.
13 Enumeration of Leucocytes. A. E. Jones.
14 Traumatic Gangrene of the Scrotum with Almost Entire Separation; Recovery; Plastic Operation for Formation of New Scrotum. A. Grainger Bisset.
15 Mania from Traumatic Meningitis; Trephining; Evacuation of Serous Effusion; Complete Recovery. Charles Brook.

8. **Diagnosis of Tumors in the Upper Rectum.**—The accurate diagnosis of tumors in the upper part of the rectum and the

sigmoid flexure, says Mummery, has hitherto been difficult and unsatisfactory. This is principally because it has not been possible to obtain direct evidence of their presence, the diagnosis being made almost entirely from the symptoms, aided at times by bimanual examination with the patient anesthetized. With the aid of Strauss' sigmoidoscope it is possible to obtain a view of the bowel as high as the top of the sigmoid flexure, and occasionally into the descending colon. By removing the window at the back of the tube, and passing suitable instruments down it, applications may be made to the part, or pieces removed for microscopic examination. A certain amount of practice is needed before the instrument can be used satisfactorily. Its passage is not in the least painful and but slightly uncomfortable; it is not necessary to administer an anesthetic.

9. **Strangulation of Descended Testicle from Torsion.**—Edington reports a case in a baby, aged seven months, of strangulation of the fully descended testicle from torsion of a pedunculated mesorchium. The points of interest in the case were the extreme youth of the patient, the fact that the testis was fully descended, the absence of any history of trauma, and of constitutional signs, the fact that the local signs were not such as to permit of a correct diagnosis, and the presence of "reversion" with pedunculated mesorchium. On examination of the specimen after removal it was found that the testicle was connected with the posterior part of the tunica vaginalis by a narrow pedicle instead of, as is usual, by an attachment extending almost the complete length of the epididymis. The pedicle was at the upper pole of the organ and lay to the inner side of the gland. It had undergone a complete twist from within outward (from right to left) so that the body of the testis lay in its proper situation anterior to the epididymis. The cord presented no apparent abnormality. Microscopic examination showed the testis to be in a state of necrosis; the hilum of the testis was congested, edematous, and infiltrated with blood. The epididymis was more closely incorporated with the testis than is normal, owing to the formation of adhesions.

10. **Prophylactic Use of Morphin in Severe Cerebral Injury.**—MacDougall reports three cases of severe cerebral injury in which the use of morphin was followed by most excellent results. He believes that its beneficent action is brought about largely through its effects on the vascular and nervous systems, inducing a condition of perfect rest. If after severe brain injury the patient is kept under the influence of morphin, convalescence is more rapid and more steady, grave cerebral symptoms are wanting, and the continuous rise in temperature, which usually marks cerebral laceration and hemorrhage, has been notably absent.

12. **Perforated Gastric Ulcer with Appendicitis.**—A case of this kind is reported by Low. The symptoms pointed toward a general peritonitis due to rupture of the appendix. The abdomen was opened and the appendix removed. It was four inches in length, rigid, with thickened walls, and its lumen contained two concretions. Though obviously in a state of acute inflammation, there was no perforation or area of necrosis and could not, therefore, be considered the cause of the general peritoneal infection. Further search revealed a perforation in the middle of an indurated area of the size of a five-shilling piece situated beneath the left lobe of the liver on the anterior aspect of the small curvature of the stomach, close to the cardiac end. The points of interest in the case were the coincidence of an ordinary attack of appendicitis with a gastric ulcer which perforated at that particular time. The patient laid most stress on the pain in the lower abdomen on the right side. Although there had been some symptoms of gastric trouble for a year, the patient never had any hematemesis or even vomiting.

Intercolonial Medical Journal of Australasia, Melbourne

May 20.

16 "Hip Disease." R. Hamilton Russell.
17 Decline of the Birth Rate in New South Wales. John B. Trivett.
18 Second Series of Cases of Optic Neuritis. James W. Barrett and W. F. Orr.
19 Case of Lupus Vulgaris Treated with X-rays and Ultra-violet rays. F. J. Clendinnen.

L'Obstétrique, Paris.

Last indexed XLI, page 1119.

20 (VIII, No. 6.) Cas de rétention pendant 4 ans d'un fétus extra-utérin près du terme. Demelin and Bouchacourt.
21 *Thrush Without Mycelium. O. Macé.—Le muguet à forme levure chez le nouveau-né.
22 Relations Between Length and Weight of Fetus at Term. Guérin-Valmale.—Relations entre la longueur et le poids du fetus à la fin de la grossesse.
23 (IX, No. 1.) Le Professeur Fochier, 1845-1903. Obituary.
24 A Milk Charity in a French Town. E. Ausset.—La goutte de lait de Saint-Pol-sur-Mer.
25 *Des indications de l'interruption de la grossesse (of pregnancy). O. Macé.
26 (No. 2.) *Documents pour servir à l'étude de la cryoscopie des urines et du lait (milk). O. Macé.
27 (No. 3.) Weight Curve of Nurslings During Second Year. Perrey and Planchon.—Etablissement de la courbe du poids des nourrissons pendant la seconde année.
28 *Burns of the Breast and Lactation. Planchu and Pellanda.—Brulures du sein et allaitement.
29 De l'évolution de la puerperalité dans l'utérus didelphe. Guérin-Valmale.

21. **Thrush Without Mycelium Formation.**—Macé found this form of thrush in otherwise healthy children, with nothing macroscopically abnormal in the mouth. The growth apparently waits for an acid reaction on the part of the saliva before it proliferates. The presence of pus cocci seems to favor this acidity and consequent development of the mycelium, as does also the presence of the colon bacillus or the bacillus subtilis.

25. **Indications for Interruption of Pregnancy.**—The same writer establishes an average standard for the blood findings in pregnancy, and then shows that variations from this standard may be an indication for the interruption of the pregnancy. The average of 3 healthy women, in at least the eighth month, was hemoglobin, 8 per cent.; red corpuscles, 4,493,000; whites, 9,640; clear mononuclears, 15.1 per cent.; opaque, 1.12 per cent.; transitional forms, 2.2 per cent.; ordinary polynuclears, 77.5 per cent., and eosinophiles, 1.06 per cent. Variations from this standard he has found are of serious import for the fetus as well as the mother. Besides pernicious anemia, the anemia from recurring hemorrhages entails serious injury to the blood. Pronounced polynucleosis indicates commencing infection, frequently starting in the uterus and causing the expulsion of the fetus sooner or later. It is not necessary to wait for this, if the condition is recognized early by the blood findings. Under the influence of slight but recurring hemorrhages reds are swept into the circulation, immature and deformed.

26. **Cryoscopy of Milk and Urine.**—Macé devotes ten pages to tables of the findings in regard to the freezing-point of the milk and urine and elimination of chlorids in 14 women presenting evidences of puerperal infection. The freezing-point of the milk and the elimination of chlorids increase as convalescence progresses. The freezing-point of the urine varies, but is generally low, in some instances reaching minus 2.4 C., while the elimination of chlorids is much above normal (6 to 8 gm. per 1,000 on an ordinary diet and 3 to 4 gm. on milk alone).

28. **Burns of Breast and Lactation.**—In the 2 cases described the breast had been the site of extensive burns in previous years. Lactation, however, proceeded normally in one patient, although the cicatricial areola was hard and inflexible, requiring softening and massage before the babe could nurse properly. The other patient did not nurse her infant, and as the milk was secreted the breast became very painful. Under appropriate measures lactation was suppressed as under normal conditions, without inflammation or gangrene of the burned breast.

Revue de Chirurgie, Paris.

Last indexed XLII, page 1522.

30 (XXIV, No. 6.) *La pharyngotomie retro thyroidienne. E. Quénu and P. Sebileau.
31 *Vaginalite séreuse chronique. De Vlaccos (Mitylene, Greece).
32 *Sur les myostéomes traumatiques, particulièrement sur leur pathogénie et leur traitement opératoire. L. Cahier. (Commenced in No. 5.)

30. **Retrothyroid Pharyngotomy.**—The technic of the lateral-vertical opening into the pharynx described was worked out on

the cadaver and successfully applied in 2 clinical cases for the extraction of foreign bodies. Its ease, simplicity and the minimal traumatism render it the intervention of election for extraction of a foreign body in the pharynx or esophagus. The incision extends in front of the sterno-cleido-mastoid muscle for about 8 cm. The external jugular vein is tied and severed, the posterior margin of the thyroid ala is drawn forward, which allows easy access to the lower third of the wall of the pharynx, below the lingual artery and the main thyro-linguo-facial vein.

31. **Chronic Vaginalitis.**—Vlaccos relates the history of 2 cases which establish the possibility of a chronic serous vaginalitis existing independently of any lesion of the testicles. Both patients were tuberculous and both recovered after resection of the vaginalis. One succumbed later to tuberculous meningitis, the other is still in good health. In less severe cases he prefers to exteriorize the vaginalis by a long incision and exstrophy of the scrotum, with energetic friction of the serous surface thus fully exposed, concluding by touching the surface with a 20 per cent. solution of zinc chlorid, and suture without drainage. This is similar to Bloch's technic, minus his tamponing and tardy sutnre. When the vaginalis is altered, thickened, and restitution is improbable, it should be entirely removed. The results of this technic have been perfect to date.

32. **Traumatic Myosteoma.**—Cahier tabulates 133 cases, with details of one personally observed. He attributes their development to a process of ossifying myositis. In certain cases with adhesions—in reality merely sensitive, indurated hematomata—massage may induce the complete retrogression of the tumor, but in true myosteomata—due to an interstitial myositis—it is doubtful whether massage will do much good. It may even be dangerous in certain cases, especially those involving the brachialis, in subjects under 25, with concomitant traumatism of the elbow. It is almost certain to entail ankylosis of the joint. In some cases the tumor was exaggerated by the massage. Massage and mobilization are liable to prove dangerous also when used after extirpation of the tumor. He does not believe in extirpation of a traumatic myosteoma as long as it does not make trouble. He waits until it is "ripe." If operation is attempted while the tumor still contains cartilage and the process of ossification is still incomplete, there is danger that the declining muscular inflammation may be aroused into renewed activity, and also that the morbid tissue—some of it being still undefined—may escape the knife and perpetuate the lesion. When the myosteoma is "ripe" it casts a definite, nearly uniform shadow in radioscopy, showing its isolation from the bone or its pedunculated attachment as the case may be. The shadow should correspond with the size of the tumor felt by palpation. If the shadow cast at a month's interval is the same size as the first time, the tumor is evidently stationary. He advises close, extra-capsular resection, with morcellation of the tumor, if necessary. A certain hyperostosis of the adjacent bone may safely be left undisturbed, as it generally is absorbed like an ordinary callus. Hemostasis should be as perfect as possible to prevent the development of a hematoma. If drainage is necessary it should be suppressed at the earliest possible moment.

Berliner klinische Wochenschrift.

33 (XLI, No. 24.) *Ueber Stomatitis gonorrhoica beim Erwachsenen (in adults). Jürgens (Berlin).
34 Gaswechseluntersuchungen bei Morbus Basedowii und Akromegalie (gas metabolism). H. Salomon (von Noorden's clinic, Frankfurt).
35 *Action of Thiosinamin in Affections of Digestive Tract. R. Baumstark (Ewald's clinic, Berlin).—Ueber Thiosinamin-wirkung bei Erkrankungen der Verdauungswege.
36 Die specifische Therapie und die Vaccination der Tuberculose. E. Maragliano. (Commenced in No. 23.) Phipps' lecture at Philadelphia.
37 Report of Third German Congress for Orthopedic Surgery, Berlin, April 5, 1904. (Commenced in No. 23.)
38 Report of Thirteenth German Congress of Otology, Berlin, May 20, 1904.

33. **Gonorrheal Stomatitis in Adults.**—Jürgens describes a case in which a young man with sound teeth developed a diffuse inflammation of the gums and the mucosa of the cheeks, with a dirty gray, easily wiped off coating. The gums bled easily, but there was no membrane formation nor ulceration. The diagnosis of gonorrheal stomatitis was corroborated by the history of recent infection. Bacteriologic examination revealed a coccus resembling the gonococcus in every respect save that it grew luxnriously on ordinary agar. It is possible that the pseudo-gonococci may be incriminated in the pathogenesis of certain gonorrheal affections, and, in any event, these affections must be regarded from a broader standpoint than hitherto, considering the clinical-pathologic findings and individual conditions, besides the strictly bacteriologic testimony.

35. **Thiosinamin in Affections of Digestive Tract.**—The affections referred to by Baumstark are those due to the formation of adhesions and cicatricial tissue in the digestive tract. He used a 20 per cent.*glycerin-water solution of thiosinamin, injecting 1 c.c. at a time after the first two times. Not the slightest effect was apparent in 5 cases of malignant tumors, and the results were scarcely better in 4 of benign stenosis of the pylorus. In 2 cases of pericholecystitis and perigastritis marked improvement was observed as the thiosinamin was injected as an adjuvant to other measures. To what extent the thiosinamin was responsible for the improvement is still an open question, as the symptoms recurred so soon as the other measures were suspended. On the whole, therefore, the results of the thiosinamin treatment may be regarded as negative.

Centralblatt f. Chirurgie, Leipsic.

Last indexed XLII, page 1666.

39 (XXXI, No. 21.) *Method of Suturing Which Avoids Buried Sutures in the Bassini Operation. R. Porges.—Eine Nahtmethode zur Vermeidung von versenkten Nähten bei der Bassini'schen Operation.
40 *Radical Operation for Malignant Growths in Bladder. A. A. Berg (New York.)—Beitrag zur radikalen Operation bösartiger Neubildungen der Blase.

39. **Means of Removing Buried Sutures.**—Porges' illustrations show his technic of suturing deep tissues with complete removal later of the thread. It consists essentially in taking a figure 8 suture through the aponeurosis and skin with stout silk. A piece of finer silk thread is tied through the suture loop, the ends kept separate from the stout silk. The ends of the latter are then twisted in the direction of the hands of a clock until the close twisting approximates the tissues beneath as closely as if the ends had been tied. The twisted ends are held firm in a small clamp, which also holds one end of the fine silk, the other end having been cut off close to the knot through the suture loop, just below where the twisting commences. Each buried suture is twisted and held firm in this way by a separate clamp, interposed gauze protecting the skin from contact with the row of clamps, two on each side of the wound. When healing is complete, generally in about ten days, the clamp is opened, the fine silk dropped and the twisted ends of the stout silk are untwisted until the loop is completely opened. One of the ends of the stout silk is then cut off close to the skin, and the rest of the suture is then easily pulled out by traction on the other end and on the fine silk tied to it below, both being readily pulled out together.

40. **Radical Removal of Malignant Growths in Bladder.**—Berg reports 2 cases operated on by the intraperitoneal technic he describes. It is designed for removal of malignant lesions in the rear wall and fundus of the bladder. Both of his patients are in good health now, more than a year since the intervention.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed XLII, page 1192.

41 (XXVIII, No. 13.) *Vaginal Cesarean Section. A. Dührssen (Berlin).—Fall von vaginalem Kaiserschnitt bei Placenta praevia nebst Bemerkungen zur Technik der Operation und ihre Stellung zu anderen Dilatationsmethoden.
42 *Nachtragliches über Valerius Cordus und den Aethyl-Ether. K. Binz.
43 (No. 14.) *Success of the Campaign Against Uterine Cancer in East Prussia. G. Winter (Königsberg).—Der Erfolg der "Bekämpfung des Uteruskrebses" in Ostpreussen.
44 Ueber intra-uterine Skelettlerung. O. Polano (Würzburg).
45 Change of Face Into Occipital Presentation by External Manipulations. A. Ostrell (Prague).—Umwandlung von Gesichtslage zu Hinterhauptslage durch äussere Handgriffe
46 *Internal Secretion of Uterus Mucosa and Formation of Metrotoxin. A. Schucking.—Ueber innere Sekretion der Uterusschleimhaut und über Bildung von Metrotoxin.

41. **Vaginal Cesarean Section in Case of Placenta Previa.**—Dührssen's method of vaginal cesarean section was successfully applied in the case he describes, and he states that this technic has now been used in 100 cases. He commends it as very valuable for certain cases, holding that we no longer have any right to allow the fetus to die because of some obstacle to delivery in the soft parts, or to practice perforation when these obstacles prove dangerous for the mother. In the hands of a modern gynecologist, he adds, the conservative or the radical vaginal cesarean section is a typical and certain mode of accomplishing delivery free from danger. He answers the criticisms of the method in detail.

42. **The Discoverer of Ether.**—Binz claims for Valerius Cordus, privat docent at Wittenberg in the earlier part of the sixteenth century, the honor of the discovery of ether. He called it "oleum vitrioli dulce," but knew nothing of its anesthetic properties, which were not discovered until 300 years later, when Jackson and Morton published their experiences. Cordus is known in history as the author of the first official pharmacopeia. Binz closes this historical sketch of ether with quotations from physicians, poets and divines protesting against the banishment of pain by the new agent. He cites them as typical examples of the opposition encountered by every innovation in the world of medicine.

43. **Campaign Against Uterine Cancer in East Prussia.**—In 1902 Winter organized a systematic campaign against uterine cancer throughout Eastern Prussia. He sent a pamphlet on the subject to all the physicians in the region and a circular to the midwives, following this with a "Warning to Women," published in all the leading newspapers. During the following year he sent question blanks to every gynecologist asking for information in regard to the cancer cases operated on during 1903. Eighty-four of these question blanks have been filled out and returned, and the results show great improvement, as estimated by the operability of the cancers when first seen. The proportion of operable cases has risen from 71 to 82 per cent. in the clinics and from 52 to 65 per cent. in specialist circles. One result of his efforts is that family physicians now examine women for cancer at the slightest suspicious symptom. During the four previous years he found that 14.2 per cent. had neglected to examine. In 1903 only 5 (11 per cent.) of the 45 family physicians consulted failed to examine, and one of these was a homeopath; one sent the patient at once to a specialist without examining her himself; one was deceived by the patient, who suppressed the suspicious symptoms in her report, and the fifth physician made the examination at the second visit. Eight of the 84 women consulted a midwife and only one failed to direct them to a physician or specialist and continued to treat the woman herself. During the previous years 54 per cent. of the midwives had followed this pernicious practice. Not one of the 84 women had applied to a charlatan, and the percentage of those who applied to a physician early is in marked contrast to the percentages of the previous years. A further significant gain is shown by the prompt readiness displayed by the women in regard to the operation, only 5 per cent. waiting for even a month, and only a single patient going beyond this to the fourth month. In a number of cases the symptoms had been noted for some time, but on reading the warning in the papers the patient or family was roused at once to consult a physician. Ninety per cent. were operated on within two weeks of the diagnosis. Winter's monograph on the "Combating of Cancer of the Uterus," is published by Ferd. Enke, Stuttgart, 1904.

46. **Internal Secretion of Uterus.**—Schücking believes that he has established the existence of an internal secretion in the gravid uterus, a metrotoxin, which has some influence on ovulation. His experiments were made on rabbits which were injected with an emulsion of the tissue elements of gravid uteri. None of the rabbits conceived, although males cohabited freely with them. The emulsion seemed to have an inhibiting influence on the ovaries, and it also apparently induced hyperemia in the uterus. He supplemented these researches by injecting this emulsion of human or rabbit uteri into guinea-pigs, and it displayed marked cytolytic property in the cornua of the uterus. The serum of the animals thus treated acquired considerable hemolytic power for human red corpuscles, confirming its nature as a specific cytotoxin. He suggests that a serum of this kind might be used to advantage in inoperable cancers of the uterus and for post-operative treatment. The fact of an internal secretion may explain why women recover more rapidly after genital hemorrhages than from losses of blood otherwise. It may further afford the key to the extraordinary disturbance in the general health that is liable to follow even a slight interference with the circulation in a misplaced uterus. It further confirms the assumption in regard to the independence of the uterus from the ovaries.

Corr.-Blatt f. Schweizer Aerzte, Basle.

Last indexed XLII, page 1056.

47 (XXIV, No. 7.) Giant Ovarian Tumor. P. Pfaehler.—Ein Riesen-Ovarialtumor.
48 Experiences of Great Value of Red Light in Treatment of Smallpox. E. Rahm.—Ueber rotes Licht bei Pockenbehandlung.
49 (No. 8.) Ueber Pylorus-Stenose im Säuglingsalter (in infancy). Bernheim-Karrer.
50 Tendon Plastics. O. Lanz (Amsterdam).—Sehnen-Plastik bei habitueller Luxation der Patella.
51 (No. 9.) Fall von spindelförmigen oder flaschenförmigen Divertikel des Esophagus. E. Fricker.
52 (No. 10.) *Ueber Refractura patellæ. Lauper (Berne).
53 Justification and Indications for Prevention of Conception. A. Goenner.—Die Berechtigung und die Indikationen der Konzeptionsverhinderung. (Commenced in No. 8.)
54 Ibid. A. Kraft (Zurich).
55 (No. 11.) *Considerations in Regard to a Case of Bullet Wound of the Brain. O. Veraguth (Zurich). Ueber eine Hirnschussverletzung.
56 Case of Simulated Perityphlitis. H. Nägeli (Zurich).—Fall von vorgetäuschter P.

52. **Recurring Fracture of the Patella.**—Lauper remarks that fractures of the patella recur incomparably more frequently than of any other bone. Study of them is particularly instructive, as it suggests points that may be useful in treating primary fractures. The maximum interval between the fractures in the cases on record is six months after suture, and four years after massage. True refracture occurs only after conservative treatment, and can scarcely receive adequate treatment with such measures. When the refracture occurs after suture it is not a true fracture, but merely the separating of the imperfectly healed, primary fracture in consequence of too early use. This can be avoided by longer fixation in extension and more careful use, wearing a supporting apparatus for a year. The patella is a sesamoid bone and should be classed apart from other bones. In a true refracture, after conservative treatment, the fracture is usually in the upper, larger part. It occurs much more frequently after massage treatment than when the bone has been sutured. By direct suture of the patella in the primary fracture, the necessity for secondary operations later is obviated.

55. **Bullet Wound of Brain Without Loss of Consciousness.**—Veraguth's case presents the medicolegal feature that the consciousness was unimpaired for a time after a would-be suicide had fired a large bullet into his forehead, destroying 2.5 per cent. of the cerebrum and opening the sinus longitudinalis, causing extensive venous hemorrhage. There was no special anemia of the cortex directly after the injury, which accounts for the retention of consciousness, but the left side became paralyzed at once. The loaded pistol was still in his right hand, of which he had full control, and he could easily have shot others or himself in the heart, for instance, which might have proved a forensic puzzle in view of the destruction of about 30 c.c. of the right hemisphere which had preceded.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

57 (XXX, No. 24.) *Isolierte tuberkulöse Pericarditis. G. Scagliosi (Catania).
58 Durchbruch eines tuberkulösen Lymph-Drüsen-Abszesses in die Trachea. V. Gaudiani (Rome).
59 *Disturbance of Stimulus Conduction in Myocardium. J. Mackenzie (Burnley, England).—Fall von Störung der Reizleitung im Herzmuskel.
60 *New Property of Tubercle and Other Acid-Fast Bacilli. S. Piatkowski (Lodz, Poland).—Ueber eine neue Eigenschaft der Tuberkel- und anderer säurefesten Bazillen.
61 *Beobachtungen über epidemischen katarrhalischen Icterus. L. Nicolaysen (Christiania).
62 Ueber eine klinische Methode zur quantitativen Bestimmung des Gallenfarbstoffes im Harne (test for bile pigments in urine). J. Bouma (Utrecht).

63 *Ossifying Processes in the Veins. C. Beck (New York).—Ueber Verknocherungsvorgänge in den Venen im Lichte des Röntgen-Verfahrens.
64 Zur Behandlung der Zwerchfellverletzungen (injuries of diaphragm). D. Rona (Baja, Hungary).
65 Ueber Styptol in der Gynäkologie. E. Toff (Braila, Roumania).
66 2 seltener Fälle von kongenitalen Missbildungen (malformations). E. Pfister (Cairo).
67 (No. 25.) *Die Hilfe für Giftarbeiter (workers in poisons). L. Lewin (Berlin).
68 *Zur Therapie und Prophylaxe chronischer Malaria. R. Bassenge (Berlin).
69 *Action of Röntgen- and Radium Rays. W. Scholtz (Königsberg).—Wirkung der Röntgen- und Radiumstrahlen.
70 Ueber Heilungsaussichte und Behandlung der puerperalen Pyämie. E. Opitz.
71 *Ersatz beider Ureteren (substitute for both ureters). J. Israel.
72 *Ueber Spätrezidive des Karzinoms (tardy recurrence). Jordan (Heidelberg).
73 New Model for Treatment of Nose and Ear Affections with Superheated Air. F. Berthold (Königsberg).—Ein neues Modell zur Heissluftbehandlung von Ohren- und Nasenkranken.
74 Condensed Buttermilk for Infant Feeding. H. Koeppe (Giessen.)—Erfahrungen mit einer Buttermilchkonserve als Säuglingsnahrung.
75 Zur Kenntnis der Wirkung der Essentia antimellini composita bei Diabetes mellitus. I. B. Studzinski (Kiev). (Commenced in No. 24.)
76 Self-illuminating Tongue Spatula. Axmann (Erfurt).—Selbstleuchtender Zungenspatel.
77 Berlin Regulations in Regard to the Mentally Diseased. M. Brasch.—Die "Aufnahmebestimmungen" fur Geisteskranken in Berlin.

57. **Isolated Tuberculous Pericarditis.**—Scagliosi states that only a single case of primary tuberculosis of the pericardium has been encountered in 1,077 necropsies at Palermo. The subject was a woman of 60 who had succumbed to a pyelonephritis. There was only a small amount of effusion.

59. **Disturbance of Stimulus Conduction in Heart Muscle.**—Mackenzie gives the tracings of a case of mitral insufficiency in which the administration of digitalis entailed a functional disturbance identical with that described by Wenckebach as due to disturbance in the conductibility of the heart muscle.

60. **New Property of Acid-Fast Bacilli.**—Piatkowski announces that the group of acid-fast bacilli is less sensitive to the action of a dilute solution of formalin than other kinds of bacilli. The formalin has no effect on the morphology or staining properties of the acid-fast bacilli and has merely a transient inhibiting action on their growth. They regain their normal biologic properties in succeeding inoculations. The acid-fast bacilli can thus be readily differentiated by means of formalin. A small amount of the material is mixed with 10 c.c. of water or bouillon, and two or three drops of formalin are added. The test glass is then stoppered and well shaken. After half an hour another test glass with ordinary or glycerin agar is inoculated, and this is repeated several times at fifteen-minute intervals. The pure culture of the acid-fast bacillus under examination will be found in some one of the glasses. This formalin technic can also be used to differentiate the more resistant bacteria in other infections.

61. **Epidemic Catarrhal Icterus.**—Nicolaysen describes an epidemic of 123 cases of this affection, the majority in children. Its prevalence during the winter months and subsidence at the approach of hot weather is in marked contrast to what is observed in acute gastroenteritis. He is convinced that the icterus in question must be regarded as a specific gastrointestinal catarrhal affection which occurs with or without icterus and is generally transmitted from person to person. A similar epidemic has been reported since from another point in Norway, 40 cases in all, spreading like measles or scarlet fever.

63. **Ossifying Processes in Veins.**—Beck expatiates on the light thrown on these processes by the Roentgen rays. He gives radiograms of the saphena of a woman of 56 who had suffered for thirty years from varices. After extirpation of the veins Roentgen examination revealed pronounced ossification extending through certain portions. These findings demonstrate the uselessness of elastic stockings and bandages, of ignipuncture, injections and of massage in such cases. Massage might even do direct injury, as the tissues are liable to be injured by the projecting angles of the bone formation.

67. **Help for Workers in Poisonous Substances.**—Lewin pleads for better protection of working people in the trades which use poisonous substances. He proclaims that the state can do much more in this line than it has done. Children in the primary and grammar schools should be instructed in the dangers of lead and other industrial poisoning. Teachers could easily be trained to impart such instruction. Popularly written pamphlets should be distributed to every family in which any member is engaged in these dangerous trades, especially those in which the nitro-bodies are used, and popular lectures should be given in industrial centers to instruct the workmen and convince them of the importance and value of protective measures which they too often disregard as irksome constraints. The state should also shorten the working day to four or less hours a day for these dangerous trades, and exclude women and children from them, and strictly forbid home piecework. The earnest co-operation of legislators and expert toxicologists is necessary. Light thus thrown into the darkness of poison-handling workshops will be reflected in the enhanced vitality and vigor of the working classes and the silent gratitude of hundreds of thousands of working people thus rescued from invalidism and pauperism.

68. **Treatment of Chronic Malaria.**—Bassenge shows by 2 striking examples that hydrotherapeutic or other procedures causing vigorous stimulation are liable to be followed by the appearance of the malaria parasites in the peripheral blood where before it was impossible to detect them. In neither of the cases reported was the malaria averted nor recurrences prevented by quinin taken regularly and copiously as a prophylactic during the entire stay in the malarial region. The malaria and the quinin together had induced chronic invalidism and, in one patient, a predisposition to blackwater fever.

69. **Action of Roentgen and Radium Rays.**—Scholtz reports successful application of the radium rays in several cases of lupus of the palate and gums. In another case an inoperable cancer of the skin around the orbit has completely retrogressed under the radium rays. He has experimentally tested the Roentgen rays on the testes of guinea-pigs—which are normally in the abdomen—and has established that the rays can pass through the skin without appreciable reaction and exert an intense action on an internal organ. Necro- and azoospermia were observed in the testes twenty days after application of the radium rays for a hundred minutes.

71. **Substitute for the Ureters.**—Israel has had occasion to treat 5 young men on account of hydronephrosis which had evidently existed for years without causing symptoms. Under the influence of fresh infection of the old hydronephrosis, the patients, who had previously been supposedly in the best of health, suddenly developed fever, pains and colics. Gonorrheal infection was responsible in 4 and appendicitis in the other case. In still another case these symptoms developed suddenly in a lad of 13, previously robust. Examination showed a congenital low malposition of both kidneys, with resulting severe hydronephrosis. All attempts to restore conditions to normal failed. It was found impossible to push the kidneys up or to secure their evacuation through the ureters. Israel consequently made an artificial passageway between the bladder and kidneys, a tube forking to each kidney and emptying into the bladder, the tube inserted in a suprapubic oblique fistular passage with a valve opening outward. This contrivance has been working with perfect satisfaction since May, 1902. The tubes are changed twice a week, when the renal pelvis and bladder are rinsed out with a boric acid solution. It is possible that in time natural conditions may be restored, as the kidneys continue to shrink in size after the long distension. In one of the other cases the kidney was removed on account of gonorrheal infection of an old hydronephrosis—the patient a youth of 17. The organ was removed within three weeks after the first symptoms, and yet it was found reduced to a sac as thin as paper, with scarcely a trace of kidney substance left, filled with 1,400 c.c. of purulent fluid.

72. **Tardy Recurrences of Cancer.**—In one of Jordan's 2 cases a carcinoma of the tongue recurred at the same spot after an interval of nineteen years.

Münchener medicinische Wochenschrift.

78 (LI, No. 20.) *Intestinal Manifestations in Achylia Gastrica. von Tabora (Riegel's clinic, Giessen).—Die Darmerscheinungen bei Achylia gastrica.
79 Relationship of B. Faecalis Alkaligenes to Typhoid Bacilli. E. Altschuler.—Ueber die Beziehungen des B. faec. alk. zu den Typhusbazillen.
80 *Zur Therapie des Menière'schen Schwindels (vertigo). O. Veraguth.
81 Bloodless Treatment of Congenital Hip Dislocation. B. Lange (Strassburg).—Die unblutige Behandlung der angeborenen Hüftgelenksverrenkung.
82 Aetiologische Betrachtungen über 1 Fall von Myelitis transversa acuta infectiosa postpuerperalis e Parametritide abscedente perforante. O. Schaeffer (Heidelberg).
83 *Zur Behandlung der Psoriasis durch den praktischen Arzt (treatment by general practitioner). Dreuw (Unna's Dermatologikum, Hamburg).
84 *Mode of Origin of Tuberculosis. Volland (Davos).—Zur Entstehungsweise der Tub.
85 *Is the "Painful Empty Stomach" a Nervous Affection? F. Ehrlich (Stettin).—Ist die "schmerzhafte Magenleere" eine nerv. Erkrankung?
86 Zur 25 jährigen Professoren-Jubiläum von Franz Riegel. G. Honigmann.
87 *The Puschmann Endowment for the History of Medicine.

78. **Intestinal Disturbances in Achylia Gastrica.**—Tabora has observed the typical diarrhea in only abont 20 per cent. of the cases of gastric achylia in the Giessen clinic. He attributes the diarrhea mainly to the fact that the altered gastric secretions produce conditions in the intestines favorable to the proliferation of the putrefaction bacteria while the fermentation bacteria find little or no nourishment, and "facultative" bacteria may migrate unhindered from the stomach into the intestines. By their combination with the first group or the preponderance of the latter, with the resulting excess of putrefactive processes, the intestines are incited to excessive peristalsis with inevitable diarrhea in consequence. The physician should aim to reduce these processes, and this is best accomplished by aiding Nature—simply reducing the intake of albumin while increasing that of the carbohydrates. This deprives the putrefaction bacteria of their favorable medium, while it provides better conditions for the vitality of the fermentation agents. His experience has demonstrated that an exclusive milk diet answers the purpose admirably, as he shows by tabulating some of his cases.

80. **Treatment of Meniere's Vertigo.**—Veraguth describes 2 cases treated with the ordinary measures, supplemented by application of the galvanic current to the ears, three minutes to each ear, once a day: the cathode, 5 by 15 cm., to the back of the neck; the anode, 5 by 5 cm., over the ear; the current .5 to 1.5 milliamperes. Improvement after the electric applications was strikingly evident. In one it occurred at once and in the other after a few days.

83. **Treatment of Psoriasis.**—Dreuw reiterates his former assertions in regard to the great therapeutic value of his combination of green soap and chrysarobin for the treatment of psoriasis. Hundreds of cases treated with it, both at Hamburg and elsewhere, confirm its efficacy. Lassar now uses it altogether. The salve is rubbed into the patch with a paint brush morning and evening, for four to six days. The fifth and sixth days the patch is laved with warm water and vaselin is thoroughly rubbed in, once to three times a day. This is repeated for one to three days, and then the salve is recommenced, going over the same eight-day course from one to three times. His formula is 10 parts salicylic acid, 20 parts each of chrysarobin and oleum rusci, 25 parts each of green soap and vaselin. The salve thus made combines keratolytic, reducing, peeling and specific antipsoriasis remedies.

84. **Mode of Origin of Tuberculosis.**—Volland affirms that scrofula is a dirt disease and may develop into tuberculosis if there happen to be any tubercle bacilli in the dirt on the children's hands. The public should be urgently warned in regard to the grave danger of auto-infection from the dirty hands of little children. They should not be allowed to creep on the floor. In learning to walk they should always be held up by the hand or by a band, and in case they fall the little hands should be carefully cleansed of all dirt, even dry dust. The toys should be kept scrupulously clean in the same way. The child's nose and mouth should be wiped to keep them constantly dry. It must be impressed on the public that the future health of the child depends on the most scrupulous cleanliness of the child and its hands during its second year and later. Children must be trained from the cradle to abhor dirty hands. In his experience persons who have once had and recovered from a tuberculous affection seem to bear a certain predisposition to the disease later, although years of health may intervene. By protecting little children against the dirt disease we strike at the root of the evil of tuberculosis.

85. **"Painful Empty Stomach."**—This condition is classed in the text-books usually as a nervous affection, but Ehrlich cites a number of instances to demonstrate that it is far more likely to be the first symptom of an ulcer.

87. **The Puschmann Endowment.**—The Journal has mentioned the legacy of $125,000 left by Professor Puschmann of Vienna to the University of Leipsic to be applied to the history of medicine. This "Fifth-Avenue Gift" to the Cinderella of the medical sciences places Germany in the front rank in this line. A historical museum of medicine is planned and a special seminary for training persons in medico-historical research and in historiography, with a salaried director and assistant. The names of Sudhoff and von Oefele have already been suggested, both eminent in the science of the history of medicine. Puschmann was a native German, and professor of the history of medicine at Leipsic until 1879, when he accepted a call to the similar chair at Vienna. He died in 1899 and his will was contested at first, but the money has now been paid to the university.

Brazil Medico, Rio de Janeiro.

Last indexed XLII, page 1057.

88 (XVIII, No. 9.) O leite esterilisado a luz dos estudos et investigaçoes recentes (sterilization of milk). C. Ferreira.
89 Draft of Bill for Protection of Infants Voted by Fifth Brazilian Congress.
90 (Nos. 10-11.) Milk Hygiene. Moncorvo Filho.—Das amas de leite no Brazil.
91 (No. 12.) Yellow Fever and the Mosquito. E. Perroncito.—Febbre amarella e mosquito.
92 Tratamento das enterites chronicas na primeira infancia. J. Pinto.
93 *Sanitary Services of Brazil.—O novo regolamento dos servicos sanitarios da Uniao.
94 (No. 13.) *Puerimetro. Moncorvo Filho.
95 O garrotilho (epizootic disease). J. C. de S. Fortes.
96 (Nos. 14-15.) *Tratamento do cancro (cancer). V. de Britto.
97 Das suppnraçoes chronicas da attica na infancia. L. Rocha.
98 A dysenteria epidemica. O. de Freitas.
99 (Nos. 16-17.) Hematologia do beriberi. H. Duque Estrada.
100 (No. 18.) Frequencia da tabes dorsalis no Brazil. Azevedro Sodré.
101 (No. 19.) Paludismo e mosquitos no Rio de Janeiro. F. Fajardo.
102 Perturbaçoes mentales nos negros do Brazil. H. Roxo. (Commenced in No. 16.)
103 (No. 20.) Report of Second Latin-American Medical Congress, Buenos Aires, April 3-9, 1904. See XLII, page 1440.

93. **The Brazilian Sanitary Service.**—Recent legislation has materially modified the preceding regulations in regard to the sanitary services. The bill was drafted by Dr. M. Mattos, senator from Rio. It abolishes quarantines, and establishes that each infectious disease shall receive special treatment, in accordance with the latest conquests of hygiene. It does not include dysentery among notifiable diseases, which is editorially regretted, as it is liable to assume epidemic proportions at any time, as in Pernambuco at the date of writing.

94. **Weighing and Measuring Machine for Children.**—The apparatus consists of a sliding table in a standard, the whole suggesting a slot machine. The infant is laid on the table, the child stands on the tread of the stand. A large tablet is fastened to the back of the stand with spaces designated for the record of the weight, age and height. This simple and convenient apparatus is designed for repeated weighings and measurements of children to show the rate of growth, compared with other particulars, race, heredity, morbidity, etc. The description is illustrated.

96. **Arsenic Treatment of Cancer.**—De Britto gives a number of illustrations showing the apparent cure of 6 cases of epithelioma of the face under treatment with arsenious acid according to the Cerny-Trunecek method.

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Address.

THE PRESENT STATUS OF OTOLOGY, AND SOME SUGGESTIONS FOR ITS BETTERMENT.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, JUNE 7-10, 1904.

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The Association by-laws make it obligatory on the Chairman of the Section to deliver an annual address on the recent advances in the branches belonging to his Section, and to make suggestions for improvements of the work. I have chosen to devote the time to the latter part of the obligation, for during the period in which I have observed the position of otology among specialties, the fact has been frequently and painfully brought to my attention that diseases of the ear have not received the same scientific awakening on the part of the profession that has, in the score of years just past, been given to other branches of medical and surgical practice. And while it is true that this subject has been, and continues to be thoroughly investigated and scientifically practiced by a comparatively few in the centers of learning and the larger cities, the prevailing tendency of the times to investigate every phase of a given disease by every known and rapidly multiplying method, has certainly not been as thoroughly or efficiently applied to otology as to sister specialties. Otologic investigators and practitioners who have given the subject a proper amount of labor, and who have applied in their practice the best known and most rational principles of medical and surgical art, have placed the specialty on a scientific footing, and have achieved results quite commensurate with medicine and surgery in general. With the medical profession as a whole, however, there has not been that progress, and with the public there has not been that general understanding concerning this branch, which has been so characteristic and marked a feature of other specialties. The principles governing modern medicine are better understood, and more rationally practiced in every other division than the one in question. What physician who has received his medical training within the last decade would tell his patient suffering from a fistula, leading, for example, to a sequestrum of the femur, that he will outgrow the same? Who having such recent training would be satisfied with the application of poultices to such an ailment, or with indefinitely syringing the channel with an antiseptic solution? Yet apparently a large number of the profession who would rationally ascertain the nature and extent of such ailment if located on the leg, and would skillfully lay open the diseased tract and remove its pathologic tissues, thus certainly effecting a cure, seem utterly to ignore the necessity of extensively investigating aural ailments with similar pathologic conditions, and fail entirely to apply sound surgical or medical principles in their efforts to cure. The most sublime faith is yet too often here exhibited in the belief that nature is all sufficient, and that under trivial treatment the patient will in time somehow outgrow his ailment.

Far too little attention is paid by the profession to ear diseases in their very incipiency. Too little opportunity is therefore afforded the aurist to treat this class of patients at a sufficiently early time to secure the best results. On the other hand, both profession and public place too great reliance in the otologist's ability to remedy incurable and neglected defects of hearing at any indefinite time during the progress of the ailment. Aurists themselves have given more effort to the discovery of methods intended to restore long-lost hearing, of the dry middle-ear variety, than the results obtained would seem to justify. The standing of otology would not be greatly lowered, nor the woes of mankind perceptibly increased, should all present knowledge concerning the treatment of this latter class of ear diseases be entirely lost. The persistent and ingenious efforts that have been made in attempting to cure these diseases have so far been most commendable from the viewpoint of tenacity of purpose. The future usefulness and standing of our specialty depends not nearly so much on continued attempts to discover a cure for the neglected incurable as it does on well-directed efforts of the profession in so persistently and forcefully placing the fact before the public, that only during childhood, and the very incipiency of ear diseases, can satisfactory results from treatment be attained. Such opportunities for earlier treatment could most surely be provided by active insistence on the part of otologists that school authorities shall provide for the examination of all school children, not only as to the hearing power, but also of the condition of the whole hearing apparatus, including a thorough investigation of the nose and throat.

Time will no doubt be the greatest factor in the betterment of this specialty. Medical colleges have already provided for more or less satisfactory teaching of this branch, and since most state boards of medical registration make a knowledge of this subject a requirement of graduation, the college work in ear diseases must soon grow stronger and ultimately satisfactory.

To a very considerable extent it would seem that medicine, like things commercial, to attain its greatest possibilities, must be popularized to the extent that it is much discussed by the public. Otologists have lacked

aggressiveness in the subtle art of diffusing knowledge concerning their specialty to the end that a necessary and useful amount of information would reach the public. Abdominal and general surgeons, ever ready with monstrous tumors to exhibit, and long columns of marvelous and successful operations to report, may be reckoned as ideal masters in the public distribution of information concerning their work, and the remarkable advances made in these specialties during recent years have been in no small measure due to the almost unlimited amount of discussion its advocates have made on all occasions, with the result that there is a general knowledge of these classes of diseases to the extent of knowing the nature of such diseases, the improbability of relief by medical means, the degree of certainty and safety of surgery, and withal such understanding as well enables those suffering from these ailments to act earlier, more wisely, and, therefore, more judiciously as to time of calling the surgeon for relief. It would, therefore, seem wise and essential to commensurate progress in otology, to emulate our more enthusiastic professional brothers, to the extent that we more vigorously assume the rôle of instructor, and that we should on proper and ethical occasions demonstrate the essential features of the anatomy, pathology and results of treatment of the hearing organ. Such effort would seldom fail in giving a more exalted opinion concerning the subject about which there seems at present to be the greatest general indifference. Aural topics should be more frequently brought before societies of the general practitioner, such discussions as often as possible taking the form of actual demonstrations, to the end that the meaning is the more intelligible. During such opportunities occasion should be taken to point out the fact which at present seems to be ignored, that the pathology of ear diseases is much the same as that of diseases elsewhere, and that, therefore, the same principles of medicine and surgery should govern the practitioner in treatment, whether the disease be located in the ear or abdomen.

Profession and public can not too often hear from those in authority that in no class of disease is delay more dangerous to function and often to life itself, than in aural infections. The aurist should more widely establish the fact that the hearing apparatus when diseased contains often the most violently septic foci, and that it is surrounded by parts so vital that extension of infective processes to them from the ear centers is more dangerous than the spread of inflammation from the appendix to the peritoneum, and therefore, that the necessity for early diagnosis and competent treatment is more urgent in otology than in abdominal surgery; also that the result, should the same degree of skill be exercised in each, and the same principles of surgery applied to both, is as good, and as much of a life-saving procedure in the one as in the other instance.

Knowledge of the fact that many aural diseases are extremely simple in their incipiency, and of the further fact that the means of cure at this period are also simple, comparatively easy, and the results certain, needs more universal and emphatic proclamation than has heretofore been given it. The absolute dependence of the majority of all aural affections on nasapharyngeal, pharyngeal and nasal diseases, should be insisted on and demonstrated. This is the more necessary from the fact that the old custom of associating diseases of the eye and ear still leads the public to regard the two as having a closer relationship than ever existed, and thus obscures the true pathology and consequent proper means of cure. Members of this Section are fully aware of the fact that most aural affections begin in childhood, and that the greatest percentage are then entirely curable. Neither profession nor laity seem as yet to have appreciated the full significance of this fact, and continue to ignore ailments at this period of life, unless of severe degree, until the child is old enough to realize the burden of his defect, at which time entirely satisfactory results from treatment are usually unattainable.

Otologists should insist on more accurate statements as to the cause of death in all cases dying from brain disease, to the end that the causative relationship of diseases located in the cavities which comprise the ear, and the other open sinuses which surround the base of the skull, may be more generally known. It now seems quite certain that were the investigation into the primary cause of all such deaths carried out, meningitis and brain abscess would usually be found to have their origin through secondary infection from these cavities. The term meningitis as a disease *per se* could no doubt be largely eliminated by the otologist and rhinologist should he make the same vigorous investigation into its origin that the surgeon has made as to the primary cause of peritonitis. This latter disease, as is now well known, is nearly or perhaps always secondary to rupture of the appendix, pus tubes, etc., and, therefore, the original cause is sought out by the abdominal surgeon, promptly removed, and accurate results are thus obtained. The term peritonitis now means something definite to both profession and public; it means a disease resulting from a source which is removable, and, therefore, both profession and public insist at the earliest moment on this being done. The term meningitis must also be given a new significance. The word itself speaks of that same variety of helplessness as the sentence, "The Lord giveth and the Lord taketh away." But once the profession, and through it the public, knows that there is a preventable cause behind the disease, then it will be earlier demanded that something be done, and thus will otology be advanced materially as a useful specialty.

Original Articles.

SECONDARY MANIFESTATIONS OF HYPERNEPHROMATA.*

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During the last few years the subject of hypernephroma has received a thorough consideration by a number of careful observers. Special phases of the subject have received special emphasis. When cases are reported, reference is always made to the question of secondary manifestations. It is a question, however, which presents a number of interesting features, and for that reason we have given it considerable thought.

Mention is frequently made of the rarity of this tumor formation; this, however, is a mistake. On the other hand, the pathologist who carefully examines all specimens brought to him finds them of rather frequent occurrence.

A hypernephroma is a tumor consisting of adrenal structure and having its origin from suprarenal gland,

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

or from particles of this gland which have become displaced, the displacement of tissue being usually into the kidney or under its capsule. Misplacement of tissue elements often takes place during the period of development, and on account of the close proximity of the adrenal to the kidney it is easily possible to have rests of adrenal structure included within the kidney substance, especially since the fetal kidney is lobulated and portions of the adrenal may be buried in one of the furrows between the lobules and later become inclosed. Such rests are occasionally seen at autopsy, appearing as small yellowish nodules, on an average about the size of a pea, their true nature being readily recognized by a microscopic section. The misplacement of adrenal tissue is not always into the kidney. Primary hypernephroma development has also been seen in the broad ligament, liver, etc. In other cases simple misplacement without tumor formation has been seen in the ovary, spleen, along the spermatic cord, etc.

Hypernephromata occur usually in persons past middle life, and are more frequent in males than in females. They serve as excellent illustrations of the well-known Cohnheim theory of tumor formation, i. e., the formation of tumors from tissues misplaced during the period of development. But we must have something to account for the fact that after they have lain dormant for years, they take on an active growth. In some cases it seems that traumatism plays some part in stimulating them to increased activity, but for the real explanation of their development we must go back to the same causes that underlie the origin of tumors in general.

For some time they often appear to be benign, but sooner or later, as a rule, their malignant characteristics are made manifest by their infiltrating tendency and by metastatic formations in other organs. There are some who would have us differentiate between benign and malignant hypernephromata. Those arising from the adrenal itself are, as a rule, quite well circumscribed and separated from the kidney by a connective tissue capsule, whereas those which originate within the kidney present somewhat more malignant manifestations. This distinction can not, however, be very well maintained, and the malignancy is probably simply a matter of degree, just as the malignancy of carcinoma and sarcoma is, to a certain extent, subject to variation. Although it is true that we can not, on microscopic examination, differentiate between the benign and malignant, yet it is also true that some are far more malignant than others. A. P. Ohlmacher reports two cases[1] in which the tumors attained considerable size, were well encapsulated, had no infiltrating tendencies, and did not give rise to metastatic formations. These might be termed benign hypernephromata. On the other hand, some are exceedingly malignant, either because of an unusual infiltrating tendency of the primary tumor or because of the early and rapid metastatic formations. E. R. Le Count[2] has reported a case of hypernephroma, in which the primary tumor, about the size of a hen's egg, involved the lower pole of the right kidney. By extension it almost filled the pelvis, and involved also the bones on the right side; this was followed by a pathologic fracture of the right ilium. It also extended through the first sacral vertebra, which led to a tumor formation of the right buttock with ulceration and gangrene. Metastases were also found in the left iliac lymph glands and the left femur, the latter resulting in a pathologic fracture of that bone about three months before death. This is a very good example of a malignant hypernephroma.

The gross appearance of the tumor is that of a rather soft, smooth, rounded or reniform-shaped tumor, varying in size, often being as large as a child's head. On cut-section we find that it does not present such a uniform appearance as sarcomata or carcinomata, but here and there we find areas of softening and foci of necrosis, as well as large hemorrhages and areas having a peculiar sulphur yellow color. The hemorrhages are due to the fact that the tumor is very vascular, and blood vessels are poorly formed and readily affected by necrosis. Microscopically, the tumor consists principally of tissue reproducing adrenal structure. The stroma consists in certain places of rather dense connective tissue; at other places of a delicate network of capillaries, in the meshes of which we find tumor cells proper, which are usually large and round or polygonal in shape. These cells are rather rich in fat and glycogen, as revealed by proper stains. The tumor at this time reproduces the cells of the cortex of the adrenal; at other times the cells of the medullary portion, and according to the kind of cells reproduced, we have two varieties of hypernephromata, the former presenting a more or less tubular arrangement, the capillary projections being lined by cortex cells, whereas the latter presents more of an alveolar arrangement, the alveolar spaces filled with rather large, polygonal medullary cells. In some cases both cortical and medullary portions are present.

Before considering the secondary manifestations in detail, we will briefly refer to five cases of hypernephromata that have come into our hands during the past five years:

CASE 1.—Patient from the service of Dr. Wm. Jepson, University Hospital, surgical clinic record No. 59. Mrs. B. S., aged 58, was attacked about three years ago with severe pain in back and left side of abdomen. Second attack three months later. At the time of the third attack, which occurred about six months after the second, there was also marked hematuria. Since that time attacks of pain, hematuria and frequent micturition were more frequent, and sometimes quite constant. The tumor was not discovered until about four months previous to operation.

Operation.—Patient entered the University Hospital, Jan. 12, 1903. A large mass about the size of a child's head and quite firmly fixed was palpable in the region of the left kidney. At time of operation, a retroperitoneal tumor, attached to the upper end of the left kidney was discovered. The ureter and renal vessels were tied and kidney with tumor removed.

Examination of Tumor.—The neoplasm presented a flesh-colored appearance. Here and there on the surface yellowish-colored areas were found; at other places, large tortuous veins. The tumor measured 19 cm. in length, 15.5 cm. in breadth, and 10.5 cm. in thickness. On cut sections it presented a mottled appearance, the tumor substance proper of a yellowish-pink color; hemorrhagic areas of a reddish to brownish color, and necrotic foci of a grayish color. The microscopic examination proved it to be a hypernephroma of the type reproducing the medullary substance of the adrenal. This diagnosis was confirmed by chemical tests.

CASE 2.—This specimen was brought to the laboratory last September. It was removed at autopsy from a man about forty-four years old, whose illness began about nine months previous. Just above and anterior to the left kidney was a large tumor mass about fourteen cm. in diameter. It presented a rather rough surface which projected into the peritoneal cavity. Secondary tumor formations were found in the liver, lungs and on the intestine. The formations on the intestine were pedunculated, varying in size from a pea to a walnut. Some of these were covered by a smooth serous mem-

1. Cleveland Medical Journal, vol. II, No. 3.
2. Transactions Chicago Pathological Society, vol. v, No. 5.

brane (peritoneal lining) and represented evidently metastases through the circulation. Others were rough on the surface and on microscopic section it was found that the peritoneum extended beneath the tumor; these were evidently secondary formations due to implantation. On cut section all of the tumor formations presented a mottled appearance—red (areas of hemorrhage), brown (hematogenous pigment from old hemorrhage), pink (tumor substance proper), grayish-yellow (necrosis), and salmon-yellow-colored areas peculiar to this tumor formation. The microscopic examination proved this tumor to be a hypernephroma reproducing the structure of the adrenal cortex.

CASE 3.—The following brief data were obtained from Dr. G. E. Decker, Davenport, Iowa, by whom the specimen was presented to the laboratory. The patient was Mrs. R., aged 40 years.

Operation.—In March 1902, a cyst of the right ovary was removed, but a short time after recovery from the operation, the patient began to complain of pain in the right inguinal region, which later ascended toward the region of the liver, leading to a diagnosis of gallstones, for which a second operation was made on April 1, 1903. At the time of the operation, gallstones were not detected, but instead a tumor was discovered just beneath the edge of the liver, and having its origin from, and involving the upper two-thirds of the right kidney; the growth with the kidney was removed completely.

Examination of Tumor.—The tumor formation, about eleven cm. in diameter, was nodular, quite soft, of a yellowish-gray color, and involved the upper pole of the kidney. By infiltration it was gradually encroaching on the kidney substance and leading to secondary formations in that organ. The urine was entirely negative. No metastasis in other parts of the body, nor is there at present, two months after the removal of the organ, any evidence of such. A tentative diagnosis of hypernephroma was made, and was confirmed by microscopic examination. The presence of tubular formations indicated that it was of the adrenal cortex type.

CASE 4.—This case represents a series of specimens removed at autopsy, Nov. 15, 1903, and the following clinical data of the case were obtained through the kindness of Dr. C. J. Snitkay, Belle Plaine, Iowa: Woman, 25 years. Married. Mother of one child five years old. Had been in good health until about a year before her death; during her illness presented principally the signs of extensive circulatory disturbance in the form of edema of the lower extremities, edema of the larynx, and very marked ascites. The urinary findings disclosed a small amount of albumin and a few hyaline casts. Periods of diarrhea alternated with those of constipation. An enlargement of the liver was demonstrable during the last six months.

Autopsy.—A large tumor from the region of the left kidney was removed, along with the lungs and liver in which secondary growths were present, and all forwarded to the laboratory for examination. The primary tumor was very large, twenty-nine cm. long, nineteen cm. wide, and seventeen cm. thick. Although it was found beneath the capsule of the left kidney, yet it had no connection with that organ. It did, however, involve the renal vein for about ten cm., beginning just where the renal vein leaves the kidney. The tumor substance by infiltration caused a marked thickening of the walls of this vessel and even projected into the lumen as a rather rough, diffuse, irregularly shaped process.

Examination of Tumor.—The tumor mass was quite firm, and on cut section presented areas of a salmon-yellow color alternating with solid masses of necrotic tissue. The neoplasm was well encapsulated. Extensive secondary formations were found in the liver and lungs. Tumor substance was found attached to the wall of some of the hepatic veins. On microscopic section, the tumor was found to be an adrenal cortex-reproducing hypernephroma.

CASE 5.—The following brief history was very kindly furnished by Dr. G. J. Bennett, Denver, Iowa. A boy, five years of age, until about a year ago had been in robust health. When four years old several of the cervical glands began to soften, and were opened and drained. Healing was complete in about three weeks. About eight months later the boy again began to fail in health, and on Feb. 20, 1904, Dr. G. J. Bennett was called and discovered what appeared to be an enormously enlarged liver. This diagnosis was confirmed by Dr. F. W. Powers, Waterloo, Iowa, who was called in consultation. The urine examination was negative.

Autopsy and Examination of Tumor.—The child died Feb. 27, 1904, and an autopsy was performed. The right kidney was found to have been entirely replaced by a large tumor formation, about nineteen cm. long, twelve cm. wide, and nine and one-half cm. thick. On cut section it was found to be very soft in consistency, certain parts being only semisolid. It was of a diffuse light salmon-yellow color. Secondary formations were found in the liver, and various places in the abdominal cavity attached to the intestine. One large mass was found behind the transverse colon. All of the secondary manifestations presented the same characteristics as the primary tumor. On microscopic examination, the tumor was found to be a hypernephroma of the type which reproduces the medullary portion of the adrenal.

Secondary manifestations of hypernephromata are found most commonly in the liver, the lungs and bones, although any part of the body may be affected. Extension to other parts of the body may be by: 1. Metastasis, either through the blood vessels or lymphatics. 2. Implantation, either in the peritoneal cavity or along the urinary tract.

Let us consider these somewhat more in detail.

METASTASIS.

1. *Extension Through the Blood Vessels.*—Metastasis, by way of the renal vein, is by far the most common and important method of extension. Involvement of this vein is of frequent occurrence, the tumor either extending along the walls of the vein or existing as masses completely or nearly filling the vessel. The tumor substance, usually of a more or less friable character, readily gains access to the circulation and by it spreads first to the lungs, then, by passing through the lungs and gaining access to the general circulation, to other parts of the body, such as the bones, etc. The liver is also frequently affected, due, no doubt in most cases, to retrograde embolism from the vena cava and portal vein. Case No. 4, reported in this paper, may be taken as a typical example illustrating this method of extension. There was a marked involvement of the renal vein with many and large metastatic formations in both the liver and lungs. The invasion of the renal vein in cases of hypernephroma is also of great clinical interest because: 1. It explains the method of extension in most cases. 2. Its absence means (usually) that the tumor is yet localized, and so is of considerable value in prognosis. 3. The frequency and constant possibility of its occurrence should caution the surgeon not to manipulate the tumor too much, either before or during operation. During the operation it would no doubt be advisable to ligate the renal and other large veins before the tumor is removed from its attachment, in order not to liberate any particles of the tumor mass which may be loosely adherent to the vessel wall.

That distribution by the blood vessels is by far the most common method of spread of hypernephromata, is well shown in the comprehensive article of Dr. A. O. J. Kelly,[3] in which he described a number of hypernephromata with metastases, all of which were due to extension by means of the circulation. This article is a very good one for reference, especially because it contains a very thorough bibliography of the subject.

3. Beiträge zur pathologischen Anatomie, vol. xxiii, 1898, p. 280.

2. *Extension Through the Lymphatics.*—This method is seldom chosen by hypernephromata. Most of our authors do not even refer to it. In an article on the subject by Thorndike and Cunningham,[4] they say that these tumors "do not involve the lymphatic channels." Although it may be true that such a method is rare, it can not, however, be doubted but that such may and does occur. When any tumor gradually infiltrates surrounding tissue, the tumor cells necessarily pass in the direction of least resistance, which means that they spread principally along the lymphatic spaces. Hypernephromata frequently present this infiltrating character. Again, there is no doubt but that metastases through the lymphatic vessels do occur. Le Count has described a case (*loc. cit.*) in which the glands of the left inguinal region were involved by this tumor process. The extension in this case was in all probability through the lymphatics. Of more significance is Case 5, reported in this paper. In this case there was a marked involvement of the retroperitoneal glands.

Dr. F. J. Hall, Kansas City, Mo., who has been collecting the records of a large number of cases of hypernephromata has a record of one in which there was a recurrence of a hypernephroma in bronchial lymph nodes, and which was discovered at autopsy. Ten years before the right kidney containing a tumor formation was removed. During the operation the right pleural cavity was opened. Patient remained well until August, 1902, when he died of abscess of the lung. At autopsy a tumor about the size of a hen's egg, and involving the peribronchial lymph nodes, was found at the bifurcation of the trachea. Both bronchial tubes had been perforated by the tumor mass, the right completely occluded. On microscopic examination, it was found to be a hypernephroma. It is presumed that the right pleural cavity was infected with tumor cells ten years before, and that these cells had been carried to the lymph glands when they localized and formed a tumor process.

This method of extension is, however, of rather rare occurrence, by reason of which hypernephromata resemble sarcoma more than carcinoma.

IMPLANTATION.

1. *Within the Peritoneal Cavity.*—It is a well-known fact that particles of friable tumors growing in the peritoneal cavity, such as carcinoma or sarcoma of the uterus or papilloma of the ovary or an ovarian cyst, may be separated from the principal mass, and be carried about the peritoneal cavity through the movements of the intestinal tract and then by implantation lead to a secondary tumor formation. This same method of extension may characterize hypernephromata when once they extend into the peritoneal cavity. As an example of such, we refer to Case 2, previously reported. In this case it will be remembered that there were a number of small nodules attached to the serosa of the small intestines. The presence of such nodules need not necessarily signify that they were the result of implantation, since they might be simply metastatic formations through the circulation. In differentiating between the two, we would say that if these nodules on the intestine were covered by the serosa, then they would indicate metastatic formations through the circulation; whereas, if it was found that the serosa is quite intact and lying beneath the nodule, then we would consider the secondary formations due to implantation. Both of these conditions were found in the case reported.

2. *Implantation Along the Urinary Tract.*—Occasionally there are cases of secondary tumor formations in some part of the urinary tract, such as the bladder, resulting from the implantation of particles of tumor substance which have been broken from some primary tumor existing somewhere in the upper part of the urinary tract, such as the kidney. We have no knowledge of any case of hypernephroma manifesting itself in this manner, yet we can readily conceive of the possibility of such, since the pelvis of the kidney and the ureters are frequently involved in this neoplastic process.

CHARACTERISTICS OF THE SECONDARY MANIFESTATIONS OF HYPERNEPHROMATA.

Gross.—The secondary tumor formations present the same gross characteristics as the primary, and are usually readily recognized by their yellowish pigmented foci, with here and there red areas of hemorrhage and grayish-yellow masses of necrotic tissue.

Microscopic.—It is a well-recognized fact that the metastatic formations of malignant tumor have the same histologic characteristics as those of the primary growths. The metastatic formations of a round-cell sarcoma consist of round cells. A cylindric-celled epithelioma will lead to secondary formations of a similar structure, although it is true that the arrangement of the different elements may be somewhat modified by the structure and consistency of the organ involved.

As already stated, there are two kinds of hypernephromata, if we choose to classify them according to the part of the suprarenal gland which they reproduce. 1. What may be termed "cortical hypernephroma," one which reproduces the cortical substance of the adrenal. 2. A "medullary" hypernephromata, one which reproduces the medullary portion.

We would, therefore, expect to find that whatever may be the nature of the primary tumor, so also would be the structure of the secondary, and that if the primary is a mixed tumor, reproducing in part the cortical substance and in part the medullary, the secondary formations would be of the same character. This was found to be true in all of our specimens, and there are, perhaps, but very few exceptions. J. C. Ohlmacher,[5] however, refers to a malignant medullary hypernephroma about the size of an orange growing from the superior extremity of the left kidney, which encroached on the renal substance to occupy the upper two-thirds. It had also extended into the pelvis of the kidney so as to nearly obliterate it, and had invaded the renal vein. Metastatic formations later appeared in the left temporal bone, right side of the neck, left axilla, right abdominal wall, and beneath the line of incision in the lumbar region. On microscopic examination, it was found to be a medullary hypernephroma, although here and there islands of cells from the adrenal cortex were found lying among the medullary cell groups and within the veins of blood sinuses. On examining the portion of the growth which had involved the renal vein, it was found, strange to say, that it was composed entirely of cortical cells. This suggested, of course, that the metastatic formations through the venous system should be composed entirely of adrenal cortex cells. Unfortunately, permission to hold an autopsy could not be obtained.

REMARKS.

The origin and true nature of hypernephromata has

4. Boston Medical and Surgical Journal, vol. cxlix, No. 23, p. 611.

5. Journal of Medical Research, vol. vii, No. 4, 1902, p. 421.

brought forth a great deal of study and discussion. For a long time these peculiar tumor formations usually growing from the kidney, were classified with lipomata, adenomata, sarcomata, etc. In 1883, Grawitz, after a great deal of careful study, announced that they were of adrenal origin. At first, many pathologists took exception to Grawitz's view. The careful and extensive microscopic examinations have, however, practically convinced all of the correctness of his theory. Their origin from adrenal structure has been further substantiated by chemical examinations.[6]

In our study of the secondary growths of hypernephromata, we have been able to verify most of the statement made by Croftan concerning the chemical diagnosis of this tumor process.

There are some who maintain that hypernephromata should be classified either with sarcomata or carcinomata. According to their structure, they can be classified with neither, although it is true that some of them resemble the one and some the other.

Until we have more definite information as to the exact origin of the adrenal body, we can not classify them with either of the above from the standpoint of histogenesis. Clinically, they resemble sarcomata, in that they are very vascular and frequently lead to hemorrhage, and in that metastasis occur most commonly through the blood vessels. As tumor formations, however, we prefer to classify them in a group by themselves.

DISCUSSION.

DR. W. G. MACCALLUM, Baltimore—We have had a number of cases of this sort, showing the same type of metastasis. I think we can all agree that such tumors rise sometimes from the cortical portion, sometimes from the medullary portion. I would like to ask whether Dr. Bierring has made any investigations into the presence in his cases of the chromophile reaction spoken of by Kohn, which is present in the medullary cells in the adrenal. I think that I can agree with him as to the more frequent metastasis by way of the blood vessels also, but I do not regard the numerous secondary growths in the liver as best explained by a retrograde embolism. A case occurred recently at the Johns Hopkins Hospital in which there were no changes in the lungs whatever, but there were nodules in the liver in such number that almost its whole volume was occupied by them and it would be very difficult to explain such a transportation of cells into the uttermost parts of the liver by a retrograde embolism. It seems to me more plausible that the small masses of the tumor cells had gone through the capillaries of the lungs. We must usually think of the tumor cells as slipping through almost as readily as the larger cells of the blood; otherwise I think we can rely on the explanation given by Benno Schmidt, in which he brings out the fact that while tumor masses present in the capillaries of the lungs often produce no effects there, they may nevertheless give rise to further transportation of cells and set up the formation of nodules elsewhere.

DR. WILLIAM ROYAL STOKES, Baltimore—This method of preparing specimens seems such a striking one for class demonstration that I would like to ask Dr. Bierring if he can tell us just how he prepares these specimens.

DR. WALTER L. BIERRING—The method is as follows: Dissolve one ounce of gelatin in eight ounces of water by heating in hot water bath, after which add the white of one egg to clarify; filter and add eight ounces of glycerin; just before using add formalin to make 2 per cent. solution and imbed specimen in the same, in a large Petri dish. After the mixture hardens the edges are sealed with paraffin. The microscopic section is mounted on the cover in Canada balsam. In answer to Dr. MacCallum I will say that in one case the chromophile reaction test was made with a positive result. In the other cases it was not made. We usually made the chemical tests first described by Croftan. With reference to the secondary metastases in the liver, I agree with Dr. MacCallum, that it seems more natural, probably, that they do take place by way of the general circulation, but in the one case there was an absence of secondaries in the lungs and such an involvement of the renal vein and of the hepatic vein that we concluded it illustrated more a method of retrograde embolism rather than a metastasis by way of the systemic circulation.

DR. FRANK B. WYNN, Indianapolis—I have not had the good fortune of Dr. Bierring and some of the others in having seen any of these growths at necropsy. I have, however, during the past year, collected a series of adrenal tumors from the ox that have been instructive to me, and in connection with those observations I want to make reference to the fact of the extreme frequency of supernumerary adrenals in the lower animals, notably the ox. A very intelligent inspector of one of our large establishments found that I was interested in the question of conditions of the adrenals, so whenever he found an adrenal gland of the ox that he suspected to have anything wrong with it, he saved it. The result is that during the past year I have obtained some fourteen tumors of the adrenals. The striking thing, however, which is pertinent in the discussion of the paper before us, is the extreme frequency of the supernumerary adrenals in the ox. You can go any day into a large establishment where cattle are slaughtered and find an adrenal gland with a supernumerary attached to it, sometimes attached by a fibrous band of considerable length, half an inch or more. Reasoning by analogy, it would seem probable that, if the same number of human beings were examined carefully, we might find supernumerary adrenals frequently in the human subject also. It should not be forgotten that these bodies are difficult to dissect out and may be easily overlooked. If we take it for granted that they are more frequent in the human being than commonly supposed, we can understand how that might readily explain the frequency with which hypernephromata develop.

DR. JOSEPH MCFARLAND, Philadelphia—I can scarcely imagine that supernumerary adrenals are so frequent in the human kidneys as in bulls. I have rather carefully examined the adrenals of all the autopsies that I have made, amounting to probably over a thousand, and I have never seen a distinct supernumerary adrenal body in man.

DR. W. M. L. COPLIN, Philadelphia—My experience with ectopic adrenal tissue and hypernephromata must be rather unique. We have looked carefully for the tumors of this kind, but our record of 2,600 laboratory examinations contains but few instances. I could not say just at this moment how many of these examinations are of neoplasms of the kidney. In all that number (and many of the reports include autopsies) there are records of but five tumors of this group and two of them are from old specimens that have long been in the museum or in the anatomic collection of the college. I do not think that ectopia of the adrenal tissue is so very common in man as would be indicated by some of the observations recorded today. Then, again, many times atypical or ectopic tissue may be extremely difficult to identify. Some of you may recall that a year or so ago Dr. Radasch reported an instance of ectopia of the adrenal and collated the cases reported up to that time. In a case referred to by Dr. Radasch, I confess that, with the specimen before me, I had some hesitancy in deciding that it contained adrenal tissue; the microscope showed that it did. There are two other points to which I would like to call attention: First, the possibility of hepatic metastases resulting from the entrance of cellular masses to the portal circulation rather than through the pulmonary. It seems to me rather odd that in these cases we should get a growth involving the liver and missing the lung and organs of the systemic circulation except the liver. Is it not possible that the portal circulation may receive an aberrant or collateral blood supply? In some instances there may come to the liver, through some abnormal circulatory connection with the adrenal, a possible source of infection that is not present in the ordinary run of cases.

6. A. C. Croftan: THE JOURNAL A. M. A., Jan. 10, 1903.

There is another point with regard to the relation of the peritoneum to implantation and hematogenous infections. A few years ago I observed a rather extraordinary specimen of carcinomatosis in which there had been widespread hematogenous dissemination of the growth. In that case there were pearly masses of neoplastic tissue in the lung and on the surface of the pleura; one could see very readily that even the small groups of cells quickly passed through the thin serosa; so that while the passing of the peritoneum over the growth would be quite conclusive evidence that infection was lymphogenous or hematogenous, the absence of serosa over the nodule would not be proof of implantation. Within the last two years I exhibited before the Philadelphia Pathological Society an extraordinary instance of metastasis of mammary carcinoma. In that case many of the masses would be found with branching fragments of the serosa running directly into the nodule. There were many of them small, not larger than a pinhead and even not elevated. A microscopic examination would show that the serosa entered the periphery of the nodule in a fragmentary way. In the extension of both carcinoma and sarcoma from one serosa to another, from the peritoneum to the pleura, or the reverse, or to the pericardium, or the reverse —the plugs of neoplastic cells may pass directly through the communicating lymph channels which recently have been studied most carefully by Kütner; in such cases the extension is directly through, the neoplasm appearing on the surface of the two serosæ like a collar button, the shank of which corresponds to the intradiaphragmatic part of the growth and on either side is the new tissue covered by the serosa.

THE CHARACTER OF CHROMATOPHORES.*

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In regard to the origin of the cell masses characteristic of pigmented moles and in regard to the origin of the melanotic tumors of the skin, different views are still held. A number of pathologists believe in the epithelial origin of nevi and of melanotic tumors; others assume a mesodermal origin. The latter view is especially represented in the work of Ribbert.[1] He believes the melanotic tumors to be composed of in part modified chromatophores. All chromatophores he regards as of common mesoblastic origin, in accordance with the previously formulated theory of Ehrmann.[2] In view of this divergence of opinion, it might not be without interest to inquire what the actual stand of our present knowledge of the chromatophores is, and if it supports the view of Ehrmann and Ribbert. Without attempting to give a complete review of the literature on this subject, I shall limit myself to a brief résumé of the more important results obtained and of some of the problems still to be solved, mainly considering here the chromatophores found in the skin of vertebrates.

They may be found in the epidermis, as well as in the cutis of different classes of animals. The situation, size, number and ramification of processes of the chromatophores vary in different animals. In the cutis of the frog, e. g., there is usually a well-marked layer of chromatophores, which are generally much larger and frequently more branched than the epidermal chromatophores, whereas the guinea-pig cutis has no well-developed cells of this kind, and its pigment is distributed irregularly in masses or clumps; sometimes only small granules are found. The dermal chromatophores of the frog are separated from the epidermis by considerable connective tissue and the epidermal chromatophores are usually situated higher up in the epidermis than is the case in the guinea-pig. Different classes of animals and different structures show typical differences in regard to their chromatophores.

Let us consider if chromatophores, which frequently have a relatively small cell body and an extremely large number of irregularly drawn out ramifications, are cell entities or not. This has been denied by Schwalbe, who believed that the branched processes of chromatophores are nothing but the interstices between the epithelial cells, filled with pigment. It was also denied by Kromayer, who interpreted the ramifications of chromatophores as parts of protoplasm, belonging to a number of epithelial cells. The epithelial fibrillæ may extend continuously through several cells. This may be especially marked during certain stages of the regeneration of the skin. Kromayer believed the pigment to be derived from such fibrillæ. That chromatophores with their ramifications correspond to individual cells becomes, however, clear, if we study the regeneration of the pigmented guinea-pig skin. There the chromatophores appear first as a kind of ameboid cells, not yet very much pigmented. Under these conditions it can be seen that the processes are extensions of the protoplasm of one epithelial cell.

If, then, the chromatophores are cells, what kind of cells are they? Let us consider the chromatophores of the epidermis. The former view held by Aebi and others that they are ordinary leucocytes or connective tissue cells which migrated into the epidermis has been entirely abandoned. At present it is a question whether they are of epithelial origin or a specific variety of mesodermal cells growing from the cutis into the epidermis, or distributing their pigment from the cutis into the epidermis. The origin of chromatophores in developing skin has among others been traced in the larvæ of the frog by Kodis,[3] and in the developing feather by Post[4] and Strong.[5] They found epithelial cells gradually taking on the character of chromatophores. In mammals, only recently Maurer[6] described the first appearance of pigment in the skin in typical epidermal cells. Indeed, if we examine specimens of a developing feather, there can be no doubt that the chromatophores are transformed epithelial cells. In a similar way the chromatophores of the regenerating skin of the guinea-pig have at first a distinctly epithelial character. We see here clearly that the epidermal chromatophores regenerate in conjunction with the other epithelial cells. We find mitoses in chromatophores mainly at such places where other nearby epithelial cells divide mitotically. The same stimulus affects both kinds of cells in the same manner. The regenerating epidermis carries at a certain stage its pigment almost exclusively in chromatophores. Gradually the other epithelial cells become pigmented; the cutis beneath the regenerating epithelium receives its pigment later than the regenerating epidermis; an ingrowth of mesodermal cells into the epidermis can with certainty be excluded.

Similar conditions are found in the regenerating skin

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. Ribbert: Lehrbuch der allgemeinen Pathologie, Leipsig, 1901.
2. Ehrmann: Bibliotheca Medica Kassel, 1896.
3. Kodis: Epith. u. Wanderzelle in der Hautdes Frowhlarvenschwanzes, Archiv f. Anatomie u. Physiol., 1889.
4. Post: Ueber normale u. pathol. Pigmentierung der oberhautgebilde, Virchow's Archiv, vol. cxxxv.
5. R. M. Strong: The Development of Color in the Definite Feather, Bull. Mus. Comp. Zool., vol. xl, 1902.
6. Maurer: Die Epidermis und ihre Abkömmlinge, Leipsig, 1895, and Festschrift f. Haeckel, Jena, 1904.

of frogs. The chromatophores in the regenerating skin are epithelial cells, which regenerate simultaneously with other epithelial cells. They divide mitotically, where and when ordinary epithelial cells divide by mitosis. In the first two weeks of regeneration they frequently lose their processes and have thus the appearance of highly pigmented epithelial cells which are often pushed into the upper rows of the thickened regenerating epidermis, and are then cast off with the other cells. In this case, too, the corium beneath the regenerating epithelium is for a long while entirely devoid of pigment cells and an immigration of dermal cells into the epidermis can be excluded. During mitosis the arrangement of the pigment in guinea-pigs and frogs is similar to the distribution of the pigment in ordinary pigmented epithelial cells; we find it in a concentric layer around the chromosomes. Chromosomes and pigment are separated by a light zone. The chromatophores, however, contain more pigment than the ordinary dividing epithelial cell. The processes may be present or may have disappeared during mitosis. In one respect, however, the regenerating skin of the frog differs markedly from the regenerating guinea-pig skin. The latter shows a great regularity in the casting off of the old pigment and in the formation of new pigment. Distinct periods can be distinguished during this process. The skin of the frog is entirely devoid of such a regularity.

A question of some interest is, if during regenerative processes in the adult skin, chromatophores are newly formed from ordinary epidermal cells. I am inclined to believe it, because in transplanted black skin of the guinea-pig there exists a period when almost all pigment has disappeared and only a number of chromatophores can be found which are slightly pigmented and have relatively small processes. It is not unlikely that they represent ordinary epithelial cells in the process of transformation into chromatophores, though it is difficult to give the actual proof of such a new formation.

If, then, the epidermal chromatophores are of epithelial origin, what is the origin of the dermal chromatophores? It is usually assumed that they are modified connective tissue cells. Kromayer believes that they are also derived from the epithelium. Such an origin has lately been made very probable in the case of the chromatophores of the choroid which Lewis found to be derived from the pigmented epithelial cells of the optic cup.

In the regenerating frog-skin I observed repeatedly that the epithelial chromatophores may be pushed into the underlying coagulum, under conditions in which the reverse process, namely, an ascending movement of dermal chromatophores into the epidermis, could be with certainty excluded. The possibility of an epithelial origin of the dermal chromatophores is also suggested through Maurer's[6] investigations in the formation of the cutis in amphibia. The question, however, can not as yet be regarded as decided. Whatever origin the dermal chromatophores may have, it is certain that during regeneration of the frog-skin they behave very differently from the epidermal chromatophores. The latter cover the wound very soon, moving with the regenerating epithelium, while the former seem to be extremely inert; chromatophores do not appear in the cutis until after two or three weeks, though regeneration begins here at the end of five days. In fact, the subepidermal part of the wound is filled with connective tissue before any chromatophores are to be seen in it. The chromatophores of the dermis were not yet regularly arranged at the end of thirty-four days. They were missing at some places and at other points they were situated deeper than is the case normally. They appear occasionally in increased numbers at the margin of the wound. In a similar way the pigment of the cutis of the regenerating skin of the guinea-pig appears later than that of the epidermis, as was mentioned above.

If the epidermal chromatophores originate in the epidermis, it might nevertheless be possible that the epidermal pigment is carried into the epidermis through the chromatophores of the cutis. This, however, can be excluded, because in various classes of vertebrates the first pigment was found in the epithelium, and not in the cutis.

One more question remains to be considered. What are the relations of the epidermal chromatophores to the other epithelial cells? Pigment can originate in ordinary epithelial cells. The retinal pigment is an instance. According to Schwalbe, during the change of hair of Putorius erminea chromatophores can not be found in any epithelial or connective tissue structure. In this case the pigment is found in ordinary epithelial cells. On the other hand, there exists a great probability that in some other cases the epidermal chromatophores do actually transfer the pigment granules or rods to other epithelial cells. This seems to take place in the feathers of some birds. There the pigment is at first only found in chromatophores which send out long processes. These processes come in contact with epithelial cells which may be situated very far from the cell-body of the chromatophore. These cells become now gradually pigmented, the pigment being located around the cell nucleus on the side toward the process of the chromatophore. In the skin of the frog or of the guinea-pig it is not possible to see similar clear connections between the function of the chromatophores and the pigmentation of ordinary epithelial cells. During regeneration and transplantation of the pigmented skin of the guinea-pig there is a period when the old pigment and most of the old epithelial cells have been cast off. Simultaneously with the new basal pigment there appear only slightly pigmented chromatophores. It is very difficult to decide if the first basal pigment appears only in chromatophores or also in ordinary basal epithelial cells. Very soon, however, the epithelial cells contain pigment also at a time when the chromatophores are yet very little pigmented. Under these conditions it appears not likely that the chromatophores provide the pigment of the other epithelial cells. Furthermore, the basal epithelial cells contain pigment around the whole periphery of the nucleus; the pigment of all other epithelial cells is found only at the outer side of the nucleus toward the horny layer. The pigment is arranged in a similar way in the cells of the feathers, where, in all probability, the pigment is carried into the cells through the chromatophores. The fact that the basal cells show a different distribution of the pigment seems to me to point to the conclusion that the pigment originates here, just as well as in the chromatophores, which have also a basal situation. This view seems to be supported by the fact that pigment is located around the nucleus. From Arnold's investigations it appears as though just at this place synthetic processes, as, e. g., the formation of fat, would take place. At least here are the first fat droplets to be found. Lillie showed that at the same place oxydative processes do probably take place. As we shall see presently, it is likely that oxydative processes play an important part in the formation of the pigment of the skin. It

might, therefore, be suggested that here pigment is formed through the metabolic processes of the cell, if it were not for the fact mentioned above, that a similar position of the pigment at one side of the nucleus is to be found in cells which very probably do not produce the pigment, but receive it from other sources. How these two apparently opposing facts can be reconciled will have to be determined by further investigations. We may, however, state that, with great probability, the relations of the chromatophores to the ordinary epithelial cells is somewhat different in different classes of animals.

The pigment originates in the epidermis, and the production of melanin is a peculiarity of certain epithelial cells which preserve this function if they are transplanted to a place where formerly non-pigmented cells were present. The melanin in the chromatophores is probably derived from the proteid substances of the cell and is very likely not directly produced from a derivative of the hemoglobin for the following reasons:

1. The sulphur content of the melanin is very large.[7]

2. From the melanin decomposition products can be obtained similar to the ones obtained from the melanoidins, which themselves can be produced with the aid of acids from proteid substances.

3. Tyrosin, a radical, present in cell proteids, can, with the aid of an oxydative ferment tyrosinase, be transformed into substances similar to the melanin of sepia, and similar, probably, to the melanins of vertebrates. It is, therefore, not unlikely that the production of the pigment of the chromatophores is due to a fermentation causing oxydative and condensation processes in certain decomposition products of cell proteids.[8]

That the presence of chromatophores and of pigment in the cells is not without consequences is shown by the difference in the regenerative power of the white and pigmented skin of the guinea-pig after transplantation. Whether this difference is due to the different degree of absorption of light, and perhaps of other rays, is yet to be investigated. The theory that all chromatophores are derived from one specialized kind of mesodermal cell, the melanoblasts, I believe I have shown to be without foundation.[9]

DIABETES MELLITUS.

REPORT ON A CASE, INCLUDING A NEW METHOD OF PROGNOSIS.*

(From the Physiological Laboratory of the University and Bellevue Hospital Medical College.)

ARTHUR R. MANDEL,

Louis C. Tiffany Research Fellow in Physiology.

AND

GRAHAM LUSK,

NEW YORK CITY.

A diabetic patient with a low acidosis and with no trace of albumin in the urine, when put on a meat fat diet, showed a constant ratio of dextrose to nitrogen in the urine. The ratio was Dextrose: Nitrogen=3.65:1, and is the same as that found in dogs made diabetic with phlorhizin. This ratio was uninfluenced by fat digestion or by fat metabolism. The sugar was, therefore, derived from proteid alone, and rose and fell with the proteid metabolism as indicated by the amount of urinary nitrogen. The patient died five weeks later.

There was apparently a complete intolerance for carbohydrates.; 85 per cent. of starch and 80 per cent. of levulose fed were excreted as sugar in the urine. Withdrawal of the carbohydrates from the diet and the continuance of the same proteid-fat quantity in the food had no effect on the excretion of nitrogen in the urine, which indicates a complete intolerance for carbohydrates.

A sufficient quantity of meat and fat for the body's needs was readily assimilated. Only 4 per cent. of the available energy of the food appeared in the feces.

The urea elimination was normal. The sulphate excretion ran normally proportional to the proteid metabolism. The phosphates ran abnormally high, as is usual in diabetes.

The above research, when considered in the light of other work to be found in the literature, enables us to formulate a new clinical method of prognosis in diabetes, using the D:N ratio for this purpose.

The procedure is as follows: If a diabetic be put on a meat-fat diet (rich cream, meat, butter and eggs), and the twenty-four-hour urine of the second day be properly collected,[1] the discovery of 3.65 grams of dextrose to 1 gram of nitrogen signifies a complete intolerance for carbohydrates, and probably a quickly fatal outcome. We have called this the fatal ratio. A lower relation between dextrose and nitrogen means that some proteid sugar may be burned. Such a tolerance for sugar may be increased on a meat-fat diet, so that the D:N ratio falls, or the sugar in favorable cases may entirely disappear from the urine.

DISCUSSION.

DR. VICTOR C. VAUGHAN, Ann Arbor—This paper shows: 1, that proteid overfeeding may easily be done in diabetes; 2, that the dietary as given by von Noorden is not the proper dieting; 3, that one must estimate the total nitrogen; 4, urea determinations are not sufficient; 5, he finds here that his relation between "D" and "N" remains constant simply because they both come from the same thing. They both come from the proteid of the food, and, consequently, where one increases the other increases; when one decreases the other decreases, and the relation remains the same. Some years ago I published some dietary tables for diabetes and I have followed them ever since. The plan consists in cutting down the carbohydrates gradually, generally taking bread only, because we can estimate the amount of carbohydrate in bread easily, taking say 600 grams during the first day and cutting it down a hundred grams a day (supposing that there is about 55 per cent. of carbohydrates in wheat bread), and making good the calories not with nitrogen but with fats, and (some of you will object to this, I dare say) with alcohol. I do not believe in the general use of alcohol in medicine, but I can not treat this kind of diabetes well without alcohol. Alcohol furnishes a large number of calories and one gets no sugar. Dr. Lusk has shown that there is no reason, at least at present, for believing that any of the dextrose comes from the fats. I think we have been influenced altogether too largely in this country by von Noorden's dictum on diabetes, and I think it has done us harm.

7. Abeland Davis: Journal of Exper. Medicine, vol. i, 1896.

8. Of interest in this connection is the observation of Jacques Loeb, that the disappearance of black pigment of the yolk sac of fundulus embryons can be demonstrated if there is lack of oxygen.

9. Other references to be consulted are: L. Loeb: Untersuchungen über die physiolog. Wirkungen des Sauerstoffmangells, Pflüger's Archiv, vol. lxii. L. Loeb: Ueber Transplantation von weisser Haut auf einen Defect in schwarzer Haut u. umgekehrt am Ohr des Meerschweinchens, Arch. f. Entwickelungsmech, vol. vi, 1897. L. Loeb: The Growth of Epithelium in Agar and Blood Serum in the Living Body, Journal of Medical Research, vol. viii, 1892. L. Loeb and R. M. Strong: Regeneration of Pigmented Skin of the Frog, Amer. Jour. of Anatomy, vol. iii, 1904.

* Abstract read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. The urine should be collected so that an early morning hour (before breakfast) terminates the period for one day. This is necessary, because the sugar formed from eaten proteid is eliminated before the nitrogen belonging to the same. The long period between the evening meal and breakfast allows for the elimination of both constituents.

Dr. Winfield S. Hall, Chicago—I indorse the recommendation that Dr. Lusk has made, that these difficult cases of nutrition, the proper treatment of which necessitates more or less extensive and expensive outlay in time and apparatus involved, extensive and expensive chemical analyses day by day and week by week, perhaps, for a long period of time, should, by common consent of the medical profession, be sent to institutions thoroughly equipped for such work, namely, the larger hospitals associated with laboratories where such work can be properly done. Dr. Lusk's paper demonstrates among several other things that, in very nearly every case that can be handled in that way from the first days, the diagnosis and prognosis can be early and surely made; and then, with this accurate, day by day watching of the case there is a step by step improvement.

Dr. Graham Lusk—It is known that alcohol helps the digestion of proteids in the stomach when fat is present. I might add that this patient was put on alcohol as soon as he passed out of the laboratory. The low acidosis also enabled us to dispense with the customary administration of sodium bicarbonate, which was freely allowed after the conclusion of the experiment.

A CASE OF DARIER'S DISEASE.

PSOROSPERMOSE CUTANEE FOLLICULAIRE VEGETANTE OR KERATOSIS FOLLICULARIS (WHITE).*

DAVID LIEBERTHAL, M.D.

Professor of Skin and Venereal Diseases, Illinois Medical College; Consulting Dermatologist Lakeside Hospital; Dermatologist to the Chicago Home for Jewish Orphans; Dermatologist to the Michael Reese Hospital Clinic.

CHICAGO.

In the last fifteen years, since this affection became known under the above names, there was published in all thirty cases.[1] Cases under this heading demonstrated or published by Mansuroff, Zeleneff, Kroesing, Savill, Graham, Little, Sokoloff, Bogroff and Huber lack many essential features, and can not therefore be considered as cases of this affection.

HISTORY OF THE AUTHOR'S CASE.

Our case, which represents the thirty-first of all cases, and the sixth of the cases occurring in the United States, concerns a young man of 25, born in a small town in the south of Wisconsin. His parents are German, and claim that they do not know of any skin disease occurring in their family except the present case. They themselves have always enjoyed excellent health, as did their two daughters of 17 and 18 respectively, and their younger son of 14. The patient passed through an attack of measles in early childhood, but was otherwise well, except for accidental injuries. He was vaccinated at the age of one year, and soon afterward the first pimples were noticed on the scalp, on the face and behind the ears. They gradually and slowly increased in number until the age of 12, when they spread over the chest and back, some appearing on the arms, and very numerously on the legs. His condition grew steadily worse, especially on the legs, where three years ago the first signs of horny growths appeared. His nails became thick and broke at the free edges. Itching was scarcely noticed. He enjoyed good health, but was annoyed by the dark coloring of his face.

The patient appears strong and healthy. His hair is black, his eyes dark brown, and the whole integument rather dark. Accessible mucous membranes and internal organs normal; inguinal glands slightly enlarged. On close approach to the legs, a slight odor was perceptible. On inspection of the integument, the following symptoms were noted: The scalp showed a thick growth of healthy hairs, which appeared as if imbedded in a thick layer of dirty white brittle masses, after the removal of which the scalp looked as if worm-eaten. The face was intensely dark and greasy. The hand, on gliding over it, felt a rough surface. This roughness was caused by minute horny elevations, closely aggregated. Over the brows, around the alae of the nose and on the chin were found elevated brown papules, forming plaques. These papules were of pinhead size or slightly larger, the greater number of these showing a central horny mass.

The ciliary margins of the upper eyelids were beset with sparse horny nodules pierced by ciliæ, resembling ciliary blepharitis. Behind the ears, in close proximity to the insertion of the auricles, there were located dark, almost black, tumor-like formations, fissured in different directions resembling papillomatous growths. These plaques were composed of numerous coalescing papules, with central horny plugs.

On the nape of the neck, along the hair line, on the back in the suprascapular regions and along the spine, as well as over the sternum, numerous densely arranged papules of sizes to that of a split pea were found. They were either of the color of the surrounding skin, or yellow or brown, containing a central horny plug, which latter could with difficulty be pressed out, leaving behind a crater-like opening, the base and margins of which looked as if torn. Nowhere was there found a pink or red areola around the papules. Intermingled with the papules were comedones.

Other parts of the trunk showed scanty single lesions of the above-described type, but the axillæ and inguinal regions were free.

The upper extremities showed here and there a scattered lesion. The dorsa of the hands and of the fingers

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

1. The following is a list of these thirty cases:

1. Darier et Thibault: Annales de Dermatologie, July, 1889, and Thèse de Paris, 1889.
2. Darier: International Dermatological Congress, Paris, 1889. (These two cases were subsequently published in the International Atlas of Rare Skin Diseases, Part 8, 1892, ii.)
3-4. White: Journal of Cutaneous Diseases, June, 1889, and January, 1890.
5-8. Boeck: Archiv f. Dermatologie, vol. xxiii, p. 857, 1891.
9. Lustgarten: Journal of Cutaneous Diseases, January, 1891.
10. Buzzi and Miethke: Monatschefte f. Dermatologie, vol. xii, p. 9, 1891.
11. Boeck: Second International Dermatological Congress, 1892. Ref. Archiv f. Dermat., vol. xxiv, p. 1000.
12. Schwimmer: Archiv f. Dermat., vol. xxiv; Ergänzungsheft, p. 76, 1892.
13. De Amicis: Second Internat. Dermat. Congress, 1892.
14. Schweninger und Buzzi: International Atlas, Part 8, 1892. ii. (One of these two herein published was previously reported by Buzzi and Miethke, under 10.)
15-16. Pawloff: Archiv f. Dermat., vol. xxv. Ergänzungsheft, p. 195, 1893.
17. Fabry: Archiv f. Dermat., vol. xxvi, p. 373, 1894.
18. Mourek: Ibid., vol. xxvii, p. 361, 1894.
19. Jarish: Ibid., vol. xxxi, p. 163, 1895.
20. Neumann: Wiener klin. Wochenschrift, No. 3, 1896.
21. Bowen: Journal of Cutaneous Diseases, June, 1896.
22. Hallopeau et Darier: Annales de Dermatologie, 1896, pp. 737-742.
23. Bowen: Ibid., 1898, p. 6.
24. Melle: Giornale Ital. delle Malattie, etc., 1898, p. 365. Ref. Annales, p. 506, 1899.
25. Jacobi: Verhandl. d. Deutschen dermat. Gesellschaft, VI Congress, p. 406, 1898.
26. Caspary: Festschrift, Kaposi, p. 199, 1900.
27. Ehrmann: Wiener med. Presse, No. 46, 1901.
28. Hallopeau et Fouquet: Annales, p. 228, 1902.
29. Schwab: Inaugural Dissertation, Freiburg i. Breisgau. Ref. Annales, p. 627, 1903. (This case seems to be identical to that of Jacobi.)
30. Weldenfeld: Archiv f. Dermat., vol. lxiv, p. 275, 1903.

were covered with numerous flat warts, and the nails showed longitudinal striation, and were split at their free margins. The genitals and circumanal regions were free from the affection.

The lower extremities, down to and including the aspects of the knee joints, showed scanty lesions, while below the knees, encircling the tibiæ, were irregularly-shaped, uneven, warty, tumor-like masses, yellowish-brown in color, some of them covered by firmly adherent crusts, which were loosened at their margins, thus exposing a red oozing basis. The attempt to lift the crusts reminded one very vividly of an attempt to lift the thick, rough bark from a tree when that bark is loosened at the edges.

Within the lesions there appeared crater-like openings in the rounded elevations, which resembled those on the trunk, but were larger. On the anterior aspect of the left tibia, from a thick, hard crust there emerged a form resembling a cornu cutaneum.

Between these large plaques, and around them, were scattered small papular lesions. The dorsa of the feet and the posterior aspects of the external malleoli were covered with numerous flat, small warts. The nails of the toes showed no abnormal condition. It is necessary

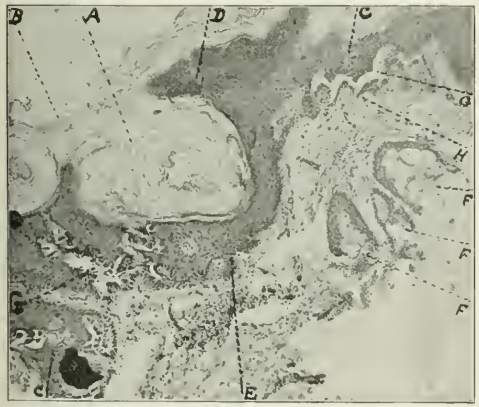


Fig. 1.—Magnified 150 times. A. Heart-shaped, horny plug in hair follicle. B. Granules of eleidin. C. "Corps ronds." D Thickened stratum granulosum. E. The rete forming a broad band (under a horny plug), and a corresponding flattening of the underlying papillæ. F. Sebaceous glands. G. Fissures or lacunæ in the rete. H. A few layers of rete covering the papillæ beneath lacunæ.

to add that the solitary papules everywhere were quite firm to the touch, while the above-mentioned aggregations over the eyebrows, in the naso-genial furrows, on the chin and behind the ears were comparatively soft and greasy to the touch. A plug squeezed out from one of the papules, examined in aqua ammoniæ showed a number of epithelial cells, most of them containing a nucleus and bodies which, as the so-called "grains," will be considered later.

HISTOLOGY OF THE TISSUES.

For examination, a number of papular lesions from the back and a piece of papilloma-like mass from behind the ear were excised, fixed in Mueller's fluid plus formalin and imbedded in paraffin. The sections were stained in hematoxylin, eosin, carmin, Unna's alkaline methylene blue and other solutions.

The horny layer, thickened as a whole, shows nodulations which represent horny plugs. These are mostly confined to the upper part of the hair follicles, and consist of densely-arranged lamellæ, or a horny network. These plugs are frequently heart-shaped and constricted at the upper part, where they are grasped by the surrounding epidermis, as a precious stone is held in its setting (Buzzi and Miethke) (Fig. 1, A). In the ducts of some of the sweat glands a dense horny peg is found reaching down to the level of the granular layer. There are horny plugs to be found independent of both these appendages, especially in sections of the papilloma-like formations, but the plugs confined to hair follicles are in the majority. In the upper strata of many plugs are granules of cleidin (Fig. 1, B), while in the deepest layers of densely lamellated ones numerous so-called "grains" are noted. The same are found at the bottom of plugs in certain ducts of the sweat glands. The stratum granulosum surrounding these plugs, especially at their upper portion, is thickened (Fig. 1, D), but is entirely wanting beneath most plugs showing grains. The rete shows various conditions. In some places, beneath the plugs, it forms a broad band with an inferior convex

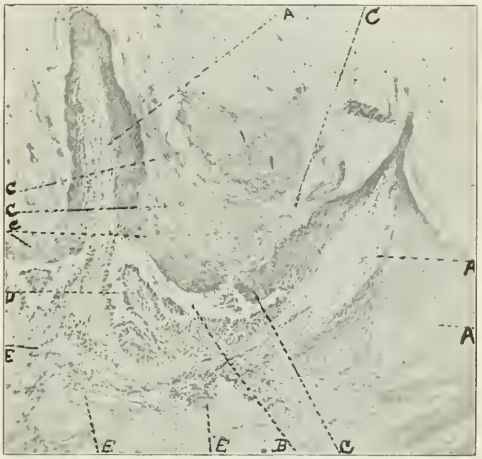


Fig. 2. Magnified 150 times. A. Elongated papillæ. B. Gap or lacuna in the rete. C. "Corps ronds." D. Club-shaped papilla covered by two lowermost layers of the rete. E. Infiltration.

border (Fig. 1, E), with nearly a complete absence of interpapillary processes. There is correspondingly a total flattening of the papillary body.

At the sides of many of the plugs the rete projects with considerably elongated processes into the corium. In other places beneath the plugs the rete is reduced to a few rows of cells, being thus atrophied. The cells of the rete under the plugs have undergone considerable changes, showing vacuolation, and having lost, in the lower portion of this layer, their intercellular union. For that reason gaps or fissures are seen separating two, or at most three, lower layers from the rest of the rete. (Fig. 1, G; Fig. 2, B; Fig. 3, C.) These latter layers (Fig. 1, H, and Fig. 2, D) cover closely the underlying papillæ and are for the most part in a normal condition.

In some places, where long plugs have fallen out, the cavity communicates directly with the aforesaid clefts in the rete. Throughout the rete are found numerous "corps ronds," one form of Darier's so-called pseu-

sperms. These show various sizes, and are by far larger than normal rete cells. They contain a nucleus which is surrounded by a translucent zone, separating it from a granular coat of protoplasm. The whole is enveloped in a transparent membrane which, in the smaller forms, is doubly contoured. These bodies (Figs. 1, 2 and 3) are found throughout the rete, but most numerously near the lacunæ or gaps, and near and within the stratum granulosum. Their size diminishes the further up they are situated, which is due to the transparent membrane becoming thinner, as well as to the diminution of the enclosure. In the stratum granulosum some of these cells have lost their membrane, and appear shrunken and homogeneous, with a faintly stained nucleus. These round or oval bodies represent the "grains," the second form of Darier's psorosperms. The "grains" found in the plugs show the same characteristics.

In some places of the rete, especially in the middle layers, some "corps ronds" are surrounded by flattened cells (Fig. 3, A), which look as if compressed. In a few places two or three "corps ronds" are united, and the translucent membrane is flattened at the site of juncture. (Fig. 3, B.) The cells of the rete, at its lower portion, show a large mass of finely granular pigment. The corium does

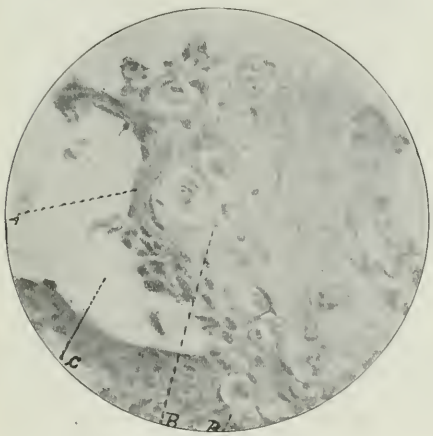


Fig. 3.—Magnified 500 times. Shows very numerous "corps ronds" near the gap C in the rete. A. Flattened epithelial cells surrounding "corps ronds." B. Flattening of the membranes of "corps ronds" situated in close proximity.

not show very marked changes. The elastic network is normal, and there are found foci of infiltration (Fig. 2, E), which consist of round cells, some plasma and a few mast cells. An eosinophilic cell was also occasionally found. The papillæ beneath certain plugs are totally flattened (Fig. 1, E); under others they appear club-shaped (Fig. 2, D), while at the sides of the plugs they are elongated. Especially is this so in the lesions presenting plaques, where they are very considerably elongated (Fig. 2, A), and, together with the proliferation of the rete, present a picture quite similar to that found in true papilloma.

The sebaceous and sweat glands appear normal, except that the ducts of the sweat glands occasionally contain plugs. Thus the clinical as well as the histologic conditions correspond entirely to the requirements of a true case of Darier's dermatosis.

COMMENTS ON THE HISTOLOGY.

Although the "corps ronds" and "grains," the so-called psorosperms, do not represent micro-organisms, as first claimed by Darier, nevertheless credit is due him for his original work in that this malady is known as a dermatologic entity.

The first to examine thoroughly the nature of these bodies and to pronounce them as atypically cornified epithelia was Bowen, whose views were corroborated by most of the later writers, and at last accepted even by Darier.

The presence of these bodies is essential, together with the other details, to determine histologically the diagnosis, inasmuch as there are found similar conditions in other dermatoses where these bodies are absent. This fact has led some observers to class cases under this heading which do not belong to it. If we compare, for intance, sections of lichen planus hypertrophicus,[2] we encounter similar conditions. Thus we find horny plugs in follicles, in the ducts of sweat glands, and independent of both. There are also gaps in the rete, vacuolation of cells

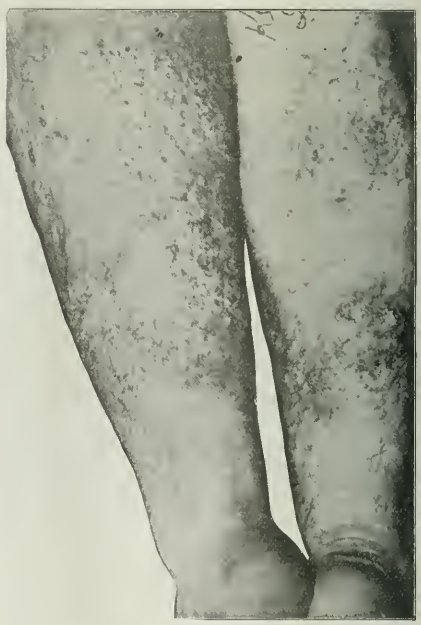


Fig. 4.—Lesions on the posterior aspect of the legs.

of the latter and a cellular infiltration of the cutis similarly arranged, but the typical bodies found in Darier's disease are absent. It is interesting to note that clinically the above mentioned form of lichen occurs in hyperkeratotic plaques, with depressions filled with horny masses.

Another interesting point to be considered is the question of the follicle being the principal seat of the affection. White, whose first case was published at about the same time as Darier's, found all the eruptions confined to the follicles, and, therefore, he called his case keratosis follicularis. In Darier's cases the same condition was found, and he therefore added to the original name the adjective "folliculaire."

White's cases were examined microscopically by Bowen, who found, in these, as well as in his own two cases, pub-

2. THE JOURNAL A. M. A., Jan. 11, 1902.

lished later, the hair follicles the favorite seat of the plugs. But various other authors found the horny plugs more frequently independent of the hair follicles, and in Buzzi's and Schweninger's cases the ducts of the sweat glands showed the majority of horny plugs.

In serial sections of papular lesions of our case the hair follicles contain most of the plugs; only here and there one is found in the sudoriferous ducts, while in the sections from the plaques the plugs occurred also independent of either structure, but the majority in the hair follicles.

Since the cells above described, the "corps ronds" and the "grains" did not prove to be micro-organisms, the original term for this affection proposed by Darier, viz., "psorospermosis," had to be abandoned. Inasmuch as hyperkeratosis and parakeratosis are main features of the process, White's name, "keratosis," could be substituted, although the adjective "follicularis" should be omitted, because in quite a number of cases published the follicles were not the favorite seat of the affection. In suggesting, therefore, a new term somewhat descriptive, embracing characteristic features, it would not seem inappropriate to add the name of Darier as well as that of White to the term "keratosis," and to call the disease "keratosis Darier-White."

Fig. 5.—Lesions on the anterior aspect of the right leg.

Notwithstanding the fact that the etiology of this affection is unknown, it seems that heredity plays a certain rôle. Thus White's two cases are represented by father and daughter. Of Boeck's first four cases, three are those of father and two sons. Mourek's case is the father of Ehrmann's case. In Jacobi's case the mother of the patient was undoubtedly afflicted with the same disease.

This dermatosis offers the greatest resistance to all treatment. The present case was treated by applications of sulphur, ichthyol, resorcin and salicylic acid, and while under treatment the condition slightly improved. The face was treated with the *x*-ray exclusively, which benefited him so far that nothing remained of the eruption, the whole face becoming perfectly smooth, but the pigmentation remained as intense as before.

Owing to a severe accident the patient had to discontinue the treatment. Three months after the last application the father reported that the face still retained the improved condition, and March 29 of this year, nearly six months after the *x*-ray was discontinued, he presented himself for further treatment. His face was now free from eruption, there were but few lesions on the temple, and the pigmentation had nearly disappeared. The effect of the *x*-ray on the other lesions will be reported in due time.

103 State Street.

DISCUSSION.

DR. MORTIMER A. MOSES, New York City—I have a case of this disease under observation at Mt. Sinai Hospital, the same case Dr. Lustgarten described some 14 years ago. In this particular case the treatment has been varied without much success. The patient has become cranky and does not submit to treatment well. We tried the *x*-ray on him once, but he claimed that he felt so weak and debilitated after the treatment that we had to desist, consequently we do not know how that agent will act. Lustgarten told me recently that he still considers the cause of the trouble coccidia and does not think it proved that it was a degeneration of the cells.

DR. A. RAVOGLI, Cincinnati—I have had several cases of the same type as those reported by Dr. Lieberthal. After a while I began to study similar formations and found the same round bodies in lichen planus and other affections, and I accepted the opinion of Unna that these round bodies are nothing else than nuclei of the epithelial cells in a state of degeneration, and probably two, one on top of the other, which accounts for their peculiar appearance.

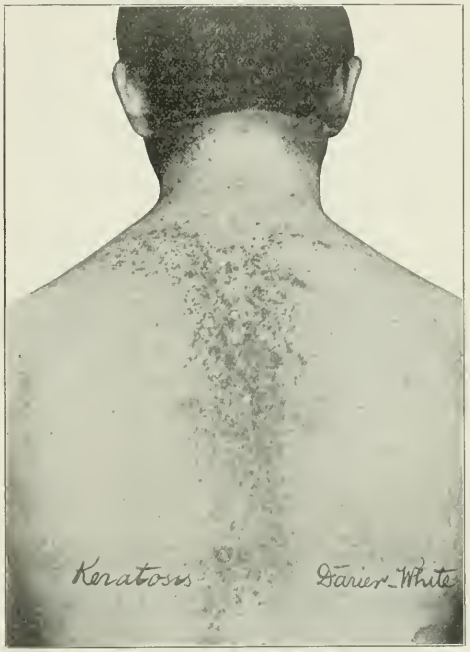


Fig. 6.—The lesions on the back.

DR. L. DUNCAN BULKLEY, New York City—I would like to ask the gentleman who spoke of the case at Mt. Sinai Hospital if it was a man about 55 years of age.

DR. MOSES—Yes, sir.

DR. BULKLEY—We have all had him under observation, and some time ago I lectured about him as a case of psorospermosis. I have had a few of these cases, and recently one, not yet published, in the Skin Hospital. She was with us for many months, nearly a year, and the interesting part I wish to speak about is the result of the *x*-rays on certain portions of the disease. She had the eruption very well marked on the forearms and around the line of the hair running up into the scalp, and has been exhibited a number of times. We all agreed as to the diagnosis. Her palms and soles became enormously affected; the soles of the feet were simply a mass of epithelial growths, forming prolongations with fissures be-

tween them, one-fourth inch in depth, and so excessively sore and painful were they that she was bedridden for a number of months, and could not step on the floor. This was before the hospital had an *x*-ray apparatus. She was treated in various ways, and time and again the whole affair was curetted out, under ether, down to raw flesh. She repeatedly asked us, "Can't I be scraped again?" It would afford her relief from distress of the feet for months. After the scraping the feet were treated with all kinds of antiseptics. I think ichthyol gave the most relief; something like a 50 per cent. solution was used, also bichlorid, permanganate of potash and various other things. From what I had seen of the *x*-ray I promised her that it would give her relief. She had a series of applications to the feet, fairly strong (I can not now tell the duration or distance), and within two or three months her feet cleared up entirely, so that she not only put on shoes and walked around the ward, but left the hospital, and comes now as an outpatient for the treatment of some portions around the face. Her feet have not troubled her since; I think she has an occasional application of the ray to the feet for prophylaxis. I have examined the feet, and the epidermis is in a normal condition, and she now has perfect comfort and satisfaction. The *x*-ray has not been applied around the face because the follicles are just in the line of the hair, but it was simply marvelous the influence exerted on the hypertrophic disease of the soles; it was beyond anything I had expected. Of course, none of us knows the reason or the method of action of the *x*-rays, but I felt that I ought to put the case on record in connection with this paper.

DR. DAVID LIEBERTHAL—I am glad to hear that Dr. Lustgarten's case is still under observation. I am aware of the fact that Dr. Lustgarten still adheres to his opinion that the "corps ronds" are micro-organisms, although it has been conclusively proven that they contain keratohyalin, and, therefore, can only be considered as epithelial cells. I am cognizant of the case of Dr. Ravogli, which was reported before the Eleventh International Congress, showing some similarity to the affection under discussion. In reply to Dr. Bulkley, the case here reported is now published for the first time.

REPORT OF A CASE OF VINCENT'S ANGINA AND STOMATITIS.*

G. C. CRANDALL, B.S., M.D.
ST. LOUIS.

This infection of the throat and mouth, as described by those who have reported cases, is characterized by a membranous, ulcerative process, quite painful, but with slight systemic reaction—the lesions, especially of the mouth, usually healing slowly; the secretion, pseudo-membrane and tissue beneath containing a fusiform bacillus associated, as a rule, with a spirillum.

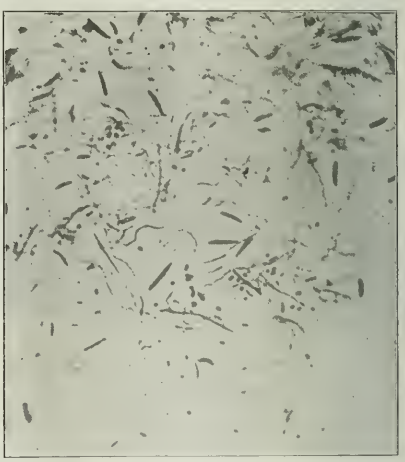
As comparatively few cases of Vincent's angina have been reported in this country, the following case will be of interest:

History.—Patient, male, single, 23 years old, medical student, family history good, always having been well except for an attack of measles and of typhoid fever some years ago. No venereal disease. He had never suffered from sore throat nor sore mouth of any kind, and his teeth were unusually good.

The first indication of the disease which he observed appeared one morning at breakfast when he noticed that swallowing hot coffee caused some pain in the region of the left tonsil. Looking at his throat he found it somewhat congested on the left side. During the following day it became gradually worse, so that the mere act of deglutition was very painful, much more, however, when swallowing anything hot; the tonsil, soft palate and uvula becoming more congested. The second day a small diphtheritic spot was observed on the upper anterior border of the left tonsil and the pain increased somewhat.

The spot was about one-fourth inch in diameter, and did not enlarge much during the six days it was present. It was covered by a grayish-white, friable pseudo-membrane, which could be easily removed, leaving a slightly depressed bleeding surface, over which membrane would again form in a few hours.

The fourth day of the disease he had a dentist clean his teeth, and the following day the disease appeared along the margin of the gums and between the teeth, the gums rapidly receding from the teeth, and the infection extended in places over the gums to the buccal surface, especially about the last molar teeth. Wherever the infection extended it had the appearance of the primary spot on the tonsil; ulceration, accumulation of pseudo-membrane, congestion of surrounding mucous membrane, bleeding of the ulcerative surface when disturbed, and pain. The bleeding of the gums was very annoying, and with the pain prevented him from eating anything which it was necessary to masticate. With the extension of the infection to the gums, the breath became very foul, due to decomposing blood and membrane about and between the teeth. This unpleasant symptom continued to some extent until the disease entirely disappeared.



Photomicrograph of bacilli and spirilli of Vincent with other organisms as seen in smear taken from gums, stained with carbol-fuchsin, magnified 1,000 times.

During the early part of the attack there was a slight increase in salivary secretion, but of no consequence. There was some swelling of the lymphatic glands near the angle of the jaw on the side where the infection first appeared; later there was slight swelling and tenderness of the lymphatics of the submaxillary region after the gums were invaded.

Throughout the course of the attack there were only slight constitutional symptoms; temperature was raised one-half to one degree during first few days, after which it was normal. The patient became somewhat debilitated because of his inability to take the usual amount of food, but continued attending his college work without missing a day. He drank liquids, and ate only bland soft food neither hot nor cold.

Treatment.—On the third day the patient began treatment, applying a 10 per cent. silver solution without apparent effect. On the fourth day the spot of the tonsil was touched with pure carbolic acid, followed by a gargle which consisted of 1 to 1,000 bichlorid in 2 per cent. carbolic solution. This relieved the throat at once, but had little effect on the

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. E. A. Bogue, Alice M. Steeves and M. L. Rhein.

infection of the gums, which later was relieved by chlorate of potash in solution, and better in the form of tablets, which patient dissolved in mouth frequently, expectorating the saliva. The tablets were used to the end of the attack. The throat symptoms cleared up in a week, but the lesions about the gums resisted treatment much longer, showing a tendency to recur, apparently because of the infection between and about the teeth which was so inaccessible to the local remedies used. While the throat was well in a week, the gums showed traces of the disease for six weeks.

Bacteriology.—A smear was made from the tonsil on the fourth day, first drying the spot with cotton to remove the mucus from the surface. This showed the bacillus of Vincent and a spirillum, the latter appearing identical with the *Spirochæta dentium* (Cohn), which is common in the mouth. Both organisms were abundant, with very few other germs present. Smears taken from the margin of the gums showed both organisms, but with numerous other organisms from the decomposing material about the teeth.

The organisms stained readily with carbolic fuchsin, also with gentian violet, and with Loeffler's methylene blue. The bacillus took the stains, as a rule, much better than the spirillum, although the latter took the gentian violet fairly well.

Efforts to make cultures of the organisms on the common media, gelatin agar and blood serum were all negative.

The bacilli were distinctly fusiform, averaging large, but varying in length from 8 to 12 microns, and in thickness from ½ to 1 micron. The spirilli were 36 to 40 microns long, and of quite uniform thickness, about 1/3 micron (see illustration).

The organisms were found abundant during the first few days of the disease; later only a few could be found.

In this case the disease was at first confined to the throat, but was quickly and thoroughly inoculated into the gums by the irritation incident to cleaning the teeth.

The dentist was not aware of the infectious process in the throat; however, this case illustrates the necessity of caution on the part of the dentist in so simple a procedure as cleaning the teeth when any acute infectious process exists about the throat or mouth; at most, then, only the teeth and not the gums should be disturbed; every precaution should be taken to avoid irritation of the mucous membrane, since the slightest abrasion is inoculated with the infected secretion.

When we have an acute infectious process of the throat or mouth which has a tendency to spread, it would be well to confine the diet of the patient to bland liquids and soft food requiring no mastication, thus avoiding, so far as possible, all irritation of the mucous membrane.

So far as known, no other cases developed, although the patient was associating with other students constantly, avoiding, however, using any common drinking cup.

Briefly reviewing the literature, we find that in 1896 Vincent[1] reported a form of ulcerative angina due to these organisms. In 1897 Bernheim[2] reported a series of thirty cases which conform in general to this disease, although he did not feel certain that the fusiform bacilli and spirilli found were the cause. Vincent[3] again, in 1898, reported fourteen cases. In 1901 Nicolet[4] and Morotte described the morphology of the organism. Mayer[5] in 1902 reported a typical case, with clinical data. In 1903[6] Fisher reported two typical cases, with description of organisms and illustrations. Hess[7] in 1903 reported two forms of the disease, the croupous form, due to the fusiform bacilli, and the diphtheritic form, in which both the bacilli and the spirilli are present. In 1903 Anchi[8] called attention to the possibility of considerable tissue destruction incident to the disease. In 1903 Tarruella[9] discussed the clinical and bacteriologic features of what he terms the ulcerative-necrotic angina of Vincent. In 1903 Conrad[10] reviewed the literature to date quite thoroughly and gave some clinical reports.

Most of the observers emphasize the tendency of the disease to run a protracted course, especially when the gums are affected.

The differential diagnosis will come, as a rule, within three diseases, syphilis, diphtheria and Vincent's angina, which can usually be readily cleared up by the history of the attack and a microscopic examination of the secretion from the ulcerated surface.

4287 Olive Street.

1. Annales de l'Institute Pasteur, 1896.
2. Deutsche med. Woch., 1897.
3. Bull. de la Soc. des Hôpitaux, March, 1898.
4. Revue de Medicine, April 10, 1901.
5. Jour. Am. Med. Sci., 1902, p. 187.
6. Ibid., 1903, p. 438.
7. Deutsche med. Woch., vol. xxix, No. 42.
8. Gaz. Hebd. d. Sci. Med. de Bordeaux, 1903, vol. xxiv, p. 555.
9. Rev. de Med. y Cirug. Barcel., 1903, vol. xvii, p. 180.
10. Arch. f. Laryngol. u. Rhinol., Berlin, 1903, vol. xiv, 525.

DISCUSSION.

DR. VIDA A. LATHAM, Rogers Park, Chicago—I had the good fortune to see this specimen which, I understand, is only the third ever reported in America. From a dental or stomatologic point of view it is of value, showing that dentists must recognize this disease. I had one case some time ago, but it was never recorded, as I was not sure at the time what it was. The patient's lips became almost black from the disease, and in consequence it was called gangrenous stomatitis. There was considerable pain and great nervous prostration. The only way of identifying the disease is by the microscopic examination.

DR. E. C. BRIGGS, Boston—I think I must have had a similar case, but no microscopic examination was made. When I first saw the case I thought it must be syphilis. There was excessive ulceration of the mucous membrane with severe pain. The patient was a man of character and courage, and I did not feel that he was exaggerating when he told me how intolerable his days and nights were. At another time I shall have a microscopic examination made for diagnosis. The case cleared up after a while, during which time I treated him vigorously.

DR. LATHAM—I would suggest in these cases the use of orthoform tablets for pain on deglutition.

PATHOGENY OF OSTEOMALACIA OR SENILE ATROPHY.[1]

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The fact that pathology at most implies a disturbance of balance which causes a conflict of physiologic processes is nowhere more evident than in osteomalacia. The current error which assumes that any process aiding disease must be innately nosologic interferes with diagnosis and treatment alike. The clinical and pathologic work done on osteomalacia has been vitiated by the view-point just mentioned. Osteomalacia occurs from so many nosologic states as to indicate that it arises from a process physiologic in character, but perverted to nosologic ends by anything which disturbs the balance struggle for existence between the structures.

Bones do not grow in the ordinary sense, since the bone cells can not multiply. Apparent growth of bone

1. In "Interstitial Gingivitis or So-called Pyorrhea Alveolaris," I called attention to a form of bone absorption, osteomalacia or senile absorption. Very little was said at the time, for the reason I wished to do more research work before bringing the subject before the profession. That paper was read before the Chicago Academy of Medicine, Dec. 12, 1899.

is caused by destruction of bone already formed and by production of new bone. The production of new bone is one, as Minot (Embryology) points out, first to degeneration of the ossifying cartilage. Cartilage begins to be differentiated earlier than any of the mesenchymal tissues except the blood vessels, and perhaps the smooth muscle cells. Cartilage undergoes a degenerative change preparatory to ossifying. This is one of the many instances in the embryo where degeneration of a particular structure is necessary for advance of the body as a whole. There are, as Minot points out, two stages in the life-history of cartilage. The first (in which the cells are large) is the earlier stage, and represents the maximum of development, while the second (in which the cells are shrunken and fatty) represents a later stage with more or less degeneration. In what is called ossification of cartilage (an erroneous term) the cartilage undergoes complete degeneration and disappears. Bone is derived always by direct metamorphosis of embryonic connective tissue or of embryonic cartilage and of periosteum. Bony tissue, as already remarked, does not grow except by additions to its surface. To a certain extent it depends on a balance between the metamorphosis of embryonic connective tissue, the formation of cartilage and the function of the osteoblasts, which build up and the osteoclasts, which break down.

These four conditions occur in fracture. The tissue around and between the bone ends is provisional callus. The periosteum forms the external callus and medullary tissue the internal callus. Ossification of internal callus is performed by the osteoblasts, which develop, and osteoid tissue that later by calcic deposits undergoes a change into true bone. This bone formation is often preceded by tissue of the embryonic connective type. The osteoclasts absorb bony substance in excess. Imperfect work by the osteoblast or excessive formation would reproduce in a fracture the condition of tissue which occurs in osteomalacia. Osteomalacia hence depends on the removal of inhibitions on the physiologic balance between formative and destructive functions.

Inhibitions are exercised through the nervous system. It is not surprising, therefore, to find fully developed osteomalacia connected by many links with trophoneuroses, in which similar local bone changes occur. Prominent among these are paretic dementia and locomotor ataxia. Various changes of the bones and joints, as J. G. Kiernan[2] has pointed out, occur in paretic dementia, either in the direction of osteomalacia, of premature and excessive ossification or hydroarticuli (thickening of the articular extremities of the long bones). Similar conditions were found previously by Charcot, Ball and J. K. Mitchell in locomotor ataxia.

In other conditions, where like though lesser disturbances of the physiologic balance of the struggle for assimilable nutriment occur, osteomalacia and its converse likewise develop. In pregnancy such conditions are present. So far as the woman is concerned, pregnancy, as Harriet Alexander[3] has shown, is a pathologic disturbance of balance hitherto existing in the organism. In consequence, nutrition and assimilation are increased, while elimination is decreased. In pregnancy, therefore, occurs an autointoxication which may express itself in major phenomena like eclampsia, or minor phenomena like the destruction of the teeth. From the influence of this last type exercised on bone growth occur not only trophic disturbances, like osteomalacia, but also, as Rokitansky[4] long ago demonstrated, osteophytes (of the cranial bones in particular). This condition, as Ducrest has shown, appears and disappears under pregnancy. While Hohl and Virchow have claimed that this condition bears merely a coincidental relation to pregnancy, corroboration of its frequency by French, German and Italian pathologists demolishes this criticism.

Osteomalacia (the halisteresis ossium of Kilian) consists anatomically of an osteitis and periosteitis, in which the perfectly hard bones are decalcified and replaced at first by lamellar connective tissue; finally this passes centrally into the round granular medullary cell. The medullary spaces and haversian canals increase in size, the bone corpuscles partly disappear, but in part become shorter and their processes smaller. The more complete the substitution of connective tissue the more flexible the bones become. In osteomalacia corea they are, as Winckel[5] remarks, almost as yielding as wax and not soft enough to be cut. In fully developed osteomalacia, therefore, the cartilage formation has been replaced by connective tissue.

Winckel has shown that the conditions under which puerperal osteomalacia develops are essentially those causing degeneration. By improvement of hygienic surroundings of Bavarian peasant women, his father was able to lessen the amount of osteomalacia. It does not, therefore, form a single nosologic species. It is clearly connected with the trophic factors regulating bone growth, bone repair and bone existence. In its essence it is, like cancer, a reversion to embryonic conditions. While to some extent lower, the conditions found in osteomalacia are essentially those of the immature sea-squirt in its prevertebrate period. It is a general law of biology that structures in certain parts of an organism retain for the benefit of that organism lower characteristics. This being the case, there should be one structure in the body which would give a clew to the etiology and early pathology of osteomalacia. Such a structure is the alveolar process. This is situated on the superior border of the inferior maxilla and on the inferior border of the superior maxilla. While usually considered a part of the maxillary bones, the alveolar process should be considered separately. Its structure, embryology and functions differ completely from the structure and functions of the maxillary bone. The alveolar process is composed of soft, spongy bone of a relatively cancellous structure. As early as the eleventh week of intrauterine life calcification of the deciduous teeth commences, and by the twelfth week calcic material is quite abundantly deposited. The alveolar process being soft and spongy, molds itself about the sacs containing the crowns of the teeth and along their roots after their eruption, regardless of position in the jaw. While the alveolar process has grown rapidly, it has developed up to this time just enough to cover and protect the follicles while calcification of the jaw proceeds. When the crowns have become calcified and the roots have begun to take in calcic material, absorption of the border of the process takes place in the order of eruption of the teeth. When the teeth have erupted, the alveolar process develops downward and upward with the teeth until it attains the depth of the roots which, in most instances, extend into the superior maxillary bones in the anterior part of the mouth and the upper and lower teeth rest at a point in harmony with the

2. Journal of Nervous and Mental Diseases, 1878, p. 253.
3. Pediatrics, January, 1901.
4. These de Paris, No. 1, 1844.
5. Text-book of Obstetrics (American edition), p. 472.

rami. The depth to which they penetrate depends on the length of the roots and the alveolar process, and this in turn depends on the length of the rami. The incisive fossa, the cuspid eminence and fossa give evidence of this externally. The sockets are lined with extensions of the process, thus making its upper border irregular.

When the temporary teeth are shed, the alveolar process is absorbed to make room for the eruption of the permanent set. The crowns of these, being larger than those of the temporary teeth, require more space and the process must enlarge to accommodate them. It then is rebuilt about the roots of the teeth on a much larger scale. When the temporary teeth are lost the alveolar process is reabsorbed. It is hence developed twice and absorbed thrice, provided the second set of teeth is lost. The process is a very thin, unstable structure, naturally well nourished with blood vessels. As the skull and brain are gaining in the struggle for existence between the face, jaws, skull and brain, the jaws with the alveolar process must decrease in size with advance. This fact and the changes just described render the process a doubly transitory structure. For this reason it is very susceptible to metabolic changes, to mineral and vegetable drugs and poisons, as well as to changes in temperature and climate. This is, in part, due to the readiness with which checked elimination elsewhere finds exit through the mouth and nose. The great supply of blood vessels in the alveolar process plays a part in determining elimination.

Should man live long enough, and should the physiologic process of involution set in, his second set of teeth would disappear as a consequence of osteomalacia of the senile atrophy type. The lower vertebrates are called *Polyphyodontia,* because there is a continuous succession of teeth, not a separation into two sets. In some mammals this condition persists. The pachyderms and rodents (which are connected embryologically) present phenomena analogous to that of the *Polyphyodontia.* In the rodents, especially the nut-eating rodents, continuous growth occurs in the incisors as they are worn down. Should one of the incisors disappear, the opposing one so grows as to interfere with the gnawing powers. Many a squirrel has thereby lost its life. In the elephant not more than three teeth are in use at a time. Those worn down are shed, while new teeth are added.[6] Thus the whole number of teeth are not in place at one time. In other pachyderms, like the hyrax, similar conditions are found. Among the edentates, tooth conditions form a natural transition to the *Sauropsidæ* and *Ichthyopsidæ.* A curious link also occurs in the *Monotremata,* where the duck-bill has deciduous teeth during youth, which are afterward absorbed to make way for horny plates. Judging from the conditions found in the toothed birds, the same result occurred at a phase in evolution of toothed birds from reptiles. In man, however, this degenerative process (involving absorption of the alveolar process and loss of the teeth) is continuously present in a latent way. The alveolar process is, therefore, more subject to change from altered metabolism, due to trophic disorders of nutrition than other structures. Osteomalacia or senile absorption occurs with greater rapidity, and produces more decided change in the alveolar process than in other bones. Causes which would not affect bone structure elsewhere markedly derange it.

While osteomalacia may affect the alveolar process at any period of life after the eruption of the first set of teeth, it does not usually occur until the period between twenty-five and thirty-five. Before this the osseous system is in its constructive state and lime salts are being deposited rapidly. Later in life the constructive stage is complete, and material sufficient only to repair waste is deposited. At the periods of stress metabolic changes are most active—during puberty and adolescence (fourteen to twenty-five), during the climacteric (forty to sixty), when uterine involution occurs in women and prostatic involution in men and finally during senility (from sixty upward), when the disease is always present to a greater or lesser degree. While in allied conditions men are most influenced in this disorder, the sexes seem to be affected about equally. Here the influence of pregnancy comes into play. Pregnancy disturbs the physiologic balance hitherto existing, especially along the line of assimilation and elimination. The well-known dental effects of pregnancy (whose underlying cause affects the alveolar process) are due to this factor. This is purely a constitutional affection.

Among the causes are non-elimination of toxic substances, whether due to autointoxication, to bacterial action or to metallic and vegetable drugs. Disorder or disease of any excretory organ (kidneys, bowels, skin or lungs) will produce the most marked effect, firstly, on the constitution of the blood, and secondly, on the alveolar process, with resultant osteomalacia.

The urine, as Bouchard has shown, contains each day in a normal individual sufficient toxins to cause death if not excreted. This condition is markedly increased after prolonged nervous explosions, like those of epilepsy or hysteria. This was pointed out thirty years ago by Meynert, who demonstrated that the status epilepticus (condition of rapidly recurring convulsions) was due to the accumulations of a proteid body in the system. The status epilepticus is preceded by a decrease in toxins in the urine and succeeded by an increase. This is likewise true as to the influence of non-elimination by the other excretory organs (bowels, lungs and oral cavity), as well as to the non-exercise of its poison-destroying power by the liver. Non-elimination, moreover, interferes with ordinary digestive functions, and hence increases its own extent. Another factor in autointoxication is production of toxic products in such quantity as to prevent destruction by organs like the liver and consequent elimination, since a product to be properly eliminated must be changed to a particular chemical type. Among the factors which affect both these elements of elimination is the power over growth and repair exercised by the nervous system. In part, this influence is exerted through control of blood supply by the vasomotor nervous system and in part by that direct control of the nervous system over tissue change, which is known as its trophic function.

Both influences are affected by nervous strain. Sudden emotion may, as Bichat demonstrated decades ago, produce marked defects on bile secretion and may occasion jaundice. Cases are far from infrequent in which emotions like jealousy produce a mimicry of gallstone colic in neuropaths. Murchison, Christison and Thompson have traced attacks of biliary colic to jealousy. Other liver changes from sudden nervous disturbance, whether of mental type or not, are not rare. As mental impressions are communicated to the central nervous system purely through mechanical changes in the nerves, such influence must be purely material in operation. As the brain exercises a checking influence on the operations of the liver, these mental influences produce two effects. The mental shock increases

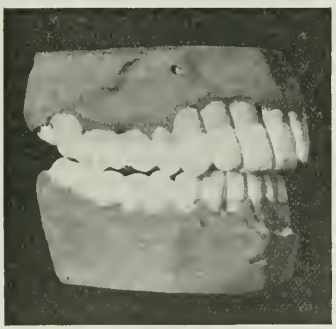
6. Tomes' Dental Anatomy, p. 405.

the checking action of the central nervous system on the local ganglia of the liver and destroys the checking action of the liver ganglia, and in consequence these go too fast, resulting in their exhaustion. Either of these conditions interferes with the poison-destroying action of the liver, and accumulation of waste products is the result.

What is true of the liver is true of the other organs. This is especially noticeable, as Tuke points out, in regard to the kidneys. The action of mental anxiety or

No. 1.

suspense in causing a copious discharge of the pale fluid is familiar enough to all, especially to the medical student about to present himself for examination, the amount being in a pretty direct ratio to his fear of being plucked. The frequency of micturition may, however, arise from nervous irritability of the bladder without increase or even with diminished secretion. Still, the action of the skin is usually checked, the extremities are cold and the kidneys have to pump off the extra amount of fluid retained in the circulation. Elimination of the

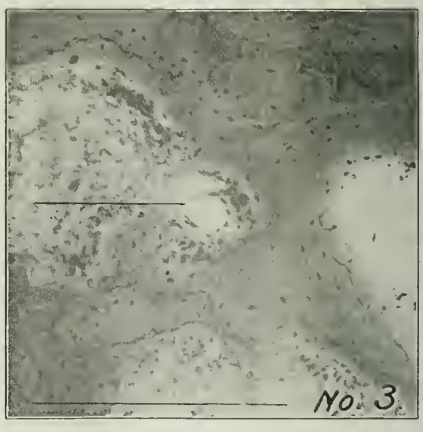


No. 2.

substance usually separated from the blood is diminished, as compared with the aqueous character of the whole secretion. The odor may be affected by the emotions in man as in animals. Prout is of the opinion that mental anxiety will produce not only non-elimination, but also change in the chemical character, as indicated by odor and otherwise. Disturbances in the medulla produce, as Claude Bernard long ago showed, a markedly pale, excessive urine. These disturbances often arise from intellectual strain or emotional shock. The influence of emotional states on secreting processes and thereby indirectly on autointoxication states, is illustrated in the fact long ago pointed out by Tuke that pleasurable emotions increase the amount of gastric juices secreted, the opposite effect being produced by depressing passions. Beaumont found in a case of gastric fistula that anger or other severe emotions caused the gastric inner or mucous coat to become morbidly red, dry and irritable, occasioning at the same time a temporary fit of indigestion.

The influence of fear and anxiety on the bowels is as well marked as that on the bladder and kidneys. Apart from muscular action, defecation may become urgent or occur involuntarily from various causes. The increased secretion from the intestinal canal may occur from fear, and in some cases from the altered character of the secretion itself. While in this respect the influence of fear may be inconvenient in man, it naturally assists escape in some animals, as the skunk.

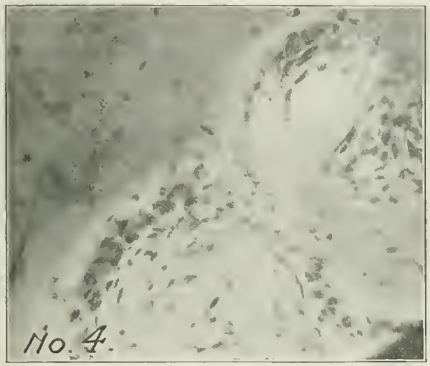
Emotions powerfully excite, modify or altogether suspend, as Tuke has shown, the organic functions. This influence is transmitted not only through the vasomotor nerves, but through nerves in close relation to nutrition and secretion. When the excitement is of peripheral



origin in sensory or afferent nerves, it excites their function by reflex action, so that as emotion arises it may excite the central nuclei of such afferent nerves, and this stimulus be reflected on the efferent nerves, or it may act directly through the latter. Pleasureable emotions tend to excite the processes of nutrition, hence the excitement of certain feelings may, if definitely directed, restore healthy action to an affected part. Violent emotions modify nutrition. Various forms of disease originating in perverted or defective nutrition may be caused primarily by emotional disturbance. Emotions by causing a larger amount of blood to be transmitted to a gland increase sensibility and warmth, and stimulate its function or directly excite the process by their influence on nerves supplying the glands. Painful emotions may modify the quality (i. e., the relative proportion of the constituents) of the secretions.

Imperfect elimination of effete matter from the lungs is a fruitful source of autointoxication. The more marked forms are those of tuberculosis, in which there is great debility and in which there is greater waste than repair. Self-poisoning is continually going on, and will continue until death. The chest capacity for the

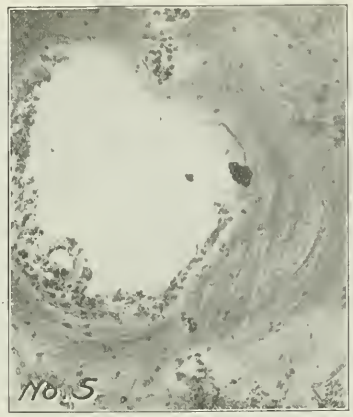
inhalation of pure air is almost *nil*, hence the blood is improperly oxygenated and soon ceases to convey nutriment to the tissues. Eighty per cent. of criminals who die of tuberculosis in prisons have undeveloped chest walls. Degeneracy, therefore, cuts quite a figure in the rôle of autointoxication. Degenerates with contracted chest walls are, however, more frequently found. Many undeveloped individuals in every walk of life for this reason have tuberculosis. People with undeveloped chest walls and chest capacity may not have tuberculosis and yet may suffer from autointoxication. Those who have had pneumonia with adhesion and who are thus unable to oxygenate the blood are subject to this disease. Asthmatics and hay-fever patients suffer from autointoxication and alveolar absorption. When the skin is overstrained as to excretion through the kidney and bowel overstrain, the lungs are forced to take on increased work with imperfect oxygenation as a result. This is noticed in the odor of the breath in Bright's disease and in the air-hunger of diabetes, etc. In nerve-strain states and in the condition described by Albu, not only do excretory organs suffer, but the secretions of those glands, like salivary and buccal glands, are so altered as to become irritants. These



excretory conditions not only result on autointoxication states, but are modified by trophic nerve function alterations. By trophic changes are meant such tissue alterations as occur in morbid conditions from disordered function of the centers of nutrition. Peripheral as well as central may be involved. The well-known law of wallerian degeneration of nerve fibers is an illustration, the posterior spinal ganglion acting as a trophic center for the fibers of the posterior root in the cord itself. Trophic action may, therefore, be peripheral, though in extensive changes, as a rule, central (cerebral or spinal) origin should be looked for.

The constitutional result of acute and chronic infections and contagions is apt to be an autointoxication plus the action of the germ toxin. All the exanthemata have at times been followed by wasting or necrosis of the alveolus. Here the condition is notably symmetric, and accompanied by disorders of the osseous system elsewhere. The same is true of la grippe and tuberculosis. The well-marked disorder known as Riggs' disease has been charged by Pierce, Kirk, Rhein, Robin and Magitot to the direct influence of an arthritic state (gouty and rheumatic) and regarded as a special type of arthritic manifestation. The alveolus is clearly vulnerable to the toxins of many infections. It is likewise quickly affected by some autotoxic influences from disordered metabolism. Its vital resistance to these agencies is less than that of other tissues. It is the earliest sacrifice when these or any toxins disturb the harmony of the organism.

A cause other than the action of toxins exists for implication of these parts. Whenever tissue waste, whether local or general, exceeds repair there is trophic change. This latter depends directly on disordered local or general nervous functions. Trophic alterations from the first cause appear in growth disorders of the nails and loss of hair (alopecia) after fevers, the most familiarly obvious examples of this pathologic process. Of the other type are localized atrophies, where the direct intervention of toxins can be excluded. The alveolus is liable to the first form of trophic deterioration. The influence of acute diseases on the alveolus is probably thus exerted in many cases rather than by direct infection. Where no cause has been ascertained, examination directed to this factor would probably reveal it. The



general failure of the trophic centers after the prime of life (in senile states), which is attended with loss of teeth and wasting of the alveoli, is the most obvious instance of trophic failure affecting the part. Even simple anemia may thus give rise to alveolar wasting.

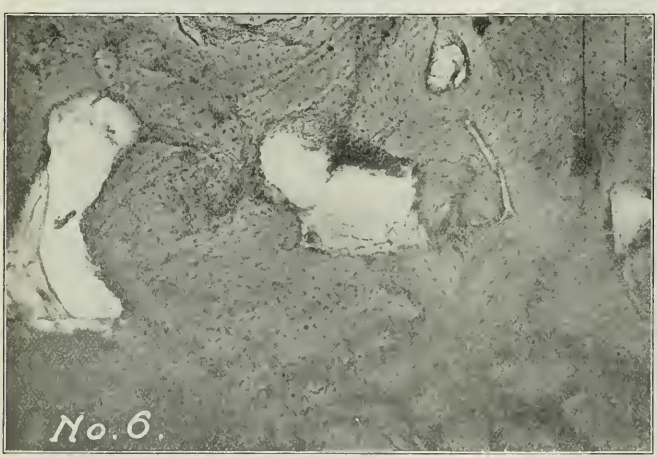
The more marked forms of constitutional disorders (typhoid fever, pneumonia, tuberculosis, syphilis, indigestion and pregnancy, etc.) produce intense results.

The second form of trophic failure in the alveolus is less prominent, since it generally coexists with overshadowing disturbance elsewhere, which it creates to a certain extent. Cruveiller noticed its occurrence associated with simple paraplegia, regarding it as of nervous causation. In facial hemiatrophy, local wasting of the alveolus has appeared before the disorder has involved the jaws generally. This is sometimes due to a local cause, but its occurrence and association with other neurotrophic symptoms are suggestive.

The causes which act locally to produce direct autointoxication are the toxic effects of mercury, lead, brass, uric and other acids, potassium iodid and allied agencies, acting in a similar manner to scurvy. While it is not the intention to discuss at length the toxic action of these substances, a case may be cited in illustration of

their similarity of action and results on the tissue. Garnier and Simon[1] have observed the case of a boy suffering from an obstinate enteritis. Milk was found to disagree, so a purée of vegetables and chopped meat was given. The boy improved for a while, but hematogenous jaundice occurred. On investigation the jaundice was found to be due to the action of lead on the liver, the lead having been introduced into the food through a meat-chopper. In this case, the usual symptoms of lead poisoning were absent, but through its action on the liver jaundice had appeared. Scurvy produces the same train of symptoms as the metals, through its disturbance of the metabolism.

The jaws of the hereditarily defective, whether defect be in the direction of advance or degeneracy, are fruitful soil for the development of osteomalacia. In the mouths of the congenital, deaf, dumb, blind, feeble-minded and delinquent children, osteomalacia attacks the alveolar process before the osseous system has reached its growth. Here, as a consequence of trophic change, metabolic action and premature senility, osteomalacia may occur with the first set of teeth at two years, or at any period thereafter. This may be called



juvenile osteomalacia. Regulating teeth and senile absorption are predisposing causes to osteomalacia.

Osteomalacia of the alveolar process is almost as common among domestic and wild animals in captivity as it is in man. Wild animals in zoologic gardens without proper exercise, in close confinement, with impure air and fed on too easily digested food, naturally acquire autointoxication resulting in osteomalacia. This is particularly noticeable in monkeys, whose changes of environment render them very susceptible to disease, especially tuberculosis. Trophic changes and impaired metabolism are thereby so impressed on monkeys that not infrequently the first teeth become prematurely loose and drop out. The horse and cow are prone to this disease. Cattle returned to the stable after a summer's sojourn in the field, and then, being fed on a changed diet without the usual exercise of cutting grass with their teeth, undergo a reaction in their jaws, and osteomalacia results. "Cribbing" of the horse is a marked illustration of the uneasy feeling resultant on this reaction. Cattle fed on brewers' grain and slop suffer most. Dogs afford the best opportunity, however, for studying inflammation and osteomalacia among animals. Nearly every dog in the dog hospital suffers with this disease: 25 per cent. of roving curs at four years of age have the disease; 80 per cent. of eight-year-old, at least 95 per cent. of twelve-year-old and all fourteen-year-old dogs have the disease. House dogs suffer to a marked extent with osteomalacia of the alveolar process, no doubt from being trained to house cleanliness, which interferes with natural excretion, causing autointoxication and odor.

The following models show the action of osteomalacia on the jaws and teeth: Figure 1 is that of a physician thirty-six years of age. Figure 2 is that of a physician thirty-eight years of age. Both of these gentlemen are apparently in the best of health. One has slight indigestion, which is the cause of absorption; the other took calomel for malaria fifteen years previous, this being a predisposing cause. In each case all the teeth are involved both inside and out. Some of the teeth are becoming loose. There is no pus in either case. The gums are apparently healthy.

In consulting the literature on the subject I find that absorption of the alveolar process and recession of the gums have always been attributed to the severe use of the toothbrush. There are certain conditions in which the toothbrush will assist absorption of the alveolar process. These are easily observed. I refer to the position of the cuspid teeth, where they stand prominently and are the most conspicuous part of the alveolar process. The bone over the roots is as thin as tissue paper, and the slightest friction causes a low form of inflammation, which in turn produces absorption of the bone, exposing the root. The brush never, however, produces senile atrophy in other parts of the mouth.

The absorption of the alveolar process in osteomalacia is not always uniform, as sometimes only one or two teeth are involved. Local conditions modify the extent of the disease. In most cases, however, there is a gradual absorption of bone about all the teeth.

The pathology of this disease about the teeth is not unlike that of osteomalacia of the pelvis, spine and other bones of the body, as demonstrated by Hektoen, halisteresis being the principal form of absorption. Perforating canal absorption, as described by Volkmann, is very common, passing through fragments of bone. Lacunar absorption is also present, and osteoclasts are frequently found. Howship's lacunæ containing osteoclasts are found in the margin of irregular islands of bone. This form of absorption, while not always present, does not cut so much figure as halisteresis, it being much slower in its action. New osteoid tissue is rarely ever seen, since this absorption is a natural destruction of bone and is never reproduced.

Here, then, is the basic explanation of interstitial gingivitis or so-called pyorrhea alveolaris—osteomalacia or senile absorption is the underlying basis of this disease.

The preceding illustrations represent the alveolar

process of a man forty-eight years of age, killed in an accident. The teeth and bone decalcified in the usual way were prepared for the microscope. Figure 3 shows four areas of bone absorption called halisteresis (melting away of bone substance). The waste products become irritants in the blood stream, and set up a low form of inflammation in the haversian canals. The inflammation thus set up produces rapid absorption. Each of these local areas enlarges until they join. In this way large areas are produced. In the center of this illustration is seen a haversian canal with active inflammation around it. The bone is absorbed. The inflammatory process is in the trabeculæ or fibrous part of the bone. Adjoining is a large area with bone absorption, but the fibrous part of bone remains unbroken. The inflammatory process is seen throughout. At the lower border of the picture are two large areas of bone absorption. The trabeculæ are seen, with round-celled infiltration, while the center is destroyed. At the right absorption and destruction of the trabeculæ are seen to the margin of the bone.

Figure 4 shows halisteresis at two haversian canals. One area is much larger than the other. Both have

met, and the area of inflammation will be much enlarged. The trabeculæ are present and filled with round-celled infiltration.

Figure 5 illustrates a large area of absorption with destruction of the fibrous tissue to a larger extent. Around the border is seen a small amount of inflamed fibrous tissue. An artery, once an haversian canal, is also seen. About the large area are also seen three haversian canals with the inflammatory process just beginning.

Figure 6 shows four centers of absorption at haversian canals. Through the picture may be seen dark lines running in all directions. These are vessels of Von Ebner, through which Volkmann's canal absorption takes place. A beautiful illustration of this is the canal running from one large area of absorption to the other.

Figure 7 shows the third form of bone absorption—lacunæ or osteoclast absorption. Here a large area of bone is destroyed by these large cells.

Figure 8 is a low power, showing the distribution of the alveolar process between the roots of two teeth. Very little of the bone remains. When the trabeculæ or fibrous tissue is destroyed in large areas and especially in transitory structures, it is rarely restored.

Does it not seem reasonable, therefore, that the etiology of osteomalacia of the pelvis and other bones of the body is the same as that of the alveolar process, since the pathology is the same, namely, faulty metabolism and elimination, autointoxication and drug poisoning?

A relationship exists between Dercum's disease (adiposis dolorosa) and osteomalacia, according to Pennato,[7] who finds several cases on record in which changes in joints occurred. Bone nutrition is regulated by the trophic centers markedly affected in Dercum's disease. A case of a thirty-five-year-old woman, observed by Pennato, was that whose first adiposis appeared at twenty-three. She slowly developed adiposis dolorosa and lost her teeth, except the inferior cuspids and one molar, although caries did not occur. Symptoms referable to the bones appeared almost at the outset, consisting of distortion of the right knee, curvature of the leg, some years later fracture of a clavicle and still later of the left humerus. When Pennato saw the case, the legs and thighs were semiflexed. Complete extension was impossible on the right side, on account of rigidity in the knee, with partial dislocation of the tibia inward. Such cases bear out the position that autointoxication

is the initial cause of osteomalacia, since in obesity or lipomatosis the products of autointoxication are always present in the alveolar process, and since Dercum's disease is an exaggeration of the nutritive degeneracy which tends to appear at the second dentition.[8]

RESUME.

1. Osteomalacia may and does exist for years in pelvic and other bones before the symptoms can possibly be recognized by the physician or surgeon.

2. The object of this paper is to show that osteomalacia can be studied earliest in the alveolar process.

3. The alveolar process is the most transitory structure in the body. It develops twice, and is absorbed thrice if the second set of teeth are shed. The evolution of the face, whereby the jaws are decreasing in size, with the many complications thereon resultant, renders the jaws and alveolar process increasingly transitory.

4. In the evolution from the lowest vertebrates up there has been a continuous succession of teeth (poly-

7. Medical Bulletin, April, 1904.
8. Kiernan: Alienist and Neurologist, 1900.

phyodont), as found in some selachians, a partial continuous succession as in some mammals, and a comparatively permanent set of teeth as in man. This shedding of teeth, due to a process called senile absorption, atavistic in type, takes place in everyone to a greater or less extent after forty-five years of age. Should man live in a comparatively healthy state long enough he would lose all teeth from this process.

5. Degenerate children from precocity, due to arrested development at the senile or simian period of intrauterine life, may show symptoms of this disease in connection with the first set of teeth at from six to ten years of age. A monkey which died of tuberculosis at one year had osteomalacia, which exposed the roots of all the temporary teeth, while three had dropped out.

6. Constitutional causes like autointoxication and drug poisoning are the etiologic factors. Even the mildest types of autointoxication, due to indigestion, change in climate from hot to cold, and vice versa, with corresponding change in food, giving more work to some eliminating organs and less to others, as well as to mild forms of drug poisoning, may be potent in this particular.

7. The effect of autointoxication and drug poisoning is first irritation through blood streams, often causing endarteritis obliterans. Since the arteries are terminal, irritation readily causes inflammation and halisteresis.

8. Osteomalacia is as common among wild animals in captivity as in domestic animals.

9. The influence of bacteria as a cause has not been demonstrated by Koch's law.

10. If due to autointoxication, the effete matter should be removed from the system.

11. Osteomalacia or senile atrophy is the basic explanation of interstitial gingivitis, or so-called pyorrhea alveolaris. Will not the same line of reasoning hold true of osteomalacia of the bones of other parts of the body?

ANTISTREPTOCOCCUS SERUM.*

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PHILADELPHIA.

My investigations were undertaken with the view of obtaining information as to the identity of the streptococci found in cow's milk and their relation to the streptococci encountered in the human organism in health and disease. The reports of the agglutinating effects of the antistreptococcus sera on different cultures of streptococci by Aronson, Piorkowski and others, and the protective and curative properties of such sera reported by many investigators, raised the expectation of readily deciding on the identity of the streptococci in cow's milk as well as the possibility of throwing further light on the value and specificity of antistreptococcus sera.

Goats and rabbits were treated with repeated, increasing doses of certain streptococci isolated from cow's milk and from human beings, at intervals of a week or ten days, extending over periods of several months. The sera of these animals were then tested as to their agglutinating, protective and curative properties.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

AGGLUTINATING PROPERTIES OF THE SERUM OF GOATS AND RABBITS TREATED WITH STREPTOCOCCI.

After treatment of an animal with a culture of streptococcus for several months, the serum was found to possess definite agglutinating properties, not only for the culture with which the animal had been treated, but also for cultures of streptococci derived from other sources. The serum of animals treated with cultures of streptococci isolated from cow's milk agglutinated cultures derived from human beings in about equal dilutions, while the serum of animals treated with cultures isolated from human beings agglutinated the cultures isolated from cow's milk, though in somewhat lower dilutions than the homologous cultures. Normal goat's and rabbit's serum has no definite agglutinating properties for streptococci.

With regard to the agglutinating properties of the sera of animals treated with streptococci, the results obtained coincide with those obtained by other experimenters. The results indicate that there is a close relationship between races of streptococci derived from various sources, as the human and animal organism.

THE PROTECTIVE INFLUENCE OF THE SERUM OF TREATED ANIMALS.

White mice were employed in testing the protective powers of the sera of the treated animals. A mouse received one cubic centimeter of the serum into the peritoneal cavity, and twenty-four hours later a fatal dose of a bouillon culture of streptococcus was injected intraperitoneally. The protective power manifested by the serum was of doubtful value, as it did not always protect the animal from death, though it usually served to prolong life beyond the time required to kill a control mouse. In this respect my own sera appeared to be fully as active as a sample of Aronson's serum which I tested at the same time.

Test tube experiments were made with the sera of the treated animals in order to determine whether any bactericidal powers could be demonstrated. In this respect the results were uniformly negative, as the streptococci multiplied quite rapidly in the sera. Denys and Tavel claim that the addition of fresh leucocytes to the antistreptococcus serum renders it bactericidal. Pettersson makes the same claim for the serum of animals treated with bacillus anthracis. Pettersson also claims that the leucocytes contain a specific complement for the bacillus anthracis. In the experiments which I made with the sera of treated animals to which fresh leucocytes had been added, I found that there was no definite evidence of any bactericidal action in the usual sense of the term, but that the leucocytes took up large numbers of the streptococci in vitro. From this fact it is evident that the influence of the marked phagocytosis exerted by the leucocytes accounts for the disappearance of the organisms in vitro.

THE INFLUENCE OF PROTECTIVE INOCULATIONS OF NONFATAL DOSES OF STREPTOCOCCI.

It was believed that additional information could be obtained by the inoculation of white mice with nonfatal doses of streptococci at intervals of a week or ten days, followed by the subsequent inoculation of fatal doses of the same organism, or with fatal doses of different organisms. The results obtained in these experiments were not at all uniform. While at times an apparent toleration had been established, in other instances a cachectic condition was produced which caused the animal to succumb to a smaller dose than that from

which it had previously recovered. In general, it may be stated that the injection of three or four nonfatal doses of a culture of streptococcus does not confer a definite tolerance to a fatal dose of the same, or other culture of streptococcus administered subsequently.

THE PRODUCTION OF TOXIN BY STREPTOCOCCI.

Numerous investigators have been able to demonstrate the formation of toxins in filtrates of streptococcus cultures. Schenck and von Lingelsheim especially reported finding such filtrates toxic for animals. Simon also found a slight degree of toxic action of filtrates, though Aronson claims that he was unable to demonstrate any toxic effect. In my own experiments I was able to demonstrate a toxic effect in filtrates of streptococcus cultures that were about three weeks old. In this respect my results coincide very closely with those of Schenck. Injections of 2 c.c. of the filtrate sufficed to kill mice. The large dose necessary to kill mice indicates, however, that the formation of soluble toxin, as has been pointed out by Simon, can not be the sole cause of the detrimental influence of streptococcus infection. Simon attempted to demonstrate an intracellular toxin by special methods, and claims to have been successful. I have not repeated his experiments, as they did not appear to afford any very encouraging results.

THE OCCURRENCE OF ANTITOXIN IN THE SERUM OF ANIMALS TREATED WITH STREPTOCOCCI.

The possibility of demonstrating toxic substances in filtrates of streptococcus cultures suggested the possibility of also being able to demonstrate antitoxic properties in the serum of animals treated with streptococci, and in this respect I have found that it is possible to demonstrate such an influence. For instance, if a mouse is given a cubic centimeter of the serum of an animal that has acquired an immunity against streptococci, and then, twelve or twenty-four hours subsequently, receives the fatal dose of the streptococcus filtrate, it serves to protect the animal.

THE MODE OF PROTECTION OF THE ORGANISMS AGAINST STREPTOCOCCUS INFECTION.

Studies on immunity have demonstrated that the organism protects itself in at least three different ways against bacterial infections. The mode of protection which is best understood is that against the bacteria producing soluble toxins, as diphtheria and tetanus. In these diseases antitoxins are formed in the body which neutralize the toxins produced by the bacteria, and in this manner serve to overcome the infection. In typhoid fever, cholera, dysentery and other diseases the serum of the organism acquires a bactericidal power which destroys the bacteria themselves.

The studies on streptococcus infection and the immunity that can be conferred against such infection indicate that the immunity against streptococcus is of a somewhat more complex nature than that encountered in some other infections. It is probable that in this respect the infection by the straphylococcus and the pneumococcus are closely related to that of the streptococcus. The relatively small amount of toxin produced in streptococcus cultures indicates that the formation of antitoxin is of minor importance in the immunity. Again, the absence of any evident bactericidal properties in the serum of an animal treated with streptococci indicates that the immunity is different from that which we see in typhoid fever, for instance. It is most probable that in streptococcus immunity there is a stimulation of phagocytosis which plays an important rôle in the immunity, though I am inclined to believe that this is not the sole factor involved.

CONTINUOUS ACRODERMATITIS.

AN INSTANCE WHERE IT WAS CONTROLLED BY THE X-RAY*

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SAN FRANCISCO.

Very few writers now believe eczema to be one disease. It is a vast agglomerate of diseases, out of which clinical types are being slowly segregated. In pursuance of this theory, Hallopeau in 1897 proposed[1] to remove a group of cases out of the general class of eczema, and to call the group "the continued acrodermatites." Cases constituting this group are characterized by their location on the extremities of the members, more particularly on the fingers and toes, by their incessant recurrence in the affected locality, by their not extending for a long time to any other region of the body, and by their obstinate resistance to treatment.

Three forms of this malady are described—a vesicular form, a pustular form, and a form where there are both vesicles and pustules, constituting a vesiculopustular form.

The case under consideration would fall in the vesicular group. The disease as described occurs in the adult or in the aged, and is independent of any other affection. The patients are not neurotic, and the disease may have its origin in some previous eruption or in a traumatism.

Usually the disease is confined for a long time to one locality. For example, to one of the fingers, frequently to one of the phalanges, then little by little it spreads to the other fingers and to the rest of the hand. The vesicles burst and readily heal and new ones appear. The subjacent skin is red and tumefied. When the scales fall, the epidermis is found thin, smooth and glossy, or the skin may be thickened and its natural furrows exaggerated. The nail frequently suffers in its nutrition; it loses its polish and becomes fluted; it may be transversely flattened, and have little punctiform depressions in it. Subjectively the patient complains of a burning feeling. The course of the malady is continuous, for as one crop of vesicles dries up, another appears, either in the area previously affected or at its periphery.

The affection is distinguished by rebelliousness to treatment. Hallopeau says that hitherto the only remedy found to be of avail is applications of a solution of nitrate of silver (1 to 8).

Patient.—A lawyer, aged 38, consulted me, Feb. 10, 1900, on account of a vesicular eczema of the fingers, which he said he had had for three or four years.

History.—There was a history of eczema on the maternal side. Furthermore, his maternal grandmother had Dupuytren's contraction of both palms, and two of her sons had Dupuytren's contraction of one hand. Two of the patient's sisters had neuritis of the forearms.

The patient was a tall, rather stout, well-built man, who said his general health was excellent. On questioning him

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

1. Société Française de Dermatologie, 1890, 1892 and 1897. Also in Schwimmer's Jubileeumschrift and the Revue Générale de Chirurgie et de Therapeutique, 1898. He also gives an extended description of this group in the Traité Pratique de Dermatologie par H. Hallopeau et L. E. Leredde.

more closely, he said that he had had watery passages for several months, and that the least purgative would stir up the bowels. He had never suffered from rheumatism, but he had had slight chills that he attributed to malaria, and he lived in a malarious district. He also told me that at times the movements of the bowels appeared to be undigested, and he always had a heavily coated tongue. These were the only symptoms of digestive disturbance present.

Examination.—The affection consisted of some redness, and a great number of tiny sago grain-like vesicles, with very little thickening of the skin. The disease was steadily present, but it varied in its intensity, and during an exacerbation there was some burning. The affection was confined to the fingers, and there was neither eruption nor history of eruption on any other part of the body.

Previous Treatment.—Before consulting me, the patient had tried many remedies, both independently and on the advice of physicians, and all fruitlessly. Of all the remedies tried, the best was Hutchinson's lotion prescribed as follows:

℞. Liq. plumbi subacetat.... ℥ss 15
Liq. carb. detergentis.... ℥iiss 75

M. Sig.: A teaspoonful in a pint of water, to be used as a lotion twice a day.

This, however, did not cure the disease, and a great number of topical applications were employed, but the patient always returned to the use of Hutchinson's lotion. Finally this lotion began to irritate, and the disease extended to the back of the hands as spreading circles. There would be an attack of redness with watery vesicles about every four weeks. Lassar's paste, made as follows, was then tried:

℞. Acidi salicyl. .... gr. xx 1 35
Zinc ox.
Amyli, āā .... ℥ss 15
Glycerini .... ℥i 30

M. Sig.: Apply as a paste.

Applied during the first part of an attack, this would irritate, but during the decline it would act very well.

Although the troubles in the alimentary tract were slight, yet eczema is so often dependent on alimentary disturbances that the patient was given a vigorous treatment in this direction also, but with no apparent effect on the disease.

X-Ray Treatment.—June 10, 1902, the patient called on me, saying that up till six weeks before the hands had been in fairly good condition, but that since that time there had been no cessation of the eruptions. He had heard much about *x*-ray curing diseases of the skin and urged me to try it in his case. He received nine exposures, extending from June 19 to July 7. On July 12 he called, suffering from a severe erythema of the back of the right hand, and a less intense one of the back of the left. It subsided under appropriate treatment, and he remained for a long time thereafter free from any trouble. Dec. 19, 1903, he again called on me. He was delighted with the treatment, and had had very little trouble in the intervening time. Once a few vesicles had cropped out; the attack was treated with the *x*-ray and quickly subsided. He consulted me on account of a slight outbreak consisting of a circle or rather a ring of induration and some vesiculation, on the ulnar side of the right index finger. There were also small patches of vesiculation with a little thickening on the ulnar side of the terminal phalanx of both middle fingers. The patient said that it was only recently that the back of the hands had become perfectly normal, as after the *x*-ray dermatitis they had had a crackled appearance on close inspection, but no vesiculation. The hair had not returned on the back of the hands with any strength at all, except as a very light down with a few strong hairs scattered in it. Nitrate of silver solution as advised by Hallopeau was not employed, as I did not know at that time of this treatment.

As regards diagnosis, this case was not pompholyx, because the vesicles rested on an inflammatory base, there never was any bullæ, the affection did not appear on the palms or soles, the attack came on at all seasons, and the patient was in excellent health. Furthermore, there was no extensive sweating. The limited area of the affected locality and the absence of bullæ would exclude both pemphigus and dermatitis herpetiformis

The question always arises if it be of any value to increase our already vast nomenclature by segregating out a class of cases that looks so like eczema. The answer to this is that any reasonable splitting up of the eczema group is permissible, and becomes very desirable when it cuts out a bunch of cases amenable to some special line of treatment.

DISCUSSION.

Dr. C. E. Skinner, New Haven, Conn.—Will Dr. Montgomery please give us the details of his technic as regards the degree of penetration of the ray, the apparatus, etc.?

Dr. H. C. Baum, Syracuse, N. Y.—I can cordially indorse what the speaker has said. In four cases treated by the *x*-ray the disease has always returned after some months, but with any other local application the disease has not been arrested.

Dr. William Allen Pusey, Chicago—Leaving out of consideration the question as to whether acrodermatitis of the French is a form of eczema of the hands which is entitled to be regarded as a distinct clinical entity, I can confirm Dr. Montgomery's report of benefit in various cases of eczema of the hands which have been treated by very mild *x*-ray exposures. I have seen a good many of these cases of very chronic intractable type that have yielded to the *x*-rays.

Dr. C. W. Allen, New York City—I have found the *x*-ray very efficient in chronic eczema, some of which I treated for years before the *x*-ray, and now with the aid of the ray these patients remain well. Chronic eczema of the hands, especially of the palms, is often markedly influenced.

Dr. A. Ravogli, Cincinnati—I find also in my experience that in some cases of eczema, especially of a nervous character, it is difficult to bring about a recovery, but with an exposure of three to five minutes once or twice a week to the *x*-rays they yield very readily. I think this is the only way to treat this peculiar kind of eczema.

Dr. D. W. Montgomery—The ordinary Crookes tube was used, placed about five inches from the hand. The coil was the source of the electricity, and the sittings were of ten minutes' duration. It was a medium tube. As far as segregating these particular cases out of a group of eczemas is concerned, I think it is of value. They are particularly obstinate cases, one can do very little for them with ordinary medication, and they are unlike ordinary eczema of the hand. It is of value to be able to recognize them, so that the correct prognosis may be given, and also possibly because other observers may be able to try the value of the *x*-ray in this particular group. There are other types, the pustular type, for instance. I have never run across the pustular type, but Crocker has described it and he thinks it should be given a separate place in the nomenclature. I do not know whether these cases are really to be put in the same class with the dermatitis repens of Crocker; some have thought they should. I do not know how the dermatitis repens of Crocker would answer to the *x*-ray.

TETANUS.

ITS PERIOD OF INCUBATION AND ITS PATHOLOGY.

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TYLER, TEXAS.

While I am not engaged in the special work of a surgeon, I have, on account of the various interesting features presented, often been tempted to place on record a certain case of tetanus treated a number of years ago. In view of the fact that the annual visitation of this disease has been brought on through the Fourth of July celebrations, and since the subject of the pathology as well as the treatment has assumed considerable prominence, and as The Journal of the American

Medical Association, June 18, 1904, page 1625, requests reports of cases of tetanus, I herewith comply with that request.

On account of the bearing which this case may have on the pathology, especially the latent period or the power of storing up by the nervous system of the specific toxin, I desire to draw attention to the special article in THE JOURNAL for June 18, 1904, entitled "The Prophylaxis and Treatment of Fourth of July Tetanus," which says: "It must be remembered that when a patient develops tetanic spasms, which is the earliest time at which tetanus can be diagnosed, the disease has been in progress from five to twelve days as a rule. During that time the bacilli have first multiplied, then produced toxin, and lastly, probably requiring a considerable portion of the incubation period, the toxin has been diffusing along the axis cylinders of the motor nerves and accumulating in the motor ganglion cells until concentrated enough there to give rise to spasms."

And also in another portion of the same article: "If we inject diphtheria toxin or snake venom into an animal, symptoms appear in a very few hours at the most, whereas, in a guinea-pig, it may be twenty-four hours or more before tetanic manifestations appear. This delayed action was very puzzling, and many hypotheses were advanced to explain it. During the past year what seems likely to be the correct explanation has been advanced by Meyer and Ransom. From their experiments it would seem that tetanus toxin does not reach the spinal cord through the blood stream, but by slowly passing along the axis cylinders of motor cells from their terminations. Apparently the myelin sheath acts as a quite impervious membrane, and the toxin enters at the end of the neuron, where it is not provided with this sheath. Sensory nerves do not transport the toxin to the cord. The toxin enters the nerve endings from two sources; the first is at the site of the infection where the toxin is most concentrated, and this probably explains why tetanic spasms frequently begin in the vicinity of the infected part or are most marked at this point. The rest of the toxin is taken up by the blood and lymph, and distributed to enter the motor-nerve endings in small quantities all over the body, and by passing along the motor fibers to enter the cord diffusely, leading to the generalized spasms," etc.

The case here reported was one in which an amputation about the lower third of the thigh had been done for the relief of gangrene following a lacerated and contused wound about four inches below the knee-joint, with fracture of the leg at this point.

The report may be made as follows: Mr. T. W. (colored), aged about 55 years. While the patient was riding toward home a light wagon driven at a lively speed suddenly dashed out of an alley and before he could draw his horse aside the tongue of the wagon was thrust into his leg, almost puncturing it, at a point about four inches below the knee-joint on the outer surface of the left leg.

Description of Injury.—The point of entrance was very close to the tibia, and in the line of the anterior tibial artery and nerve, and it was thought that both of these had been severed. The upper part of the fibula had been fractured by the force of the blow, and after the wound had been thoroughly disinfected, by inserting the finger into the wound several small spicules of bone could be felt, but none could be detached. The soft parts had been lacerated in all directions, particularly downward, involving the interosseous membrane, the extensor longus pollicis, extensor longus digitorum, and tibialis anticus muscles. The peroneal artery may have been ruptured, for the bleeding had been very severe. The patient, when picked up and brought into the office, was in a state of shock, anxious expression, pulse small, feeble and quite irregular. Nitroglycerin, gr. 1/25, and several hypodermics of whisky were at once given and the patient began to react. Pulsation of the dorsalis pedis artery could not be felt, and below the seat of injury the limb was very cold. The dorsalis pedis artery on the opposite foot could be distinctly felt.

Treatment.—The region around the wound was thoroughly scrubbed with soap and water, and the wound thoroughly irrigated with a solution of carbolic acid (about 1 to 30) and afterwards with a solution of bichlorid of mercury (1 to 2,000). After all hemorrhage had ceased the wound was packed with iodoform gauze, covered with bichlorid gauze, cotton and a roller bandage. A plaster-of-paris bandage was then put on, beginning at the foot and extending upwards to the upper third of the thigh. On the third day the patient complained of being restless, morning pulse 84, temperature 100.4 degrees. The limb was painful, and a hypodermic of morphin was given. In the afternoon a purgative was administered. Next day the pulse was 108, and temperature 102.6 degrees. On Tuesday morning the pulse was 116, and temperature 102.8 degrees. In the afternoon the pulse was 120, and temperature 101.8 degrees. On this day the plaster-of-paris bandage was entirely removed and the wound thoroughly swabbed out with a solution of permanganate, 5 grains to the ounce. It was found that the tissue surrounding the wound had become gangrenous, as well as the upper two-thirds of the tibialis anticus muscle. The tissues had assumed a greenish hue and were emphysematous. The odor was offensive. After applying the permanganate of potash to all parts of the wound, it was thoroughly packed with gauze. The question of amputation then presented itself. In order to make the patient more comfortable a new plaster-of-paris bandage was applied and the wound was dressed antiseptically. The limb was still very cold and hot bricks were applied. At 10:30 p. m. of this day the pulse was small, soft, intermittent and 56 per minute. The patient complained of a great deal of pain in the region of the wound and a hypodermic of morphin was given. On the following morning, Wednesday, the morning pulse was 116, and temperature 101.8 degrees. No pulsation ever returned in the dorsalis pedis artery, the gangrenous area had extended further, and the wound was very offensive. The patient, as well as his relatives, was consulted in regard to an amputation at the thigh, which they agreed might be done, and the time was set for the afternoon of Wednesday, six days after the injury occurred.

Urine.—An examination of the urine was as follows: brownish-red in color; ammoniacal odor; specific gravity 1,020; reaction faintly acid; trace of albumin; no glucose; microscopically there was an abundance of triple phosphates, with small amount of granular débris, but no casts.

Operation.—Assisted by Drs. C. A. Smith, F. W. Swindall, F. G. Kirksey and J. D. Wingate, I began the amputation at 5:50 p. m. at the lower third of the thigh, and the operation was completed at about 6:15 p. m. One hour after the operation the pulse was 120, and two hours later it was 132 (weak), temperature 102.4 degrees. Strychnin, 1/100 gr., was given hypodermically. At 10 p. m. the pulse had improved in quality, was more regular and 130 per minute. The patient appeared to be reacting nicely. At 2 a. m. I called to see how he was progressing, and found no bad symptoms. I never once suspected tetanus. He was resting well; pulse 116, temperature 100.8 degrees. I left a dose of medicine containing about 1/37 gr. strychnin and 20 mm. of digitalis, which I directed to be given by the mouth at 5 a. m. At this hour, when the nurse asked him to open the mouth in order to take the medicine, he found that he could not separate the jaws sufficiently, and only about two-thirds of the medicine could be given. At 6:30 a. m. (Thursday, one week after the injury), I found marked symptoms of tetanus present. There was only a narrow space between the upper and lower teeth, jaws firmly locked, difficulty in swallowing, slight opisthotonos, and much pain in the region of the chest, the latter seeming to come on in paroxysms. Slight opisthotonos was present. The color of objects was

normal. At 7:30 a. m. 15 grains of chloral with 1/6 grain morphin and 1 dram of bromid of potash were with much difficulty given patient. At 11:15 a. m. the teeth became firmly clinched, and nothing could be introduced into the mouth; the extremities were never involved. Peptonized milk was given per rectum for nourishment and as a medium for dram doses of bromid of potash and a small amount of whisky. At 12:30 p. m. 4 minims of fluid extract of calabar bean were given hypodermically. At this time the pulse was small in size and quick in frequency. Consciousness was preserved almost to the last, and he died at 3:15 p. m.

PELVIC ABSCESS.

A CASE REPORT WITH COMMENTS.

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Pelvic abscess from cellulitis, without pus-tube as a primary cause, is rare. Including those cases arising from pus-tube, however, the condition is uncommon in this territory. Factors most productive of pelvic suppuration are more common in large cities than in small towns and country districts, the latter being comparatively free from prostitution and criminal abortion. Legitimate puerperal sepsis, so called in contrast to that arising after criminal operations, and which is also a cause of cellulitis and of pus-tube, is rare in the practice of Houghton County physicians. Post-operative cases are very rare.

NARRATION OF CASE.

The case to be described was due to puerperal infection. The parametrium was infected probably by lymphangitis or phlebitis, or both, arising from the vagina. There was no indication of pus-tube.

History.—The patient, aged 34, had perfect health in childhood and girlhood. As far as she knows she was free from any functional or organic pelvic disorder. At 21 she married, and two years later bore her first child. The second and third children followed at two-year intervals. The labors were normal except for perineal lacerations at the first and third. Immediate repair was done each time. The date of the third confinement was May 26, 1896. On the ninth day thereafter chills, fever and uterine pain began. Treatment consisted of intrauterine douches and internal medication. Convalescence was established in four weeks.

The Previous Pelvic Abscess.—One and a half years afterward (November, 1897) spontaneous miscarriage occurred at about six weeks. The uterus was presumably thoroughly emptied, though currettage was not performed. Four days later pain and fever began, after two weeks of which the patient began passing pus per rectum. Treatment consisted in rectal douching. The patient states that pus was discharged in large quantities, as much as three or four tablespoonfuls every four hours.

This rectal discharge was allowed to continue for four months, when the abscess producing it was drained through the vaginal vault. The drainage tube fell out in two or three days, and was not replaced, the incision being allowed to close. Consequently, within two weeks, drainage re-established itself per rectum.

In May, 1898, the same operation was done with identical results, *i. e.*, re-establishment of rectal drainage on account of too early closure of the incision.

In July Dr. E. C. Dudley, Chicago, opened the vagina and inserted two drainage tubes, which were kept in place a sufficient time, and then replaced by gauze packing, which was gradually withdrawn till healing was complete. After this operation the woman spent six weeks in bed. Complete health was finally regained and the patient was not conscious of any sequels of the pelvic inflammation.

I can get no more accurate description of this abscess than that it was to the left of the uterus. This fact is of great importance when we come to the recent history of the case. My connection with the case begins at this point.

Early in 1902 she became pregnant again, and, after a normal gestation, was delivered, Nov. 17, of a large child. There was no laceration. On the fourth or fifth day the temperature rose to 103, but subsided on the removal of a small foul-smelling blood-clot from the vagina. Otherwise the puerperium was uneventful.

The Fifth Pregnancy.—This terminated Jan. 24, 1904, with the birth of an eleven-pound boy. An experienced nurse was in attendance, the patient was thoroughly washed, the sheets, pads and nightgown sterilized, and all refinements of prophylaxis were observed. I regret that the patient's temperature was not taken before delivery. Four and a half hours after delivery it was 99.8. Seven and a half hours after, 100, and nine and a half after, 100.2. Twenty hours after delivery it had fallen to normal, where it remained until the afternoon of the fourth day, when 99.2 was reached at 3 p. m. and 100.2 at 6. From this time to the eleventh day the temperature was characteristic of a mild sepsis. Below 99 in the morning and above 99 in the afternoon, with a few variations, describes it fairly well. The highest point, 100.8, was recorded on the fifth day. The maximum for the tenth day was 99, and on the eleventh the range was well within normal bounds, the last record being 98, at 9 p. m. The pulse was at no time over 84. Daily vaginal douches of lysol were given from the fourth day, no other measures being used.

Present Illness.—On the morning of the twelfth day of the puerperium there was marked tenderness over the left side of the pelvis, temperature 101. There had been no chill and no pain except on pressure. Ice was applied to the tender area and Credé ointment used twice daily. No intrauterine treatment was considered. The temperature became markedly septic in type, varying from about 100 early in the day to between 102.8 and 104 in the afternoon. The pulse varied from 92 to 112.

Examination.—Bimanual examination on the fourth or fifth day after the beginning of the above mentioned symptoms revealed a definite mass to the left of the uterus, which fairly well filled that side of the pelvis. Both fundus and cervix were crowded to the right. The mass was tender, fairly firm, attached to the uterus, and rested lightly on the vaginal vault, causing no downward bulging of the latter.

Course.—The patient's condition being good, expectant treatment was continued a few days longer, resolution not yet being despaired of. By the ninth day (the twenty-first day of the puerperium), however, no betterment was noted, but on the other hand some increase in the size of the mass and in the uterine displacement, as well as a change in the consistency of the tumor, which was now less firm and more spongy, though not distinctly fluctuant.

Operation.—On the ninth day, therefore, I operated, using the following technic: With the patient anesthetized and in the dorsal position, the perineum was retracted and the cervix gently drawn down and firmly held. The assistant, with his hand on the patient's abdomen, carefully forced the tumor toward the vagina as far as possible. A long aspirating needle attached to a small syringe was then thrust into the mass through the vaginal wall. On withdrawing the piston the syringe filled with pus, on which a tenotome was passed along the needle, enlarging the opening enough to allow the introduction of a Pean forceps. The forceps were introduced along the needle as a guide, opened two or three inches and then carefully withdrawn, the blades being firmly held apart. About a teacupful of foul-smelling pus escaped, which had the odor we associate with the colon bacillus.

Hemorrhage was free, but was temporarily disregarded while I introduced my hand into the vagina and two fingers into the abscess cavity, meanwhile grasping the somewhat contracted mass through the abdominal wall with my free hand, thus guiding the exploring fingers, and guarding against perforation of the abscess wall. With the fingers I broke down all septa and explored the abscess cavity thoroughly, till assured

that no unopened pus pockets remained. I found, in so doing, that the abscess extended well up behind the uterus, and had I not been very careful in my search I should have left behind a considerable quantity of pus which was pocketed there.

The cavity was firmly packed with gauze, the packing being continued into the vagina far enough to control hemorrhage from the wound, the vagina was lightly packed and the patient put to bed in the Fowler position. The operation required about twenty minutes. Temperature 100.6 and pulse 108 before anesthetic; at end of operation, pulse 102.

An hour later a severe chill began and lasted thirty-five minutes. The temperature rose rapidly to 106.2 and pulse to 160. Brandy, hot tea, digitalin, strychnin and one and a half quarts of normal salt solution given under the breasts were resorted to. In two hours the temperature fell to 102.6 and pulse to 144, and in five hours to 100.4 and 128.

Recovery.—For two days and a half the temperature maintained itself at about the same level as before operation, notwithstanding a free bloody discharge. Forty-eight hours after operation the packing was removed and fresh packing put in, much more loosely, however, in the hope of bringing about a fall in temperature. This was done in the morning. In spite of it a temperature of 103.2 and a pulse of 120 were recorded that afternoon. When I changed the packing I found but little foul material in the abscess, the cavity being surprisingly clean. Obviously, however, septic substances were being absorbed from that abscess cavity, or from some undiscovered pus collection. Tentatively, therefore, I removed the packing altogether, and left it out. The abatement of symptoms was immediate and striking.

Every other day, for some time, I dilated the opening in the vaginal wall by forcing my index and middle fingers through into the abscess cavity. No other mechanical aid to drainage was used. Recovery was uneventful from this time.

When the thick, foul, greenish-gray discharge had disappeared I allowed the opening to close, and at the present time, seven weeks from operation, the only remaining evidence of disease, is a moderate thickening of the tissues to the left of the uterus. The woman probably did not have a pus-tube. Cessation of discharge and closure of wound would not have occurred so readily had pus-tube been present.

This case presents a number of points which, I think, merit attention.

I. THE MANNER AND CAUSE OF INFECTION.

Had the patient a latent infection dating from the previous pelvic abscess? This is improbable, on account of the lapse of five and one-half years, and entire freedom from symptoms of pelvic disease during that time, with the exception of the transient sapremia following the confinement of November, 1902.

Could a latent infection have had its origin in this sapremia? Not if the latter was purely sapremic, which, from the course of events, I do not doubt.

I learned, in seeking for the rise of temperature immediately after the last confinement, that the patient had for some time previous to confinement, a slight serous discharge, which occasionally had a more or less offensive odor. As it caused her no inconvenience of any sort, she did not report it to me. I do not know from what part of the genital tract the discharge came or whether it was infectious. Had I known of its existence, I should have had the vagina sterilized before accouchement.

"The overwhelming burden of evidence is in favor of the common presence of streptococci and colon bacilli in the vaginæ of pregnant woman."[1] Were these organisms present, and did they enter the uterus, causing puerperal endometritis and later, metritis and pelvic abscess? There was, at no time, any clinical evidence of endometritis. The lochia were normal in appearance, odor and quantity, which argues against a colon-bacillus infection of the endometrium. Streptococcus infection may cause no gross changes in the lochia, hence it may have been present. The abscess, however, savored strongly of the colon bacillus, the pus being thin and foul, like that from some appendical abscesses. All this argues strongly against the infection having traveled by way of the endometrium.

Were the infecting organisms carried by the lymphatics of the contused vaginal wall to the site of the first abscess infecting the normal cellular tissue and the less resistant scar-tissue? The sepsis of the first eleven days may well have been due to a lymphangitis or phlebitis arising from the vagina. Indeed, it probably was due to one or both of these conditions, which are common precursors of pelvic abscess. If so, obstetric prophylaxis should invariably include surgical preparation of the vagina.

Possibly I infected the patient myself during the one vaginal examination made, though if precautions count for anything, this is the least probable mode of infection.

II. THE ELEVEN DAYS OF MILD SEPSIS.

The second point of interest is the exceedingly mild grade of sepsis which, for eleven days, preceded the cellulitis and its violent manifestations. The temperature curve shows that the infection was nearly stamped out in its original seat (note the normal temperature of the tenth and eleventh days), and had it not been transferred to a fresh soil in the parametrium, it is likely that the eleventh day would have seen the last of it. I have never seen a more striking example of the stimulating effect of metastasis to a favorable soil on an infective agent of low vitality. The mildest sepsis may, in this way, have most alarming sequels.

III. THE VIOLENT POST-OPERATIVE TOXEMIA.

The extreme toxemia and shock manifested after the operation illustrates well the dangers sometimes attendant on simple and apparently non-dangerous surgical procedures. Absorption along the path of the opening into the abscess must have been very free and rapid and the absorbed substances of extreme toxicity. This suggests opening such abscesses with a cautery provided with a long flat tip, or the cauterizing of the edges of the opening with carbolic acid or the actual cautery, immediately after the opening is made. Or, one might first empty the abscess by aspiration through a large trocar or needle and then wash out the cavity thoroughly with water, followed by 95 per cent. alcohol, before opening it. One of these methods would, I think, prevent absorption of poisons and an overwhelming toxemia.

IV. GAUZE DRAINAGE ACTING AS A DAM.

The inefficiency of gauze drainage under conditions which might be expected to favor unusual efficiency. A free opening at the lowest part of the abscess, and the Fowler position, which by gravity helped the escape of fluids, failed to assist the gauze to a satisfactory performance of its duty. Some fluid was drained out via the gauze, but the essentially poisonous parts of the discharge were left behind to be absorbed. The free drainage secured on removal of all gauze shows that the latter was doing actual harm, by acting as a dam. In other words, it positively prevented the escape of the most poisonous parts of the discharge. Tube drainage was considered, but was not used because I am in the habit of using gauze. The method finally used, i. e., dilating the incision with the fingers every day or two, was sim-

1. Pryor: New York Medical Journal, Jan. 23, 1904

ple, easy and perfectly satisfactory. It may be applied in other situations, provided that the source of the pus is within the reach of the fingers. I am indebted to Dr. E. C. Dudley, Chicago, for the suggestion that led to its adoption.

Special Articles.

MEDICAL AND HYGIENIC EXHIBITS AT THE LOUISIANA PURCHASE EXPOSITION.

GUY HINSDALE, A.M., M.D.

Secretary of the American Climatological Association; Corresponding Fellow of the British Balneological and Climatological Society.

HOT SPRINGS, VA.

(*Concluded from page 198.*)

II. FOREIGN EXHIBITS.

GERMANY.

Of the foreign governments Germany makes the most interesting and complete display. It is distributed through several buildings, chiefly in the Palace of Education and Social Economy and the Liberal Arts building. Germany's special building, which is a copy of the Charlottenburg Palace, has no medical exhibit. The German government has spent a million dollars to properly represent Germany at the World's Fair and the result is most admirable and most instructive. The city of Berlin, the Royal Prussian Ministry for Medical Affairs and the Imperial Board of Health have made a most systematic exhibition.

Germany shows a model representing her growth in population from 24,833,000 in 1816 to 56,367,000 in 1900; as a nation they are reaping the benefits of an enlightened national board of health and a rigid system of sanitation. The vital statistics of Berlin show that the death rate has fallen steadily, about 50 per cent. since 1871; the birth rate having also declined 40 per cent. since 1875. In other German cities as, for instance, Frankfort-on-the-Main, the birth rate seems to be maintained, the death rate being a trifle less each year. Germany shows the great advantages accruing from the vaccination law by a chart giving the mortality from smallpox in Prussia compared with other countries. Prussia had the lowest mortality, Sweden next, followed by England and Austria. The deaths from typhoid fever in the Prussian army, compared with other armies, were given as follows for the period 1896-1901: Prussia, .17; Austria, .49; Italy, .98; France, 1.6. It is probably fortunate that the figures for the United States Army during this period were not presented for comparison. Germany has spared us at least that humiliation.

The Imperial Board of Health makes a strong effort in combating epidemic disease. This includes all the infectious diseases, literature relating to which is distributed to those who wish it. These pamphlets have been translated for the benefit of English readers. Their memoranda on tuberculosis and dysentery are valuable and at the same time scientific and easily comprehended. It is held that bovine tuberculosis is communicable to man and there is no relaxation in the safeguards against infected meat and milk. The influence of Behring seems to be stronger than that of Koch. The memorandum on dysentery seems very stringent as it is ordered that children belonging to families in which cases of dysentery prevail must be kept out of school. The statement is also made that the corpses of persons who have died from dysentery can produce infection. They must be removed as soon as possible. Exposure to view in an open coffin and partaking of food in a room where a person has died are dangerous and should not be permitted. Diluted water of cresol is recommended for disinfection. Dr. Kirchner and Dr. Koch of Berlin and Dr. Kreiger of Strassburg have prepared this memorandum.

An excellent paper entitled "Modern Methods and Fundamental Principles of Combating Typhoid Fever," by Prof. Dr. P. Frosch, has been translated into English and is distributed.

The sanitary measures in Germany include sewage farms. Models and sections of these belonging to the cities of Berlin, Breslau and Dortmund are shown. There are beautiful green spaces with flowers and trees, all under high cultivation. The purification of sewage receives the greatest attention.

The sanitary exhibit includes the most advanced contrivances for street cleaning. Their sweeping machines with sprinkling apparatus attached would, I am sure, be welcome to our citizens, but contractors would probably not find them profitable. The refuse carts in use at Kiel have openings for the reception of street dust; they are always closed except as dirt and rubbish are deposited. Every precaution is taken against stirring up dust. One model, called the "system salubrita," was patented in the United States, but is used in Cologne. The entire load can be lifted away from the running gear and loaded on cars or boats. Ingenious house garbage pails in use at Frankfort are shown.

The German government evidently realizes that "perfection is made up of trifles, but that perfection is no trifle." Americans must admire and wonder how long they will have to wait until such things are possible in a government of the people, for the people and by the people.

Undoubtedly the German Emperor fosters sanitation as no other monarch does. Statues and portraits of him abound and his subjects are very much in evidence at St. Louis. The great cities of Germany, such as Dresden and Stuttgart, are represented by models. The water-works of Kiel are shown with the system of pipes exposed, and the most beautiful views of the town of Chemnitz, Ems and the coast of Norderney with its famous sea baths attract attention.

The great universities of Bonn, Breslau, Marburg and Leipsic are well represented, and the new buildings of the Royal Charity Hospital of Berlin. Professor von Bergmann's clinic is represented in part by life-size wax models representing his operations for extirpation of the larynx, for making a gastric fistula and the Bassini operation for inguinal hernia. These models are in series according to the steps of the operations; actual instruments are in place and all structures are faithfully represented.

In the exhibit of the Royal Surgical Clinic at Breslau we find the portrait of von Miculicz-Radecki and models of his operation for resection of the intestine, for making a new communication between the stomach and intestine and for removal of a portion of the stomach. Operations on the inferior maxillary are also shown. Instruments for cystoscopy by Professor Dr. Nitze, with photographs made by means of the cystoscope, and all sorts of surgical instruments are displayed. The latest microscopes form an interesting feature. Sections of the brain and an elaborate exhibition of pathologic specimens are shown in a neighboring alcove. The domain of immunity and serum therapy has an extensive exhibit, for the Germans are certainly at home in the field of bacteriology.

The sanatoria for tuberculosis are prominently brought forward. The German institutions are the prototypes and they have certainly exerted a wonderful influence on the treatment of tuberculosis throughout the world. There is a remarkable series of photographs of these institutions of which they are justly proud. To show to what extent and with what perfection tuberculous patients are cared for in Germany. We can not help thinking that the pavilion, cottage or tent system in vogue in this country offers many advantages which these large structures can not possess.

Everyone must be greatly impressed by the elaborate establishments in Germany for baths and hydrotherapy. In Munich Karl Muller's public baths outrank anything in existence in this country. They are endowed and the architecture, the furnishings and the bathrooms and appliances are on a royal scale. Bad Nauheim makes a beautiful exhibit with marble rooms in which are the wooden tubs employed at that resort and a marble-lined tub with spray, douche and temperature-regulating apparatus and the reclining lounge for patients after treatment. The new Imperial Moorbath at Langenschwalbach and the apparatus for preparing the peat are

shown in a model. The municipal healing and swimming baths of the town of Barmen are represented.

AUSTRIA.

In the Austrian building, which is near the buildings of Washington University, we find the Karlsbad exhibit. Superb albums show every detail of this famous health resort. Its popularity is shown by the fact that in 1861 the visitors numbered 3,200 and in 1903, 13,300. From May to September are the favorite months, July being the best in point of attendance. The total number of visitors has been nearly 55,000. In 1902 they gave 355,000 baths. Austria-Hungary furnished the most visitors, Germany next and the remaining European states next. America sent 2,396 in 1902. There was a large falling off in 1893. Even Karlsbad felt our business disasters of that year, when there was a loss of 60 per cent. in the number of American visitors, but last year was the largest and best year. All sorts of data regarding visitors are given and from photographs much can be learned. The Kaiserbad, Prince's bath, mud bath, dressing rooms, the superb Zanderhall; the apparatus for hydrotherapy and cold water cure; the douche table, the tubs, the steam bath, electric light bath, sprudel bath, the schlossbrunn, mühlbrunn, curhaus, military curhaus, salt works and waters exporting house are all shown.

BELGIUM.

Across from the Austrian building is the Belgian building. Before you enter you read something of the part Belgium has taken in the advancement of civilization. They are justly proud of the fact that the first General Congress of Hygiene was held in Brussels in 1854; the first International Congress on the Laws and Regulations of War, in 1874; and the first International Congress of Charity, in 1856. As you enter, the University of Ghent with its institutes of hygiene, of bacteriology and of legal medicine; the University of Liege, with its clinical hospital and the portraits of its professors, attract attention. The National League of Belgium Against Tuberculosis is represented here and the placard "Ne crachez pas par terre!" shows what they are doing in that direction.

TRAVEL NOTES.

I. TRAVEL AS A MEANS OF POST-GRADUATE MEDICAL EDUCATION.

NICHOLAS SENN, M.D.
CHICAGO.

SAN FRANCISCO, July 7, 1904.

For the second time I am on a tour around the world—this time in an opposite direction from East to West, via India. I leave San Francisco on the steamer *Sierra*, July 7, and if I am spared the disease-producing effects of the tropical climate and not delayed by failing to make timely connections, I expect to reach New York on the *Kronprinz Wilhelm*, October 11. Three years ago I girdled the globe via Siberia in three months and twenty days. That trip was replete with information of all sorts, general and professional, and the pleasure of it was enhanced by the companionship of my friends. Prof. D. R. Brower and Drs. Martin and Frank.

I am very well aware of the fact that midsummer is the wrong time to undertake a journey through India, owing to the intensity of the heat, but I expect to receive at least a partial recompense for the expected sufferings incident to unfavorable climatic conditions by avoiding crowded hotels, cars and steamers, which so often detract from the pleasures and benefits of travel during the winter season, when the tourists elbow their way over this popular pathway around the world. This, at least, was my experience in visiting the Holy Land and Egypt during the summer months on a former occasion.

Beside, the duties of my college work are such as to preclude all possibility of seeing India at the most desirable time. My friends who had contemplated making this long journey with me have all, one after the other, decided otherwise, so I shall find myself alone for once from one end of the world to the other. This isolation also has its advantages and charms. The time will belong to me exclusively and I shall dispose of it in the most profitable manner in studying the different places of greatest interest, the people, their customs and habits. I shall also devote special attention to matters pertaining to our profession and report from time to time to the readers of THE JOURNAL the results of my observations. Experience has taught me that in traveling in tropical countries the best means to counteract the baneful effects of heat is work, mental and physical. It is under the influence of prolonged heat that inactivity begets mental and physical languor, while exercise of body and mind increases the force of the enfeebled circulation and stimulates the organs of secretion and excretion to greater activity. Before leaving the Pacific Coast I desire to discuss very briefly the subject indicated by the title of this, my first communication, and in doing so I fully realize what Cicero said of letter-writing:

> "We write differently when we think that those only to whom we write will read our letters, and in a different style when our letters will be seen by many."

My prospective letters mean letters to the over 31,000 subscribers of the official organ of the American Medical Association, many of whom I count among my most esteemed and intimate friends, hence my diffidence and uneasiness in beginning.

From time immemorial travel has been recognized as an important element in acquiring a general education and in obtaining proficiency in the professions, arts, sciences and trades.

It is the study of men and manners in different climes and varying social and political conditions that proves so useful in enlarging the views of life and weighing its possibilities. Horatius was fully aware of this when he wrote:

> "The knowledge of men and manners is the first principle and fountain head of good writing."

Before machinery usurped the place of hand labor mechanics and tradesmen acquired their technical knowledge by serving as apprentices for a number of years under the supervision of an acknowledged master, and after having obtained the required proficiency they spent another year or two, their *wanderjahre*, in traveling from place to place in perfecting themselves in their vocation by familiarizing themselves with the practical work of different masters, before they considered themselves fully qualified to take their independent stations in life. In this manner they acquired a reliable knowledge of the details of their work, which no one master could impart. If travel and observation and practice under different masters in the acquirement of a thorough knowledge of the different trades are such important factors of success in the world of business, it must appear very evident that the same means are even more desirable and efficient in the study of medicine and in keeping pace with the wonderful advancements and improvements of the most progressive of all professions. In this age of research and discoveries, the science and the practice of medicine and surgery are undergoing revolutionary changes from day to day, and the ceaseless search for truth and facts makes it necessary for the modern practitioner to keep abreast with the latest and best pertaining to his calling.

In our day this means much. It was not so in the remote past, when the authority of writers of popular text-books remained unchallenged for centuries. We live in an age characterized by progressiveness, deep scientific investigation, free and sharp criticism. Theories advanced by one are overthrown by another unless they stand the crucial test of successful repetition by acknowledged leaders in the profession. What was new yesterday may become old and obsolete to-morrow. Scientific work is no longer confined to a few favored institutions; it may be seen in all parts of the civilized globe. Nations and institutions are now engaged in a laudable competition to excel in blazing new pathways through the still unexplored territories of scientific medicine. It is by the concerted, systematic, scientific investigators of disease in all climes and under varying conditions that we must look for more radical measures in the prevention and more successful

treatment of disease. There is no time in the life of a medical man when he feels more confident and competent to battle successfully with disease and perform the most difficult operations than on the day he leaves his alma mater, diploma in hand, ready to seek his place in the crowded ranks of his future profession. If the new aspirant for a liberal patronage is honest, it will not take him long to discover his shortcomings and crave for more knowledge. He will be made painfully aware of the fact that

> "Because all the sick do not recover, therefore medicine is no art."—Cicero.

The completion of the study of medicine, even in the best equipped medical colleges and universities, furnishes at best but the foundation for the subsequent post-graduate education. If the foundation is firm and the building material contributed later substantial and in sufficient abundance, the resulting structure will resist fire, wind and storm, a lasting monument to the builder. If the foundation is defective and the building material not of the right sort, failure and disappointment will surely follow misdirected efforts, no matter how earnest and persistent they may have been. The successful physician and surgeon will be the one who, with the day of his graduation, enters on a rational, well-planned post-graduate course of the study of medicine and its allied sciences. This constitutes a life study. Without it the practice of medicine inevitably soon degenerates into a miserable trade. The reading of new textbooks and the best current medical literature, passive and active work in medical societies, local, national and international, laboratory work in the office and local hospitals, are well calculated to meet the needs of the ambitious, conscientious practitioner, but they will not suffice in giving him the best possible opportunities to keep in touch with the spirit and practice of the extraordinary age in which we live. Reading and seeing are two entirely different things. The eye is the great educator in technics of all kinds. It is one thing to read the description of a complicated operation: it is another thing to see it performed by the hands of a master. Textbooks, valuable as they are, are but poor substitutes for actual instructions and demonstrations in clinical and laboratory methods. Personal intercourse with prominent men in the profession imparts a stimulation for more earnest and more effective efforts not obtainable to the same extent in any other way.

A personal acquaintance with men who have earned a well-merited reputation in the advancement of our profession is a source of great gratification and excites a new interest in the work he has accomplished. The study of strange diseases in distant countries fills a gap which a college education and subsequent reading can not fill. An accurate knowledge of climatic conditions and their effects on health and disease can only be acquired by travel.

For the professional man, and especially for the physician, travel opens a field of learning and affords opportunities the importance of which can not be overestimated. In order that travel may yield the desired results, both physically and mentally, it must be carefully planned and properly conducted. The demands on the time and energies of an exacting, laborious practice are such that fatigue, bodily and mental, must follow sooner or later. Of all learned professions the medical is the one in greatest need and most deserving of a long, free-of-care annual vacation. It is hard to make the public believe this, but it is nevertheless true. During the summer months the complicated mechanism of the law comes to a standstill and the lawyers take their vacation without crippling their bank account to any considerable extent. The fashionable churches close their doors when the members of the congregations leave for their luxurious summer homes, and the rectors and preachers, with purses well filled with gold by their appreciative parishioners for their vacation expenses, leave the great cities and spend their allotted leisure weeks and months where they are sure to find rest, comfort and recreation. It is the physician who is expected to work from one end of the year to the other, ready for call by day and night, in sunshine and storm. It is the physician whose annual income suffers when he leaves his practice for a much-needed outing. It is the physician who carries away with him the weight of his responsibilities to a greater extent than the members of any other profession when away from daily routine work. The public must be made to understand that medical men are entitled, above any other profession or class of men, to an annual vacation, and that such vacation, properly spent, will bring to their patients better service, and will be one of the most important factors in promoting the science of medicine, public hygiene and sanitation.

Where and how shall the physician spend his vacation?

> "Travel, in the younger sort, is a part of education; in the elder, a part of experience."—Bacon.

The physician who has the interests of his patients and profession at heart will not be content, like most professional and business men, to spend his precious vacation time in idleness at some fashionable seashore or mountain resort or to imbibe the questionable pleasures of city life. The working time of a professional career is too short to waste time by idleness or dissipation. Rest to him means work of the right kind. What wears a busy doctor out is not the physical work he does, but the care and sense of responsibility it carries with it. The greatest pleasure to him is to see others work, and the sweetest rest a freedom from care. Brain fatigue is more frequently caused by care, real or imaginary, than overwork. A man in average health can do an incredible amount of congenial work, but it is care that furrows the face and blanches the hair prematurely.

Relieved of care the physician on his vacation is in the best possible mood to reap the benefits of the work of others near and far. The visits to laboratories, hospitals and museums, the personal contact with colleagues in different countries, the inspection of new instruments, the practical work in the operating room and laboratory will become to him fascinating and instructive object lessons. The genuine feeling of fraternity among medical men throughout the entire world will insure to the earnest and honest seeker of knowledge a most friendly reception, provided the visitor conducts himself properly. The American, born in a land where the idea of equality among men is pre-eminent, in order not to give unintentional offense, must adapt himself to the customs of the countries he visits, and thereby secure the good-will and friendship of those whose work he is privileged to see.

In Europe the matter of titles conferred by the governments on medical men is confusing to the American visitor. Fortunately our forefathers guarded against anything reminding one of royalty to take foothold on our soil. In Europe and any of the European possessions and Japan a titled person must be recognized and treated as such. The title professor there means much more than with us, for the reason that it can not be made use of without being granted by the government. A professor must, therefore, not be addressed as doctor, as is customary in our country, where the freshman medical student does not hesitate to make use of this common and familiar term in addressing his teachers, and if he comes from some rural districts, where physicians are too familiar with their clients and neighbors, he may be bold enough to shorten the word to "doc."

As soon as a European professor is honored by a government title he has a decided preference for the latter, hence, if he is a lord, sir, excellency, geheimrath, baron, pasha, bey, etc., he expects to be addressed by the titles with which he has been honored.

Another thing the traveling physician should always be mindful of, and that is not to pester the teacher or operator with unnecessary questions. Many of these men we meet are very busy, and their temper is sometimes ruffled by overwork. The assistants, less burdened with responsibilities, are always glad to give the required information if approached properly and at an opportune time. The firing of questions, often of an irrelevant nature, at a busy overburdened professional man, is in exceedingly bad taste, and can hardly fail to excite his displeasure. The physician away from his cares and strenuous duties should not undertake to teach or to in-

struct, but should devote all available time to add to his knowledge by seeing, hearing and reading. The visiting physician must become a well-squeezed sponge, ready and eager to absorb, slow in offering advice and in exhibiting his operative skill. The display of technical skill in strange hospitals and clinics should be discouraged, as the operator labors under the great disadvantages of doing his work with unfamiliar instruments and strange assistants, and for these and other obvious reasons can not do himself and his patient justice. The traveling post-graduate medical student, unless he intends to devote considerable time to laboratory work, should not remain at any one place for any length of time. It does not take long to become familiar with methods of teaching and details of operative technic. It is more profitable, and certainly more interesting, to see ten men operate ten times each than to see any one man operate a hundred times. Travel, as a means of post-graduate medical education, does not necessarily imply that the time should be spent in great medical centers, as is too often the case. Some of the very best medical and surgical work is now being done beyond the shadows of medical schools and great metropolitan hospitals. We often learn more of the real merit of a surgeon who is thrown entirely on his resources in some remote, small, isolated city, whose instrument supply is limited, assistants few and perhaps inexperienced, than when we witness the operations by recognized masters in the palatial hospitals, supplied with everything that modern surgery could possibly suggest, and assisted by a large staff of well-trained, experienced resident surgeons.

In our country and abroad magnificent little hospitals are being built in the smaller cities and large villages in which the patients receive excellent nursing and the very best medical and surgical service. Some of these places in our own country have recently become famous for the excellency of the surgery practiced. Among these Rochester, Minn., and Oshkosh, Wis., deserve special mention. The Mayo brothers at Rochester control the lion's share of the surgery of the west, and their hospital in the little prairie city of not more than 5,000 inhabitants has become a Mecca for the surgeons not only from this country but from abroad. There is no other hospital on this side of the Atlantic in which so many important operations are performed daily as in this one. It would be difficult for any one to visit St. Mary's Hospital, Oshkosh, a city of 30,000 inhabitants, in which Dr. C. W. Oviatt does his surgical and gynecologic work, and find him perform less than three or four major operations, any day of the year. These are by no means isolated instances, there are many other comparatively small cities in which the traveling physician will find excellent physicians and surgeons from whose example and practice he will carry away many new ideas, suggestions and hints of scientific and practical importance. The clinical teacher is not necessarily the best physician or surgeon, as much of his time and talent are consumed for the benefit of his students. It is the man with a solid, scientific foundation, endowed with a keen, practical sense, studious and devoted to his work, who generally scores the greatest success. Travel from place to place has this one great advantage, that the traveler does not become one-sided nor too much influenced by the views and practice of any one man. The traveler must know how to discriminate, what to reject and what to adopt. We often learn more from shadows than light and from mistakes than a correct technic. The privileged visitor must be slow in criticism and grateful for the opportunities he is given to familiarize himself with methods employed by men in various parts of the world. Let him travel from place to place, cultivate the personal acquaintance of his professional colleagues near and far and learn from them all he can and remember that

> "The use of traveling is to regulate the imagination by reality, and instead of thinking how things may be, to see them as they are."—Johnson.

Many men with brilliant minds and endowed with the purest and noblest ambitions to succeed in their calling fail in reaching the intended mark because they did not keep in touch with the outside world. In the practice of medicine isolation is a dangerous thing because it engenders a routine practice from which it is impossible to escape in late attempts. The observation of the work of others, the interchange of ideas and experiences constitute a course of post-graduate education which can not be supplanted by the greatest diligence in reading and hard laboratory work. The young doctor should take short vacations, and with advancing age the length of vacations and scope of travel should increase. Away from trouble, free from care, the wandering physician will find between his hospital visits, laboratory investigations and museum studies most profitable opportunities to dip deep into the great and inexhaustible book of nature. I can hardly conceive of a physician who loves and values his profession who should not take the deepest interest in medical geography and everything that pertains to it. The physician can not help making man, under the most varying conditions, climatic and social, a life study. He can not resist the allurements of the vegetable and animal kingdom under most diverse conditions of climate and soil. Away from the bedside and operating room, out of reach of the moaning, of the suffering and the anxious faces of the parents and friends of the afflicted, he will instinctively turn to the more pleasant phases of life and study and admire the wonderful works of the Supreme Creator of all things, animate and inanimate. Away from toil the sun will appear to him brighter, the stars nearer and more brilliant, the flowers more beautiful, the foliage and sward greener, the song of birds more cheerful, the babbling of brooks more gentle and the language of the talking ocean sweeter than when eye and ear are engaged by the afflictions of his suffering clientele. Let the overburdened, careworn physician remember when away from care and anxiety

> "We place a happy life in tranquility of mind."—Cicero.

(*To be continued.*)

Criticism of the Mosquito Theory of Yellow Fever.—N. Vergueiro analyzes the article by Ribas and also the report of the French Yellow Fever Commission (see pages 983, 1057 and 1369), and states that his extensive experience and observation at S. Paulo and elsewhere in Brazil have demonstrated that their premises are erroneous. He is one of the collaborators of the *Revista Medica de S. Paulo* and his article on the subject is contained in Nos. 3 to 6 inclusive. He does not accept the mosquito theory of the origin of the yellow fever, and states that the bite of a *Stegomyia fasciata* infected with blood from a yellow fever patient causes a disease, but it is an infection *sui generis*, extremely benign and never fatal, and it is not yellow fever. This infection does not confer immunity to yellow fever later. He ascribes the focus of yellow fever infection to the filthy subsoil of certain localities, although in exceptional instances objects may be contaminated and convey infection. The holds of ships are liable to unite conditions similar to those found in filthy subsoils, and thus afford opportunities for a focus of yellow fever to develop. Yellow fever is acquired at night, he says, and out of doors. Infection from the stegomyia is acquired inside the house. This mild pseudo-yellow fever derived from the bite of an infected mosquito explains the cases that have been assumed to be recurrences of yellow fever. The predilection of the stegomyia for localities where the subsoil is contaminated explains the frequent coincidence of these mosquitoes and epidemics of the icteroid type. The greater or lesser number of mosquitoes of this species present during a yellow fever epidemic in various localities and at different times in the same locality, explains the great differences in the death rate of different epidemics, as the cases of the infection *sui generis* from the mosquito bites are confounded with those of true yellow fever. Whenever the climatic conditions forbid the presence of the stegomyia, an epidemic of yellow fever developing on a contaminated subsoil without the stegomyia inevitably affords an unusually high mortality, and there are no instances of the supposed recurrences. He sustains all these assertions by data personally collected from various localities.

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THE PREVENTION OF DIPHTHERIA.

When the transmissibility of diphtheria became known, certain procedures naturally developed which were intended to hinder the spread of the disease. At first these methods consisted in a so-called disinfection of the rooms and articles regarded as infected and in a brief isolation of the sick. Later the increasing knowledge of the nature of diphtheria and of its manner of spreading have rendered the problems much more complex than apparent previously.

As regards disinfection, as ordinarily practiced, its rôle in the prevention of diphtheria must always be a limited one. Of course, rooms must be washed and aired and clothes, utensils and playthings subjected to disinfecting procedures; but even if we grant that hereby are destroyed certain evident sources of infection, it must be remembered that, as we shall point out at once, these are not the only sources that carry the infection broadcast.

In the prebacillary days, isolation of the patient was maintained until the membrane vanished. After the discovery of the diphtheria bacillus it soon was thought necessary that isolation must be continued until all virulent bacilli have disappeared from the throat and nose. This generally takes place in from two to six weeks after the disappearance of the membranes, but there are now numerous instances recorded in which bacilli have persisted for several months. It is, therefore, evident that effective isolation of diphtheria patients, especially in the country, can not always be carried out. It has also been shown that in diphtheria convalescents bacteriologic examinations of throats must be repeated many times with negative results before it can be declared that bacilli no longer are present, because bacilli may be absent, so far as our methods for revealing them are concerned, only to reappear in demonstrable numbers after a few days. How long a bacillus-carrying diphtheria convalescent continues infective will, of course, always remain a matter of uncertainty.

There forms about every diphtheria patient what may be termed an infected circle, composed especially of the brothers and sisters, the parents, the servants, schoolmates and close associates in general, who may carry virulent bacilli in their throats and noses without themselves necessarily becoming ill. This condition has been designated as "latent diphtheria," "hygienic diphtheria," etc. In such persons may be abnormal states in the nasopharynx—"sore throat"—and to such have been applied the term "diphtheroid conditions." Numerous statistics are now at hand bearing on this phase of the question, and we may say that the largest numbers of bacillus carriers develop or are found in conjunction with cases of diphtheria where the daily, personal relations are most intimate; that is, in the family (10 to 50 per cent.), in schools (up to 25 per cent.), in hospitals, institutions, barracks (10 to 20 per cent.). Repeated observations show that when cases of diphtheria develop, for instance, in a school, a certain more or less varying percentage of the pupils will be found to have virulent bacilli in their throats, and of these pupils many may escape clinical diphtheria. While it is not possible to say dogmatically that all such bacillus carriers have received their bacilli from established cases of diphtheria, yet there can be no question but that a dissemination of bacilli, as a rule, takes place about foci of diphtheria, and it lies very near at hand to regard actual cases as the principal sources, especially of virulent diphtheria bacilli. To what extent the healthy bacillus carriers may infect others is also undecided, although the fact that the bacilli are virulent (for animals) may make these sources of danger under certain circumstances.

It has also been found that diphtheria bacilli are present in the throats of a small percentage—1 to 3 per cent., and even larger—of healthy persons in general, even when diphtheria is not present. In many of these cases, perhaps in most, the bacilli are not virulent, and the consensus of opinion seems to be that such cases play no rôle in the spread of the disease.

When it was discovered that healthy persons may harbor diphtheria bacilli in their throats and noses, the thought at once arose that such persons must be important, perchance the most important, factors in the spread of the disease. In some cities wholesale isolation of bacillus carriers was practiced, but this prophylactic measure does not seem destined to vigorous continuance, especially on account of the great practical difficulties of various nature connected with the isolation of well persons, as well as because of a reasonable doubt as to the actual danger of infection from such persons. There is a noticeable tendency among recent authoritative writers —Aaser, Gabrietschewsky—to minimize the dangers of transmission of diphtheria by healthy bacillus carriers: they point out that there is little empirical evidence in favor of such transmission. The harmlessness of healthy bacillus carriers who have not been in close relation with actual cases of diphtheria is generally acknowledged.

While isolation of the sick and disinfection are well-established prophylactic measures, whatever one may think of the wisdom of isolation of healthy bacillus carriers were it practicable, probably the most important measure at our disposal for the prevention of diphtheria is antidiphtheria serum. This was emphasized early by both Roux and Behring. The latter has long advocated serum as the only practicable method of preventing diph-

theria. Of late years the use of serum for this purpose has unquestionably increased rapidly, and numerous striking examples are now recorded of prompt jugulation of threatening epidemics in schools and hospitals, as well as other institutions, by the liberal use of serum. In general, from 300 to 500 immunizing units are regarded as sufficient for this purpose. In case chance for infection should persist, this injection should be repeated in three to four weeks, because that is regarded as the average duration of the passive immunity established. It has been estimated that used in this way the serum will protect against diphtheria in from 97 to 100 per cent.

American boards of health have long been impressed with the value of immunizing injections in the prevention of diphtheria. In the circular to physicians recently issued by the department of health in New York City,[1] certain statistics are quoted from the records of the department, which show that from Jan. 1, 1905, to Jan. 1, 1903, preventive injections were administered to more than 13,000 persons, of whom 3 per cent. contracted diphtheria of a mild type, although all had probably been exposed to infection because of the presence of the disease in other members of the family. Other statistics indicate that in persons similarly exposed, but not so treated, a many times larger percentage of cases of diphtheria develops with a rather severe death-rate.

In a school in Paris, diphtheria appeared from time to time between November 10 and December 5, when the school was closed, and 164 pupils—more than 90 per cent. of the total number—were immunized. The school was opened again on December 8, and no new cases appeared (Netter). In Norway, in which this phase of the diphtheria question has been studied very actively, the preventive use of serum is quite general, and numerous instances are cited of the prompt limitation of outbreaks in schools without interruption of the work. Aaser was able to prevent the development of new cases after the introduction of diphtheria into his scarlet fever and measles wards, and that without disinfection, merely by immunization. This is the more significant when we recall the susceptibility of measles patients to diphtheria. Another striking example of the value of preventive serum injections is the following (Aaser): Of 101 well persons who were isolated because they had bacilli in their throats and received serum, not one developed diphtheria, while of 117 persons isolated for the same reason, in the same place, and about the same time, but none of whom received serum, 7 came down with diphtheria. Other examples of similar nature are recorded. It is evident that serum does what neither disinfection nor isolation can do—prevent disease in the already infected susceptible person, and by so doing it also prevents the establishment of a new focus for dissemination of infection. We hope that the preventive use of serum will be generally adopted by physicians throughout the country. It may be pointed out that this form of prevention of diphtheria is in its general features quite like the usual prophylaxis of smallpox—isolation of the sick and vaccination of the exposed.

1. THE JOURNAL A. M. A., May 7, 1904, p. 1227.

A BACTERIAL STANDARD FOR CITY MILK SUPPLIES.

The recent action of the Boston Board of Health providing for the condemnation of any milk or cream that is found to contain more than 500,000 bacteria per cubic centimeter, is likely to cause renewed discussion of the desirability and feasibility of maintaining a legal bacterial standard for the milk supply of large cities. The trend of expert opinion has for some time past seemed to be toward such a step as that taken by the Boston authorities. The milk commissions that have been established in several places have adopted from about 10,000 to 30,000 per c.c. as marking the maximum permissible bacterial content in milk that can receive the seal of approval and be designated as "certified." These specifications have been based for the most part on detailed observations of the bacterial changes in milk, both under indifferent and under reasonably reformed conditions of collection and transportation. The definite requirement of a standard has in itself had a wholesome effect. The health authorities of some cities of moderate size have been so far influenced by recent opinions as to put into practical application standards of a fair degree of stringency. The encouraging and really remarkable results that have been achieved in this direction in Montclair, N. J., and some other places are well known to sanitarians. At the last meeting of the American Public Health Association, in a report of a four years' campaign in maintaining a bacterial standard of cleanliness in the milk supply of the city of Rochester, N. Y., it was stated that the monthly average of bacteria in the milk had been reduced from 796,000 per c.c. in 1900 to 209,000 in 1903.

These facts suffice to explain the existence of a widespread conviction among bacteriologists that it is both practicable and important to establish some sort of limit to the bacterial contamination of city milk. The examinations that have been made of market milk in the larger cities in this country and abroad show that the number may vary from a few thousand per c.c. up to 50,000,000, or even higher. The average of any representative series of samples is likely to be considerably more than 1,000,000, or about the average of city sewage. While there seems to be no doubt among bacteriologists respecting the undesirable and unnecessary character of this appalling contamination, public-health officials have not always been agreed about the practicability of inaugurating immediate reform. To many the difficulties of applying so delicate a standard as one based on bacterial data have seemed insurmountable, although it is freely admitted that so far as the public health is concerned the bacterial content is on the whole more significant than the percentage of fat and total solids.

The origin of the enormous number of bacteria sometimes found in city milk is now clearly understood. Staleness and uncleanliness are the two great factors in producing the swarms of microbes that often infest milk when delivered to the consumer. It is evident that the conditions that cause milk to be dirty are precisely the conditions that allow it to become infected with pathogenic bacteria. It needs no argument at this day to show that milk that is both dirty and stale constitutes a serious menace to the health of the modern urban community. No one will question that it is possible for any farmer to secure conditions of greater cleanliness than those that at present prevail in many stables and dairies, nor can any one doubt that ordinary intelligence directed to keeping milk at a low temperature will greatly retard bacterial multiplication. There is undoubtedly a growing feeling that the present conditions, deplorable as they are, may be remedied without too great upheaval or injury to "vested interests." Park, as the result of a thorough investigation into the condition of the New York City milk supply, formed the opinion that "with only moderate cleanliness such as can be employed by any farmer, without adding appreciably to the expense, namely, clean pails, straining cloths, cans or bottles and hands, a fairly clean place for milking, and a decent condition of the cow's udder and the adjacent belly, milk when first drawn will not average in hot weather over 30,000, and in cold weather not over 25,000 bacteria per c.c. Such milk if cooled to and kept at 50 F. will not contain at the end of twenty-four hours over 100,000 bacteria per c.c.; if kept at 40 F., the number of bacteria will not be over 100,000 after forty-eight hours." He concludes that, when beyond a certain limit, milk should not be allowed to be distributed, and expresses his judgment that a suitable standard for immediate practical application in New York City would be 500,000 per c.c. for milk entering the city, and 1,000,000 per c.c. for milk delivered to the consumer. It would seem that such liberal standards could work little initial hardship to the producer, while they would be almost certainly the means of materially improving the quality of the milk supply. The enactment by the Boston Board of Health is a move in the right direction, and it is to be hoped the example will be speedily followed elsewhere.

RECURRENT PAINFUL EDEMA WITH HEMORRHAGE.

The disorders of the vasomotor mechanism are manifold, and may be variously combined. Thus, there may be vascular constriction or vascular paresis, separately or in varying combination; and, accordingly, there may result such conditions as local syncope or local asphyxia, or mixtures of the two of varying degree. Many of the phenomena of exophthalmic goiter are of vasomotor origin, resulting probably from the influence of excessive thyroid secretion on the vascular tension. One of the most typical and distinctive members of the group of disorders under consideration is so-called angioneurotic edema, which sometimes occurs independently and at other times in association with other derangements of the nervous system. It can readily be conceived that this designation may comprise not a single disease-entity, but a number of different affections, having in common the phenomena of recurrent and more or less localized edema of neurovascular origin. It is on some such line of reasoning as this that perhaps is to be explained a chronic neurosis, characterized by frequent paroxysms of pain, swelling and hemorrhage in various parts of the body, recently described by Dr. T. K. Monro and Dr. A. N. McGregor.[1] As will be seen, the symptoms are suggestive on the one hand of angioneurotic edema, and on the other of the purpuric type of erythema.

The disorder occurred in a man, 28 years old, who, during a period of seven years, suffered from time to time from attacks attended with pain and swelling in one or more joints or in the fleshy parts of the limbs, followed by discoloration of the overlying skin and relieved by the recumbent posture. Small red, slightly elevated painless spots, surrounded by a white ring, occasionally appeared on the legs, with heat and itching, and disappearing in the course of a day or two. Severe attacks were sometimes attended with malaise, shivering and considerable thirst, but there was no headache or vomiting. In connection with the attacks a little blood was occasionally passed by the bowel, but none was ever observed in the urine, and none escaped from the nasal or buccal mucous membrane. After four years, attacks of pain in the chest set in, with cough, mucopurulent and at times bloody expectoration and elevation of temperature. The tongue was often the seat of discoloration, usually without pain. On one occasion, when the throat became sore and a sense of suffocation developed and was followed by dyspnea, examination disclosed swelling of the pharynx and larynx.

The attacks recurred at intervals of from two to four weeks. The urine was free from albumin and sugar, but at times it deposited crystals of uric acid on standing. The functions of the digestive system were not deranged. The area of cardiac dullness was somewhat increased, but heart sounds were normal. Neither tubercle-bacilli nor pneumococci could be found in the sputum. The percussion-note over the apex of the left lung was impaired, and in this situation consonating râles and friction-sounds could be heard, without alteration in vocal resonance or fremitus. Subsequently signs of involvement also of the right lung appeared. The knee-jerks were exaggerated, but the plantar reflexes were absent. There were, however, no other evidences of disease of the nervous system. The feet were cold, moist and livid. The blood was sterile, and its coagulation-time was normal. The hemoglobin-percentage was 75, but the number of red and white blood corpuscles was normal. Later in the course of the disease

1. Lancet, April 16, 1904, p. 1039.

copious hemorrhage occurred in the mouth, involving principally the soft palate, but extending down to the pillars of the fauces on the left side, and associated with some edema. Shortly after this there was a large hemorrhage in the wall of the left chest, extending vertically from the angle of the scapula to the lower costal margin, and horizontally from the middle line behind to two inches in front of the midaxillary line. Hemorrhages occurred also in other parts of the body.

Death took place rather suddenly in the sequence of an attack superinduced by emotional influences. On postmortem examination the lungs were found to be the seat of miliary tuberculosis, and recent tuberculous lesions were present in the intestines. The heart was slightly enlarged, but the valves and the myocardium were healthy. The kidneys were congested and their capsules adherent in places. The liver was in a state of cloudy swelling. The spleen was enlarged and the seat of hemorrhages, and its malpighian bodies were well marked. The brain was normal, while in the cord only a slight increase in neuroglia was found in the posterior part of the columns of Goll. In the dorsal region especially, but also in the cervical and lumbar regions, the small arteries and capillaries, particularly in the neighborhood of the central canal, appeared unduly numerous and congested, and the surrounding lymphatic areas were considerably dilated. No change was found in the peripheral nerve that was examined.

The father of the patient was an epileptic, while a brother had died of tuberculosis. There was no history of hemophilia in the family, and the patient himself had at no time exhibited symptoms of this disease. He had, further, been free from venereal infection, malarial fever, dysentery and other tropical diseases.

AGGLUTINATION OF TYPHOID BACILLI IN CASES OF PROTEUS AND STAPHYLOCOCCUS INFECTION.

During the last few years a number of facts have come to light which tend to show that the agglutination of typhoid bacilli by typhoid serums is not a specific reaction. The facts thus far recorded do not, however, detract greatly from the diagnostic value of this reaction in typhoid fever. It has been shown, for instance, that typhoid immune serum may agglutinate not only *B. typhi*, but also *B. paratyphi, B. coli, B. proteus, B. florescens liquefaciens* and others. In these cases, however, there was only noted agglutination of bacteria other than the typhoid bacilli by typhoid immune serum, and no mention is made of agglutination of typhoid bacilli by serums other than typhoid serum. The latter point is, however, most important in clinical medicine, because, if it is found that such serums agglutinate typhoid bacilli, the greatest care must be exercised in making a positive diagnosis, even if the Widal reaction is positive. In a recent number of THE JOURNAL[1] we called attention to the fact that we may get a positive Widal reaction in certain cases of jaundice, but some investigators are inclined to believe that this reaction is dependent on an atypical and obscure typhoid infection somewhere in the body. It was pointed out, though, that in some cases only the pus cocci could be isolated.

Lubowski and Steinberg[2] have recently reported two cases of non-typhoid infection in which they got a positive Widal reaction in dilutions up to 1 to 80. Both of these were cases of otitis media, with extension into the sinus sigmoideus, and later general sepsis. From the first case were isolated a staphylococcus, a streptococcus and *B. proteus*, and from the second case *B. proteus* in pure culture. No typhoid infection could be found, although the first case came to autopsy. So far as could be ascertained, neither patient had had typhoid. In the second case (proteus infection) a positive Widal reaction was obtained in dilutions up to 1 to 40, at the first examination, but ten days later the reaction was obtained in dilutions of 1 to 80. Evidently the agglutinative power of the serum had increased during this time. The serum from this patient agglutinated *B. proteus* in dilutions up to 1 to 2,500.

Lubowski and Steinberg immunized rabbits against the organisms which they isolated from these patients and tested the immune serums for agglutinative properties for typhoid bacilli, with the following results: The proteus immune serum in some cases agglutinated typhoid bacilli in dilutions up to 1 to 1,200. The staphylococcus immune serum agglutinated in dilutions up to 1 to 640, while the streptococcus immune serum did not agglutinate typhoid bacilli in higher dilutions than normal rabbit serum. In some rabbits the agglutinative power of the serum for typhoid bacilli could not be increased to an appreciable extent by injections of *B. proteus*. There seems, therefore, to be a difference in different individuals in this respect.

It was pointed out above that no other bacteria than pus cocci could be isolated from some of the cases of jaundice in which a positive Widal reaction was obtained, and here it seems that the pus cocci were responsible for the reaction. Several cases of Weil's disease in which a positive Widal reaction was obtained have also been reported. The *B. proteus* is often associated with this disease, and in these reported cases this organism was probably responsible for the Widal reaction.

We can see now that the sources of error in connection with the Widal reaction are not altogether insignificant, and that too much dependence should not be placed on this reaction alone. This is especially to be emphasized in connection with acute suppurative osteomyelitis, which often resembles typhoid very closely. As this disease is generally caused by the *Staphylococcus pyogenes*, it would not be surprising, in view of the facts discovered by Lubowski and Steinberg, if a positive Widal reaction were obtained in some of the cases. In

1. THE JOURNAL A. M. A., 1904, vol. xlii, p. 1025.

2. Deutsches Arch. f. klin. Med., 1904, vol. lxxix, 396.

other cases of staphylococcus infection and in proteus infections it is possible, as we have just seen, to make equally grave errors in diagnosis if too much reliance is placed on the Widal reaction.

THE ANNUAL SESSIONS.

The next session of the American Medical Association will be held in Portland, Oregon. The coast was entitled to a session, and that at Portland will be good for the Association and for the profession of the Pacific slope. The distance is so great for the majority of the members that the attendance can not be expected to approach that of the recent record-breaking session at Atlantic City, and yet facilities of travel and other essential factors have so improved that it will not be surprising if the attendance at Portland greatly exceeds that which most anticipate. Even with a smaller attendance, however, there will be no falling off in interest and profit. It is unsafe to guess at futures, but there certainly seems ground for the belief that the Association will next year accept for 1906 the very cordial invitation of the Massachusetts Medical Society to meet in Boston. It seems highly probable, therefore, that the next two session-places are pretty well settled, and this, then, seems an appropriate time for some consideration of the whole question of the annual session-place. The Association is so large that its requirements necessitate confining the sessions to such places as can comfortably accommodate large numbers. Atlantic City is an ideal meeting-place, and some members suggested that all sessions be held there. That, of course, is not feasible, but it does seem as if every third or fourth session might well occur there. Saratoga also, with the one exception of being just off a main line of travel, is excellently equipped to care for the Association, and one other session out of every three or four might well be held there. Then, if it is desirable to arrange a somewhat fixed schedule of sessions, one out of, say, ten should go to the Pacific Coast, another in the same interval to the South, and another to the headquarters of the Association's business interests—Chicago. These points should be considered by the members, and especially by the delegates, with a view possibly to deciding on some definite plan for the annual sessions at so favorable a time as the present when there is no contest between rival places to be adjusted.

EARLY STAGES OF THE TUBERCLE BACILLUS.

A remarkable contribution to the bacteriology of tuberculosis has recently been made by E. Klebs[1] which, if it receives confirmation, will revolutionize our methods of diagnosis of this disease. Klebs has for some time insisted that our knowledge of the *Bacillus tuberculosis* is confined to the completely developed organism—to the stage when the bacillus contains fatty substances which enable it to take the Ziehl-Neelsen stain. The earlier stages, however, before the formation of fat, should be demonstrable in tissues which are undoubtedly tuberculous, as shown by histologic examination, but which contain no bacilli staining by the usual carbol-fuchsin-nitric-acid method—as, for instance, tuberculous lymph glands, testicles and tuberculous lesions of the skin. By cultivating the tubercle bacilli in fluid media, Klebs claims to have succeeded in demonstrating the early, fat-free stages of development of this organism. Staining such cultures by Ziehl-Neelsen shows at first no acid-proof rods, only a fine granular ground substance, which, after thorough staining with borax-methylene blue, is seen to consist of extremely small granules and rods, the former predominating in the first, "veil-like" growth, the latter in a later stage when the growth has become denser and white. In the third stage, the usual yellowish culture, the acid-proof rods appear. Thus the granules and tiny, fat-free rods are to be regarded as forerunners of the tubercle bacillus as we know it. If these observations prove well founded, we may have to pass under review our previous conceptions as to the distribution of tuberculosis, for the only lesions now recognized as such are those in which, at some time, if not invariably, the acid-proof bacillus has been demonstrated. We shall also be obliged to adopt new methods for the clinical examination of suspected fluids and tissues. Dr. Klebs announces his intention of devoting his whole time to the study of this question, and his results will be awaited with interest.

1. Die kausale Therapie, vol. I, 1904, p. 183.

THE PURSUIT OF NOVELTIES IN MEDICINE.

The tendency to overvalue the new and strange at the expense of the old and tried, with the resultant faddism, is a characteristic of human nature, and is of necessity found in physicians as in the rest of mankind. The tendency undoubtedly leads to the rapid adoption of new methods of value, but it also leads to the widespread use of many methods of very doubtful worth. The recent address of Sir Dyce Duckworth[1] is really a protest against the indiscriminate adoption of new appliances, and the indiscriminate use of new drugs and methods of treatment. There is much truth in Dr. Duckworth's remarks concerning the use of so-called instruments of precision in the modern study of disease. While of the greatest value in some instances, there can be no question that their use has led on the whole to a decay of the powers of observation dependent on the use of the unaided senses. The trouble lies, of course, not with the instruments themselves, but with those who use them. The indolent streak which is present in most of us causes us to be on the lookout for short cuts and quick methods, and we are apt to grasp at the latest appliance as the diagnostic philosopher's stone for which we have so long been searching. Then, again, the profession as a whole has apparently not yet learned that the results obtained by the use of instruments of precision are to be correlated with the clinical findings, and not to be treated as separate and exact data. Dr. Duckworth's address also contains a protest against the reckless administration of the many new drugs with which the market is flooded. Speaking from the standpoint of an old practitioner, he reviews the history of most of these preparations, and shows that, as a rule, they have fallen into disuse in two or three years after their introduction. It is impossible, as he points out, for the busy practitioner

1. British Medical Journal, June 11, 1904.

to properly inform himself as to the action of these new remedies except by trying them on his patients—a very unjustifiable procedure. His address intimates that in his opinion the well-recognized and standard remedies are being greatly neglected for others, about which we know but little.

FOREIGN EMBRYONAL CELLS AS CAUSE OF CANCER.

A scientific theory certainly challenges attention when it is based on logical reasoning and is sustained by the successful results of five out of seven inoculations of animals, and by the positive findings of the biologic, prepared-serum test. All this evidence has been accumulated by George Kelling[1] of Dresden, in favor of his theory that malignant tumors are due to the parasitic action of foreign embryonal cells. He shows how frequently living embryonal cells may gain entrance to the body, as, for instance, in raw or imperfectly cooked eggs, in fishes' or insects' eggs, in the food or drinking water, or they may be inoculated by the bites of insects. Reasoning from these premises, he inoculated fourteen dogs with a small amount of a suspension of hens' eggs ground in a mortar and mixed with physiologic salt solution. Seven of the animals were killed in the course of a few weeks, and in five a malignant tumor was found to have developed. The first dog had been injected in the testicle and femoral vein, and a tumor showing the structure of a round-celled sarcoma was found in the testicle, and another, as large as a cherry, with the structure of a malignant adenoma, was found in the liver. The second dog had been injected in the vein on a loop of small intestine, and when killed sixty-nine days later the liver was found permeated with a malignant growth, with two tumors resembling malignant adenomata. The other dogs were injected in the liver or vein nearby, and two developed a spindle-celled sarcomatous growth in the liver, the fifth dog an alveolar malignant tumor. His communication is accompanied by illustrations of the microscopic findings which apparently confirm his assertions. His theory is further sustained by the positive findings of the biologic, specific test for albumin. He was able to demonstrate by this means that in two cases of carcinoma of the pylorus, albumin from the hen was present along with the human albumin. Some of the carcinoma substance was injected into rabbits to produce a "prepared serum" for the biologic test. This serum induced precipitation in the cancer extract, as also in human blood and in hens' blood, but there was no precipitation in blood from other sources, nor when normal rabbit serum was used. He remarks that as this test is considered reliable enough for forensic purposes, these findings are strong confirmation of the assumption that the two women with carcinoma of the pylorus had embryonal hen flesh in their malignant growths—pounds of it, as the growths were so extensive. Kelling does not hesitate to announce that the problem of the etiology of malignant tumors is on the right road to solution by adoption of this theory. The assumption of metaplasia as the cause of malignant tumor formation must be abandoned. The positive outcome of the biologic tests with prepared serum suggests the entire prophylaxis and therapy of malignant tumors, he thinks, and he has already instituted treatment of carcinomata on this line. Aberrant embryonal cells may induce a tumor in the organism, of auto-origin, but he is convinced that such tumors are benign in their nature. The malignant ones are those due to foreign embryonal cells. Their susceptibility to radiation he cites as another argument in favor of his theory. Every contribution on the subject of the etiology of cancer is interesting, and control researches by others of Kelling's researches are now in order, to determine the truth of the general biologic law of foreign-cell parasitism in tumor formation. A promising field of research is outlined by his suggestion in regard to study of embryonal cells, of auto-origin, in the embryo, as, for instance, in eggs.

1. Münchener med. Woch., vol. li. No. 24, June 14, 1904.

THE PRACTICE OF MEDICINE.

The practice of medicine is variously defined, but the most limited application of the term is made by those who wish to practice medicine without complying with the reasonable requirements of law. The profession is always glad to see judges look at the matter in a broad way, as Judge Davis of the Court of Quarter Sessions of Philadelphia has done. His charge to the jury in the case of one Thomas E. Eldridge contains a clear and concise statement that is worth quoting:

First.—The practice of medicine consists in the offering of service and assuming the responsibilities of treating diseases, deformities and injuries, no matter by what means this is professed to be done.

Second.—Every state, because of the inherent nature of the calling of medicine, possesses the right both constitutionally and legally to demand a standard degree of qualification which will protect citizens from the consequences of incompetency and unskilled practice.

Third.—Anyone practicing medicine without the license of the state, which license is on the part of the state a guarantee of the possession of the qualification to safely pursue medical practice, is an illegal practitioner.

Everyone, therefore, who offers service as outlined, no matter by what means he professes to treat diseases, deformities and injuries, must, as a condition precedent thereto, have obtained the license in accordance with the laws of the commonwealth as finds them so doing.

This makes the practice of medicine—so far as the jurisdiction of the court in question is concerned—consist of the offering of service as a physician and the assumption of the responsibility of treating disease. The means used is not a matter of vital importance and the attempted evasion of the law by the defense that the alleged doctor did not prescribe drugs, etc., was seen to be a fallacy by the impartial judge. The trial developed the fact that the defendant had a diploma from an institution called the Eastern College of Electro-Therapeutics, and that he was practicing on the basis of that authority, pretending to be exempt from the medical practice law of the State of Pennsylvania. This calls attention again to some institutions which, although they pretend to give regular courses of instruction in certain branches, are little better than diploma mills, in that they turn out half-educated men who are prejudiced against the science of medicine in its broad sense, and who are ready to evade the laws of the state wherever they require more education than these would-be doctors possess.

Medical News.

CONNECTICUT.

Infectious Diseases.—During June 391 cases of measles were reported in 49 towns, 138 cases of scarlet fever in 30 towns, 24 cases of cerebrospinal fever in 7 towns, 107 cases of diphtheria and croup in 28 towns, 60 cases of whooping cough in 13 towns, 24 cases of typhoid fever in 15 towns, and 21 cases of consumption in 13 towns.

June Mortality.—The State Board of Health states that, according to the reports received, there were 1,128 deaths during the month of June. This was 189 less than in May and 35 less than in June of last year, and 45 more than the average number of deaths in June for the five years preceding. The death rate was 15 for the large towns, for the small towns 11.3, and for the whole state 14.1. The deaths reported from infectious diseases, including diarrheal, were 142, being 12.5 per cent. of the total mortality. During the month there were 1,968 births.

ILLINOIS.

Chicago.

Personal.—Dr. P. J. H. Farrell, who was severely injured in the Wabash train wreck, July 3, is recuperating on his farm in New York State.

The Better Milk Crusade.—Suits against 314 delinquent milk dealers were successfully prosecuted during last week by the department of health. The highest penalties, $50 and costs, were inflicted on two classes of offenders—those selling below-grade milk after warning and those found guilty of using preservatives, chiefly formalin.

Decreased Death Rate Among Children.—The department of health, in its weekly bulletin, again calls attention to the value of education in sanitary and hygienic matters as a preventive of sickness and death among children. It reports that in 1870 there was a proportion of something over 150 children's deaths in every 10,000 of the population. Thirty years later—that is, in 1900—there was a proportion of less than 49 children's deaths in every 10,000—a decrease of more than two-thirds (67.5 per cent.) in a single generation.

INDIANA.

Sickness and Death in June.—The monthly bulletin of the State Board of Health says:

There was a marked improvement in the public health in June as compared with the preceding month, and also with the corresponding month in 1903. There were fewer deaths and fewer cases of transmissible diseases. Rheumatism, as was also the case in the preceding June, was the most prevalent disease. Typhoid fever prevailed unusually at Indianapolis, but was less than in May. The center of smallpox shifted from Clay to Jackson County, but in the whole state there was a 50 per cent. improvement as compared with June, 1903. There were three smallpox deaths, two in Linton and one in Mt. Vernon. The total number of deaths was 2,203, rate 10.1. In same month last year, 2,265 deaths, rate 10.9. Of the total number 14.1 per cent. were under 1 year of age and 27.4 per cent. were 65 and over. Some important causes of death were: Consumption, 317, 11 more than last June; typhoid, 44; diphtheria, 15; scarlet fever, 9; measles, 10; diarrheal diseases, 53; brain fever, 14; influenza, 10; childbed fever, 11; cancer, 71 (almost double typhoid), and violence, 125.

The country death rate was 8.2 in 1,000, and the city rate 13.6. The country disease rates were lower for every disease than the city rates. Of the tuberculosis deaths, 317 were of the pulmonary form. Of this number 167 were males and 196 females. It invaded 206 homes, made 82 widowers, 20 widows and 224 orphans under 12 years of age. How long will the people of Indiana permit this preventable disease to rip them up in this way every month? Of the 125 deaths by violence, 6 were murders, 22 suicides and the remainder accidental.

KENTUCKY.

Louisville.

Personal.—Dr. J. Q. Furnish has resigned as superintendent of the Lakeland Insane Asylum.

Faculty Additions.—Kentucky University Medical Department, holding an all the year session, divided into four semesters, has enlarged its faculty by the election of the following: Dr. Adolph O. Pfingst, formerly connected with the Louisville Medical College, to the chair of physiology, eye, ear, nose and throat; Dr. Roe L. Edmonds, professor of embryology and obstetrics; Dr. V. E. Simpson, professor of materia medica, therapeutics and hygiene. A number of others have been added to the list of lecturers and instructors.

MARYLAND.

Baltimore.

Personal. Dr. Susie A. Price, former resident physician at the Hospital of the Good Samaritan, has gone to Marlinton, W. Va., to practice.

Health Report.—During the week ended July 16, there were 249 deaths, a death rate per 1,000 of 23, the white rate being 21.96, the colored 31.57. Cholera infantum led with 65 deaths, followed by consumption, 25; Bright's disease, 16; cancer, 14; heart disease, 8; pneumonia had dropped to 4. No cases of smallpox were reported this or the preceding week.

Some Summer Outings.—Dr. C. C. Bombaugh is at Newport.——Drs. B. Merrill Hopkinson and Ira Remsen are at Prout's Neck, Maine.——Dr. Staige Davis is at Northeast Harbor, Maine.——Dr. Curtis Burnam is in Frankfort, Ky.——Dr. Rufus I. Cole has returned from a visit to South Bend, Ind.——Dr. Irving Miller is on a cruise up the Hudson and Lake Champlain.——Dr. H. Boyd Wylie is at Atlantic City.——Dr. J. J. Mills is at Webster Springs, W. Va.

The Church Home and Infirmary is to be enlarged and improved at an expense of $40,000. A new building will be erected, 110x42 feet, of brick, three stories high. On the first floor there will be a refrigerating plant, bathrooms, storeroom, etc. On the second floor will be the home for trained nurses with a capacity of 30 nurses. The third floor will be devoted to medical cases, with sun parlor for convalescents. A small building on the corner of the grounds will be used for such contagious diseases as originate in the institution or are admitted inadvertently. Electric lighting will be furnished by the home's own plant. Dr. Frank D. Gavin is physician and general superintendent.

MICHIGAN.

Mortality During June.—Total deaths reported for June numbered 2,445, a decrease of 492 from the preceding month. The death rate was 11.9 per 1,000 population. This number, while low, is still somewhat higher than the corresponding rate for June, 1903. By ages, there were 405 deaths of infants under 1 year, 169 deaths of children aged 1 to 4 years, and 688 deaths of persons aged 65 years and over. Important causes of death were as follows: whooping cough, 7; scarlet fever, 22; typhoid fever, 30; measles, 35; diphtheria and croup, 44; pneumonia, 130; cancer, 135; accidents and violence, 183, and tuberculosis, 227, including 189 from pulmonary tuberculosis and 38 from other forms. Five deaths from smallpox were reported. There were also two deaths from tetanus, one in the city of Charlotte, following kick of a horse, and one in Suttons Bay township, Leelanau County, following an explosion of gunpowder. This number may be noted for comparison with deaths returned for the following month, as the result of fourth of July accidents.

Two Neglected Important Causes of Sickness.—At the regular quarterly meeting of the Michigan State Board of Health, at Lansing, July 8, 1904, Dr. Baker, special committee on the subject, reported the results of an investigation of the prevalence in Michigan of gonorrhea and syphilis, during the first half of 1904, as follows:

Of the regular weekly card reports, made by representative physicians in general practice relative to sickness from 29 prominent diseases, 27 per cent. of all the reports stated the presence of gonorrhea, and 22 per cent. stated the presence of syphilis. The reports were received from 29 cities, 82 villages and 3 townships. The average number of weeks gonorrhea was reported from each of the cities was 6.4, and of syphilis, 5.8. In each village the average number of weekly reports of gonorrhea was 3.7, and of syphilis, 2.5. In each township the average number of weekly reports of gonorrhea was 2.3, and of syphilis 7. Arranging the 29 diseases in the order of their greatest reported prevalence during the 24 weeks, only 5 diseases exceeded gonorrhea and only 9 exceeded syphilis in the apparent sickness therefrom. Much of the success of this investigation was due to the fact that the name of any individual having either of these diseases was not required, therefore the reports were probably complete.

NEW YORK.

Italian Medical Society in New York.—A number of Italian physicians have organized the Italian Medical Association of the State of New York. The first meeting was held at 198 Grand Street, New York City, June 8, and nearly two dozen Italian physicians signed the charter. The *Gazzetta Medica* for June contains the report of the meeting, and will be the official organ of the association.

Buffalo.

Personal.—Dr. Edward Clark, assistant health commissioner, is suffering from neuritis.—Dr. Max Breuer has gone to northern Michigan.

European Trips. Drs. W. A. Renner and George Himmelsbach will spend several months in Europe. Dr. William W. Plummer and Dr. J. W. Gillis have returned from Europe.

Tetanus Antitoxin for Distribution.—Health Commissioner Greene announces that the city is now prepared to disinfect premises for contagious diseases. The health department will also furnish gratis tetanus antitoxin when called on.

Mortality in June. The monthly report of the department of health for June, 1904, shows an annual death rate of 11.52 per 1,000. The following are the principal causes of death: Consumption, 39; cerebrospinal meningitis, 5; cholera infantum, 5; diphtheria, 7; debility, 32; cancer, 18; apoplexy, 15; arteriosclerosis, 5; valvular diseases of the heart, 26; bronchitis, 9; pneumonia, 25; appendicitis, 8; nephritis, 25; violence, 30. Total deaths for June, 1904, were 365, as compared to 406 deaths in June, 1903. This is an extremely low death rate, and proves Buffalo one of the healthiest summer cities in the world.

New York City.

Personal.—Dr. Walter G. Whiton sailed for Naples, July 9, to remain until October, visiting various medical centers in Europe.

The New Bellevue Hospital.—The trustees of this hospital expect to commence the erection of the new pavilions next autumn. The plans have been drawn and the board of estimate has authorized a large appropriation for its erection. The present institution has 900 beds, and receive about 24,000 patients annually. It contains an amphitheater seating 300 students.

Contagious Diseases.—For the week ending July 9 there were reported to the sanitary bureau 359 cases of tuberculosis, with 136 deaths; 297 cases of diphtheria and croup, with 29 deaths; 261 cases of measles, with 15 deaths; 95 cases of scarlet fever, with 13 deaths; 39 cases of typhoid fever, with 9 deaths; 29 cases of varicella; 1 case of smallpox, and 34 deaths from cerebrospinal meningitis.

The Contagiousness of Pneumonia.—The board of estimate has appropriated $10,000 to defray the expenses of a commission of medical men to pass on the question whether or not pneumonia is contagious. The number of deaths from pneumonia has been unusually large this year, and the cases seemed to be confined to certain localities. Before the board of health goes to the expense of disinfecting houses Dr. Darlington, the health commissioner, wishes that it be definitely settled whether this disease is contagious.

OHIO.

Personal.—Dr. J. J. Maloney, Cincinnati, when alighting from his buggy recently, fell and broke his left arm.

Western Reserve Faculty Changes.—At the June meeting of the trustees of Western Reserve University the following appointments were made in the Medical Department: Torald Sollmann, professor of pharmacology and materia medica; Frederick Clayton Waite, associate professor of histology and embryology; Roger G. Perkins, assistant professor of bacteriology and pathology; John M. Ingersoll, assistant professor of otology, rhinology and laryngology; William R. Lincoln, assistant professor of otology, rhinology and laryngology; a number of others were appointed lecturers and demonstrators as follows: H. A. Becker, lecturer on fractures and dislocations; C. E. Briggs, instructor in surgery; Percy W. Cobb, demonstrator in physiology; F. S. Clark, demonstrator in obstetrics; Charles D. Williams, demonstrator in gynecology; E. D. Brown, demonstrator in pharmacology and materia medica; J. B. Austin, demonstrator in histology and embryology.

PENNSYLVANIA.

Site for State Hospital.—The commission appointed by the last legislature to select a tract of land for the state hospital for the feeble-minded and epileptics has decided on a tract of 300 acres along the Schuylkill river near Spring City, Chester County.

To Improve Crowded Asylums.—Schuylkill County Insane Asylum, which a grand jury recently condemned, is to undergo important changes. The county commissioners have appropriated $5,000 for the erection of a new ward at once. Other improvements are to follow.

Philadelphia.

Personal.—Dr. Florence H. Richards and Dr. Elmer E. Brown sailed for Europe July 16. —Dr. William Easterly Ashton sailed for Europe July 14.

New Nurses' Home.—A new home for nurses is to be erected by the Woman's Hospital. The plans call for a four-story brick fire-proof building, with 40 dormitories, a roof garden, a fire tower stairway, and a driveway through the building to the large hospital grounds.

Cornerstone Laid at Methodist Hospital.—The cornerstone of the Mary J. Hunter Memorial Home for Nurses of the Methodist Episcopal Hospital was placed this week. The cost of the building will be $25,000. It will be a three-story structure, and constructed of red stretcher brick, with trimmings of terra cotta. The building will accommodate 50 nurses. The work on the new power house and electrical plant has also been started.

Health Report.—There was a slight increase in typhoid fever during the week, 68 new cases being reported. This is an increase of 8 over those of last week, and an increase of 28 over those reported in the week before. Eighteen deaths resulted from the disease last week. The disease seems to be scattered throughout the entire city. Only one new case of smallpox was reported. The general death rate continues high, the total number for the week being 483. Of this number 108 were attributed to diseases of infants. The total number of deaths for the week shows an increase of 39 over those of last week, and a decrease of 63 from those of the corresponding week of last year.

Lectures to Philadelphia Mothers.—The third of the plain talks to mothers, arranged by Dr. Martin, director of the Department of Health and Charity, was delivered by Dr. Elizabeth L. Peck, July 14, who spoke on the early symptoms of contagious disease. Six other weekly talks have been planned, as follows: July 21, Dr. Wilhelmina T. Nelson, on "Care of the Eyes and Contagious Eye Troubles"; July 28, Dr. George B. Wood, "The Throat and Nose"; August 4, Dr. Thomas O'Hara, "Simple Exercises for Children"; August 11, Dr. Frances G. Crouch, "Care of the Teeth"; August 18, Dr. Augustus A. Eshner, "Consumption"; August 25, Dr. Edith H. Cadwalader, "Connection Between Dirt and Disease."

New Contagious Disease List.—A complete revision of the contagious disease list of the city was made at the last meeting of the board of health, and under the new regulations the list is greatly increased. A circular letter has been prepared by Dr. A. C. Abbott, president of the board, which will be mailed to every physician in the city. This points out the fact that the old list of contagious diseases to be reported under penalty did not contain all the transmissible ones, and emphasizes the importance of the prompt reporting of any of the new cases added to the list, which is as follows: Cholera, yellow fever, malarial fever, typhoid fever, typhus fever, scarlet fever, smallpox, chicken pox, diphtheria, diphtheritic croup, cerebrospinal meningitis, measles, rubella, whooping cough, tuberculosis (in any of its manifestations), pneumonia, erysipelas, puerperal fever, plague, trachoma, leprosy, tetanus, glanders, hydrophobia, and anthrax. Chicken pox is placed on the list because three out of five cases recently reported were found by the medical inspectors to be smallpox.

GENERAL.

Yellow Fever Scarce in Mexico.—Reports from Mexico report the republic practically free from yellow fever. There are very few cases. The improvement is attributed to the active inspection and the use of oil and screens.

Congress of French-Speaking Physicians of America.—The first congress of this kind was held at Quebec in June, 1902, and the second has just closed its sessions at Montreal. Both were well attended and successful. Professor Pozzi was the official delegate from the Paris Académie de Médecine, the French Surgical Association and the Paris medical faculty, and his address on his method of treating sterility was one of the features of the congress. The class of cases to which he refers is those in which the uterus retains its infantile aspect, the cervix immoderately long and well developed in proportion to the infantile rest of the organ, which is in anteflexion. The neck of the uterus is more or less conical, the orifice punctiform. As the uterus is flexed, the emission of the menstrual flow through the small opening is more or less difficult and dysmenorrhea and sterility are the result. Slow dilatation with laminaria may cure the condition, supplemented by temporary dilatation with Hegar bougies just before the menstrual period. If this fails, a deep bilateral incision is indicated. This intervention may induce hemorrhage, or entail angular cicatrization or infection, but, on the other hand, it will probably restore the uterus to normal position—just as a longitudinal

incision in a curved rubber tube will straighten it—and the intervention will further put an end to the dysmenorrhea and the sterility. It also cures the catarrhal condition frequent in such cases, which adds to the causes of sterility by the mucous plug in the meatus. To avoid angular cicatrization it is necessary to cover the denuded surfaces with mucosa. This is accomplished by cutting out a small prism in each cut surface, drawing together and suturing together the two edges of these prism-shaped gutters. This leaves the cervix entirely lined with mucosa, the internal os gaping. The uterus is straightened; the catarrhal conditions can then be treated by local applications; dysmenorrhea of mechanical origin is always cured and fecundation has followed in 33 per cent. of the cases of women sterile for many years after marriage, operated on by Pozzi or his pupils by this technic. He calls it: "stomato-plastie par évidement commissural du col." The needles used must be very fine and sharp, and the suture be done with silver wire. To protect the vagina against the ends of the wire a piece of shot is squeezed on them. Immediately after the operation the lips of the cervix gape as after a laceration, but they soon retract, as there is no pathologic scar tissue as in a tear. By the end of two or three months not a trace is left of the operation. Pozzi's address is published in the *Revue Médicale du Canada*, with other details of the congress. The next one will be held at Trois-Rivières in 1906.

CANADA.

Maritime Medical Association.—The fourteenth annual meeting of the Maritime Medical Association was held at Halifax, July 6 and 7, about seventy members being in attendance. It was decided to meet next year in Charlottetown, P. E. I. The Canadian Medical Association will be invited to meet in Halifax in 1906. The following officers were elected: President, Dr. S. R. Jenkins, Charlottetown; vice-presidents for New Brunswick, Dr. G. C. Vanwart, Fredericton; for Nova Scotia, Dr. G. E. Dewitt, Wolfville; for Prince Edward Island, Dr. J. Kelley; secretary, Dr. T. D. Walker, St. John; treasurer, Dr. Huntley Macdonald, Antigonish, N. S.

Infant Mortality Continues Unabated in Montreal.—Still more infants died in Montreal during the past week than during the previous week, the number being 133. Of these 82 were under six months of age. The total deaths last week in Montreal amounted to 217, of whom 187 were Catholics, 23 Protestants and 7 Jews. The normal death rate of the city is 120. During the week there were seven deaths from typhoid fever, a disease which would appear to be spreading in the city. Dr. Laberge, the medical health officer, when interviewed on the subject, stated that the exceeding great mortality among infants was causing his department a great deal of concern. He strongly approved of the steps being taken to improve the milk supply and hoped that the citizens would organize a society to look after educating poor mothers how properly to care for and feed their offspring.

Toronto General Hospital Appointments.—The trustees have appointed the following house staff for 1905-6: W. B. Wright, Toronto; N. McLaurin, Toronto; W. A. McCauley, Warkworth, Ont.; A. J. Fraleigh, Bloomfield, Ont.; T. W. Rowntree, Thistleton, Ont.; N. O. Fisher, Ashgrove, Ont.; T. K. Cullen, Parkdale, Ont.; J. A. Ollie, Sparta, Ont.; G. E. Smith, Toronto; W. E. Gallie, Barrie, Ont.; T. Hair, Lavender, Ont.; G. E. Greenway, Little Britain, Ont.; W. B. Hendry, Toronto; H. R. Elliott, New Sarum, Ont. The outdoor staff is to be A. W. Canfield, Woodstock, E. A. McCulloch, Thomasburg, Ont.; A. C. C. Johnston, Toronto; W. S. Turnbull, Goderich, Ont.; T. P. McKinnon, Toronto; W. S. Fawns, Udora, Ont. The trustees also decided to appoint two official anesthetists and one medical and one surgical registrar and one resident pathologist. Applications for the above appointments are to be sent to the secretary with qualifications.

Executive Health Officers of Ontario.—The nineteenth annual meeting of the Association of the Executive Health Officers of Ontario was held at Sarnia, Ont., July 13 and 14. Dr. Hodgetts, the secretary of the Ontario Board of Health, contributed a paper on "Improved Methods of Treating Consumption," which evoked considerable discussion and resulted in a resolution being passed recommending that an order in council be passed making it obligatory on all physicians in Ontario to report all cases of tuberculosis to the local health officer. Recommendation was also made for a system of district health officers who would be amply paid for their work, and could act for a large territory. The quarterly meeting of the Ontario Board of Health was also held. The secretary's report for the past quarter showed a gratifying decrease in the number of scarlet fever cases in Ontario, from 983 to 408, attributable largely to better isolation. Smallpox and measles showed an increase and more vigorous vaccination was urged.

FOREIGN.

French Congress of Internal Medicine.—The seventh congress of internal medicine will open at Paris, October 24. The subjects to be discussed are: "Arterial Pressure in Diseases," "Mercurial Injections," and "Obesity." Further particulars may be learned by applying to the secretary, Ed. Enriquez, 8 avenue de l' Alma, Paris.

French Congress of Surgery.—The seventeenth annual session of the French Congress of Surgery will be held at Paris, October 17 to 19. Three questions have been appointed for discussion: "Surgical Treatment of Cirrhosis of Liver"; "Semeiologic Value of Examination of the Blood in Surgery," and "Traumatic Detachment of the Epiphyses."

The Ten-Thousandth Microscope.—Microscopy has felt the impetus of bacteriology to such an extent that a German firm that manufactures high-grade microscopes has made nearly 10,000 of these instruments. The ten-thousandth is being made with special care, and is to be presented to Koch as a token of appreciation for his pioneer work in bacteriologic microscopy.

Subjects for Munich Prize Essays.—The first subject is announced by the medical faculty as follows: "It has been stated that mice can not be adequately nourished with pure food stuffs (albumin, fats, carbohydrates, mineral salts and water). Other investigators, on the other hand, have succeeded in accomplishing this. The faculty offer a prize for research in this line on pigeons, which can readily be fed on mixtures of the pure food stuffs." The subject announced for this year is given out again for further study for next year's competition: "Study of the Structure of the Germinal Vesicle in a large Vertebrate."

Koch Released from Official Duties.—Robert Koch will retire, October 1, from the position of director of the Institute for Infectious Diseases at Berlin. His place has been taken by G. Gaffky of Giessen, his earliest assistant and companion during his trips to Egypt and India, which resulted in the discovery of the cholera bacillus. Gaffky's work in bacteriology and public hygiene has already won him international appreciation. Koch retains his laboratory in the institute for his personal researches. The Prussian government has conferred on him the highest scientific office at its disposal by appointing him "honorary" professor and member of the Academy of Sciences. This confers the full salary of a professor, with the privilege of lecturing at any time or not, as the incumbent may desire. Koch succeeds Virchow in this position, only two others of the kind having been created. One is held by the astronomer, Auwers, and the other by van t'Hoff, famed for his physico-chemical researches.

Postmortem Delivery.—A woman with the diagnosis of yellow fever was taken from an arriving ship to the isolation hospital at Bordeaux, France. She died within a few hours after her arrival, and her father instituted proceedings against the two physicians at the hospital. Exhumation forty days after burial showed that the woman had been delivered postmortem of a seven months' fetus, and the father claimed that she had been buried alive. Two local medicolegal experts testified that there were no evidences of yellow fever to be discovered, that the fetus must have been viable, and that the woman could not have been buried alive, because a physician had been present from her death to her burial, although, as they stated they had found her eyes open. The sensational details have been thrashed over and over again in the lay press, as the case has dragged along through four years, but finally, on the testimony of Brouardel and other Paris experts, the physicians have been honorably acquitted, as the scientific evidence was shown to be all in their favor. Our French exchanges comment on the long martyrdom to which the two physicians have been subjected during these four years, simply because the first expert testimony was bungling and scientifically incomplete.

The International Woman's Congress from the Medical Standpoint.—A medical correspondent describes in the *Münch. med. Wochenschrift* the recent international congress of women, held at Berlin in June. The organization and carrying out of the details were admirable, and good work was done in every department. Madame Weber of Heidelberg discussed the subject of women in science, and the pioneer medical woman of Germany, Frl. Dr. Tiburtius of Berlin, stated that women physicians are now employed in many general hospitals.

etc., in Germany, and that a number are officiating in special institutes, insane asylums, etc. The resistanec to the admission of women to the medical profession was peculiarly strong in Germany, but the question has been decided in favor of the women. In conclusion the correspondent comments on the remarkable interest and endurance manifested by the participants in the congress and the audience. Women who are constantly complaining to their family physician that they are unable to sit still for any length of time, and who suffer from headache, palpitations and suffocation, even in a short stay in a vitiated atmosphere, these women would sit for hours, without stirring, in the hot, crowded hall, following every speaker with the closest attention, and not feeling either headaches or the tendency to suffocation. He regards his observations of these women as an interesting contribution to the question of "employment therapy" in nervous conditions.

Recent Progress in the Campaign Against Tuberculosis Abroad.—Helmboe of Norway stated at the recent International Antituberculosis Conference that small sanatoria were being constructed in the various communities in his country and temporary aid supplied to families fighting tuberculosis—the funds derived from the profits of the government monopoly of the liquor trade. Brouardel of France stated that the French Antituberculosis Federation now groups thirty-eight different organizations or institutions, founded by private initiative, beside the public institutions. A committee comprising von Schrötter of Germany and Landouzy of France was appointed to draw up a general schedule for study of the predisposition to tuberculosis, so that physicians of all countries can work along identical lines. Leon Derecq was entrusted with the task of preparing a model of what he calls the individual sanitary pass-book (livret sanitaire individuel populaire). Details in regard to diseases, environment, etc., are to be noted down under proper headings, thus forming the nosologic tree of the family and individual, like the genealogie tree. The advantages of special antituberculosis dispensaries, such as are described in the editorial on page 33, are being proclaimed more and more. The one founded by Calmette at Lille is serving as a model, and others are now planned at Berlin and elsewhere in Europe. The Germans have coined the term *Fürsorgcstellen* for them. They are not intended to conflict with any of the measures and institutions already in existence, but merely to try to do what they necessarily leave undone. They require the co-operation of charitable persons or societies in order to accomplish their aims.

Organization of the Profession in Germany.—The organization and purposes of the Leipsic Verband have been described in these columns from time to time. The fourth annual general assembly was held at Rostock, June 23, with 219 delegates in attendance. The last year has been the crucial year of the existence of the Verband—the demands for aid from physicians in their struggle with the sickness insurance societies have been almost continuous since the new legislation went into effect May 1. (See page 1435 of the last volume.) The Verband has now almost 16,200 members, more than 400 members having been added since last January. It has interfered in 208 cases of conflict between physicians and the insurance societies, all but 43 being within the last few months. The results were in favor of the medical men in all but 3 instances. At the present moment a conflict is still on at 76 different places. The hardest battles were fought at Cologne and Leipsic, and in each case the federal authorities interfered on behalf of the physicians, who thus gained most of their points. The Verband also does a large business in supplying medical positions, etc. In the first five months of 1904 fully 988 matters of this kind passed through its hands, and 516 were satisfactorily concluded. An organ of its own has become necessary, and this is provided by the *Aerztlichen Mitteilungen*, published by Back of Strasburg. The office force has been increased from 3 to 10; 35,000 letters or circulars have been mailed from the office during these five months. Besides the income from dues, the treasury has received voluntary gifts amounting to $12,500. In the discussions that followed the reading of the reports the delegates were enthusiastic in their commendation of the executive ability displayed by the directors of the Verband and the great work they have accomplished. The treasury at present is able to meet easily all demands—even very comprehensive ones. The officers of the Verband urged that special efforts should be made to interest the younger medical men in the organization of the profession, adding that a very effectual mode of interesting them would be by developing more and more the employment department of the Verband, obtaining positions for young applicants. Old established physicians can and must co-operate to this end. The beneficial results will be far-reaching and durable.

PARIS LETTER.

Appendicitis.

The advisability of operating for appendicitis in its initial stages is more than ever a subject for discussion among members of the medical profession here as well as with the public. The recent death of the daughter of a prominent American, who was operated on for acute appendicitis, has caused some discussion in the American colony in Paris, and the Paris edition of the *New York Herald* has received various letters from correspondents who air their views on this subject. Dr. Gilbert, professor extraordinary at the Faculty, suggests a theory for the causes of appendicitis. It may be due, like other diseases, such as mumps, angiocholecystitis, mucomembranous enteritis or pancreatitis, to a defective condition of the organism, which allows the invasion and multiplication of bacteria. This condition is liable to exist in certain families, and explains the frequence of appendicitis among the members of such a family. Jaundice or liver trouble, which is sometimes associated with this disease, is not so much a consequence of the disease as a result of the primary weakness which allows the patient to become infected. An autopsy on patients dying from appendicitis often shows that the lesions of the liver are of an earlier date than those of the appendix. He calls this family tendency the "diathesis of auto-infection," which term, he thinks, should be substituted for "arthritism." His latest communication on the subject was given in the *Presse Médicale* of April 27, No. 34.

Correspondence.

The Treatment of Leukemia and Pseudo-Leukemia with Roentgen Rays.

CHICAGO, July 6, 1904.

To the Editor:—In THE JOURNAL, July 2, 1904, there is a report of a case of leukemia treated with *x*-rays by Grosh and Stone. The article begins, "In August, 1903, Senn reported an apparent cure of a case of myelogenous leukemia under the influence of Roentgen rays," and ends, "This report is submitted because of the scarcity of reported cases, in the hope that other workers will soon take up investigations in this field." In the same issue of THE JOURNAL there is an abstract from the *Muenchener medicinische Wochenschrift* on the influence of Roentgen rays on lymphoid tissue, in which it is said, "Heincke adds a note in correcting the proof of his article that his theoretical assumptions have already received confirmation by the news from America that Senn and Crane have cured cases of leukemia and pseudo-leukemia by Roentgen treatment."

I have before me articles published since the beginning of this year on the treatment of pseudo-leukemia and leukemia by Steinwand, Finch, Grad, Brown, Bryant, Taylor and Grosh and Stone—as far as I know all of the articles which have appeared during this time. In two of these articles there is no reference to previous work, and in the other five the first work in this field referred to is Senn's reports in 1903 of a case of leukemia and two cases of pseudo-leukemia treated with *x*-rays. It would seem, therefore, that the impression is general that the first work in the treatment of leukemia and pseudo-leukemia with *x*-rays was that of Senn. This error has apparently arisen from two facts: First, from the prominence of the reporter of Senn's cases; and, second, from the fact that in Senn's reports of his cases there is no reference to the previous use of *x*-rays in the treatment of either leukemia or pseudo-leukemia. The facts, however, are these: Senn reported in the *New York Medical Journal*, April 18, 1903, two cases of pseudo-leukemia which had been successfully treated with *x*-rays, and in the *Medical Record*, Aug. 22, 1903, he reported "A Case of Spleno-Medullary Leukemia Successfully Treated by the Use of the Roentgen Ray." He does not make any reference in either of these articles to previous work with *x*-rays in either leukemia or pseudo-leukemia. Previous to this time, however, the following reports of cases of

leukemia and pseudo-leukemia treated with Roentgen rays (in most cases with symptomatic cure) had been made: Of pseudo-leukemia: Childs, *Medical News*, January, 1903; Dunn, *American Practitioner and News*, October, 1902; Hett, *Dominion Medical Monthly*, August, 1902; Williams, in his book on "Roentgen Rays," published about March, 1902; Pusey, THE JOURNAL A. M. A., Jan. 18 and April 12, 1902. Of leukemia: Pusey, THE JOURNAL A. M. A., April 12, 1902, and in his book on "Roentgen Rays," published in June, 1903.

My first cases of pseudo-leukemia treated with Roentgen rays were demonstrated before the Chicago Medical Society, Feb. 26, 1902, and at that time reference was made to a case of splenic leukemia which I had treated without success with Roentgen rays. In my book published in June, 1903, a case of leukemia which had been treated with Roentgen rays between November, 1901, and February, 1902, with the disappearance of almost all of the tumors, was reported. The pioneer work and the published reports in this field thus go back more than a year before Senn's report.

I trust that I have no exaggerated impression of the importance of my priority in the treatment of these conditions. I feel, indeed, that the credit for originality in the treatment of my first four cases belongs not so much to me as to Drs. A. J. Ochsner, L. L. McArthur and Jacob Frank, who referred them to me. But I have some pride in the fact that my cases of these conditions were treated, demonstrated and published apparently long before any one else had thought of applying the agent in such cases, and that I thus initiated a method of treatment in these hitherto intractable cases which has certainly been a step in advance. And in the interest of historical accuracy, I wish to call attention to the early work of Williams, Hett, Dunn, Childs and myself, which has apparently been forgotten. There is, I believe, the more reason to do this because all that has been done in the later cases was done in these first cases. W. A. PUSEY.

An Adjourned Section Meeting.

PHILADELPHIA, June 18, 1904.

To the Editor:—According to the program of the Atlantic City session of the Association several papers were to be read and discussed in the Section on Materia Medica, Pharmacy and Therapeutics on the morning of Friday, June 10. Among these was one by Dr. McDonnell, New Haven, Conn., entitled "The Action of Drugs on the Skin," the discussion of which I was to open. The author had kindly furnished me in advance a copy of his paper in order that I might have the opportunity of arranging my thoughts. It had also been agreed that I was to be allowed a few minutes for some brief remarks on the *x*-ray treatment of Hodgkin's disease. Repairing to the appointed place at the appointed time I was surprised to find an announcement on the blackboard that the section had adjourned *sine die*. A number of other members had also gathered to attend the same meeting.

The excellent program prepared by Dr. Osborne, the chairman of the section, had been disarranged and those who had written papers or who had been asked to take part in discussions were disappointed. I am far from wishing to pass any censorious criticism on the chairman, or, indeed, any individual, but am merely speaking on general principles. I can readily understand that strong pressure was brought to bear on the chairman and those present. All members can not be in attendance on all the sections. On the previous afternoon I, for instance, had been engaged in the work of another section and was ignorant of the adjournment of the Section on Materia Medica, Pharmacy and Therapeutics until the Friday morning.

I would respectfully submit that such a sudden and unannounced curtailment of the program is injurious to the interests of the Association. If individual members wished to leave early for home they should not prevent those who remained and whose names were on the program from reading and discussing their papers. An unexpected adjournment and, as a result, the exclusion of papers which had been prepared at the expense of time and labor, is calculated to work an injury to the success of any section. Moreover, there are members who will feel disinclined to contribute papers when there is no certainty that they shall be read.

For these reasons, which could be amplified did space permit, I am of the opinion that hereafter it should be made a stringent rule that a program be followed as arranged. It should not be made too long for the allotted time and there would then be no excuse for premature adjournment. Dr. Osborne had received, long before the time of meeting, promises of a sufficient number of contributions to occupy the hours, and it is due to his efforts, as well as those who prepare matter to be read or discussed, that all the writers should receive their proper share of attention. This can not occur when the proceedings are brought to an abrupt close.

J. V. SHOEMAKER.

[We asked the secretary of the section to reply to the above letter, which he does as follows.—ED.]

CHICAGO, June 27, 1904.

To the Editor:—Dr. Shoemaker's criticism concerning the premature adjournment of the section is in a sense justified. It was the intention of the officers not to permit the very thing which did happen. A number of members whose names were on the program were present at the session, but failed to appear at the meetings, three because as delegates their presence was required in the House. Three of the authors who appeared on the Friday morning program were anxious to leave earlier and they were substituted for the absentees. This left only one paper for Friday, that referred to by Dr. Shoemaker, and there was doubt as to Dr. McDonnell's attendance. There was consequently nothing to do but to prematurely adjourn. It is regretted fully as much by the chairman, Dr. Osborne, and the secretary as by anyone, and especial apology is due to Dr. Shoemaker, who had been especially invited to discuss the paper of Dr. McDonnell. C. S. N. HALLBERG,
Secretary of the Section.

Scarlatinal Infectiousness.

CHICAGO, July 18, 1904.

To the Editor:—Will you kindly allow me to make a few comments on the editorial in THE JOURNAL, July 16, entitled "Scarlatinal Infectiousness"?

Lauder's two faulty "systems" of handling scarlet fever and the experience of Killick Millard are used as the basis of the editorial. I say faulty "systems" because they both have to their credit "return cases." The conclusions to be drawn from the editorial are, first, that mild cases of scarlet fever should be protected from severe and complicated cases; second, that in the absence of complications such as inflammation of mucous membrane and abscesses, a child can be turned loose with safety to others though the skin is still peeling; third, that the infectiousness of the desquamating skin is exaggerated. The editorial is interesting as a matter of current news, but decidedly harmful if accepted as a piece of authoritative advice as to the manner of managing scarlet fever.

With the first conclusion I have no quarrel. Experience has taught me that some of the complications of severe cases are a menace to persons having the disease in a mild form. This is notably true of the diphtheritic complication. Conclusions two and three can be spoken of under one head. That the danger from the desquamating skin is exaggerated or that it is safe to remove the restrictions from a scarlet fever patient while there is desquamation, I do not believe. I would have to disregard my own experience to believe this teaching. Furthermore, I do not think the evidence submitted warrants me in accepting such teaching. The comparison of two faulty "systems" to prove that one "system" is the right one to follow because it is no worse than the other hardly merits a serious thought. It is admitted by Lauders that seven "return cases" of scarlet fever resulted in the 1902 or "old system," and a like number in the 1903 or "new system." In practical results you will observe the two systems are equally bad. Because one bad practice is no worse than another is no good reason for advocating the continued existence of either.

The conclusion that the "new system" of hurrying convalescents out to mingle with those susceptible to scarlet fever is better than the "old system" because it kills no more than the "old system," is, to say the least, a poor argument for the new.

The most infectious or contagious period of scarlet fever I believe to be when the rash is at its height, but the time when it is most frequently conveyed to others is during the desquamation period. This is because children, while desquamating and afflicted with other complications, are permitted to mingle with other children. The cast-off skin, I believe, is capable of conveying the disease when carried in clothing, letters and other methods of conveyance. Why should not the skin be charged with infection as well as the mucous membrane? To the eye the manifestation of the disease in the skin is as apparent as elsewhere. What influence makes the skin in these cases harmless and leaves the mucous membrane a source of danger? The skin is in all probability the major channel through which the infection leaves the body. Reason and experience teach that this cast-off skin contains the element which produces scarlet fever. If a shirt worn becomes infected, why should not the skin, which is a still closer covering, become infected? It is doubtful if there is a practical method of disinfecting the inner or under side of the skin before it is detached.

You will observe that there were no "returns" of the disease in the 33 cases of Dr. Lauders, which were "free from peeling and complications" before restrictions were removed. Would it not be better to take these 33 cases as a source of inspiration and say unequivocally that all cases of scarlet fever should be isolated until there is freedom from complications and *until desquamation is completed?*

HEMAN SPALDING, M.D.,
Chief Medical Inspector, Department of Health.

As Others See Us.

ELMHURST, ILL., July 17, 1904.

To the Editor:—Apropos of the article appearing in *Printers' Ink*, the subject of your editorial comment in THE JOURNAL, July 16, I wish to call attention to the fact that it is highly satisfactory to dispense one's own remedies and in this manner antagonize the evil of copied prescriptions, unsanctioned refills and substitution. It is not only more remunerative, but also more satisfactory to both physician and patient. It enables the physician to follow the disease more closely, to note the therapeutic results, whether positive or negative, and it gives a sense of security to know your patient is not receiving a sophisticated or substituted preparation of medicine. With the numerous tablet preparations of tried formulas and of alkaloids, it becomes an easy matter to dispense one's own drugs. A complete stock of drugs can be obtained for about $75. This includes such expensive drugs as protargol, urotropin, ereosotol, adrenalin, etc. Any physician whose practice does not exceed $3,500 annually can find time to dispense all of his drugs. If more physicians would dispense their own remedies and do their own thinking we would hear less of therapeutic nihilism. H. F. L.

Wisconsin Medical Society Proceedings.

MILWAUKEE, WIS., July 11, 1904.

To the Editor:—I beg leave to call your attention to an error in the report of the recent meeting of the Wisconsin State Medical Society in THE JOURNAL, July 2, page 65. The paragraph referred to reads that "A contract was made with the *Milwaukee Medical Journal* for the publication of the proceedings of the society for the ensuing year on the same terms as preceding contract." This contract has been made with the *Wisconsin Medical Journal*. ARTHUR J. PATEK,
Editor *Wisconsin Medical Journal*.

Cataractous Families.

FOND DU LAC, WIS., July 14, 1904.

To the Editor:—At the suggestion of Dr. John L. Dickey I wish to add another case to his as an instance of the hereditary tendency to cataracts. While I have not sufficient data at hand to thoroughly convince me that heredity should be classed among the causes of cataracts, nevertheless my experience has been such as to make me think of it as a possible cause. I am pleased to learn that some one is investigating the subject and as evidence I report a case wherein the mother, a son, a daughter and a grandson are all afflicted with partial cataracts. The mother is 64, the son and daughter respectively 36 and 32, and the grandson 10. DR. G. N. BRAZEAU.

The Oldest Students' Medical Club.

BALTIMORE, July 12, 1904.

To the Editor:—I should be glad to learn through THE JOURNAL the name and date of foundation of the oldest students' medical club in this country. The Rush Medical Club, a quiz club among the undergraduates of the School of Medicine of the University of Maryland, was founded in April, 1850, and has had an unbroken existence to the present time.
EUGENE F. CORDELL, M.D.

Queries and Minor Notes.

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

EFFECT OF CLIMATE ON CHRONIC CATARRHAL DEAFNESS.

———, MINN., July 11, 1904.

To the Editor—Would the editor kindly give information regarding climatic effect on chronic catarrhal deafness? Might one expect relief or cure by changing climate from Minnesota to Southern California or to tropical islands? Take, for instance, a case that has progressed for several years and has reached a stage where a watch can be heard only in contact, tubes closed and drums retracted. E. W. W.

ANSWER.—In the early stages of catarrhal inflammation of the eustachian tube and middle ear, some improvement may be obtained by removal to a warmer and drier atmosphere, but in such a case as our correspondent describes no relief could be expected from the change of climate.

TIME TO TAKE ALKALIES TO MAKE URINE ACID.

J. W. B. of Virginia writes: During an examination of the state medical board the following question was asked: "At what time—i. e., before or after meals—should an alkali be given in order to render the urine acid?" Please answer and give the reaction that takes place.

MATERNITIES FOR THE UNMARRIED.

L. I. C. of Wisconsin: After using your letter in THE JOURNAL July 2, we destroyed the note giving your name and address. We have received some communications for you.

Deaths.

D. Peter Belew, M.D., died at his home in Edinburg, Va., July 10, aged 85.

Samuel M. Trinkle, M.D., 1872, died at his home in Philadelphia of apoplexy, July 1, aged 64.

Albert E. Ahlstrom, M.D. University of Minnesota, 1900, died at his home in Cokato, Minn., July 3.

Hamilton Fish, M.D. Denver College of Medicine, 1893, died, July 12, at his home in Denver, from gastroenteritis.

David J. Fitzgerald, M.D. College of Physicians and Surgeons, N. Y., 1884, died at his home in Glens Falls, New York, July 17, aged 46.

Eli J. Zook, M.D. Jefferson Medical College, Philadelphia, 1878, died at his home in Newville, Pa., of heart disease, July 11, aged 60 years.

Gideon D. Hobart, M.D. Bellevue Hospital Medical College, New York City, 1873, of Brooklyn, N. Y., died at Elizabethville, N. Y., July 15, aged 59.

Victor Steinberger, M.D. College of Physicians and Surgeons, New York, 1896, a member of the New York County Medical Society, of New York City, was drowned in Jamaica Bay, July 17, aged 30.

Willard P. Derickson, M.D. Jefferson Medical College, Philadelphia, 1891, died at his home in Wilmington, Del., July 13, after a brief illness of spinal meningitis. He was a member of the staff of the Delaware Hospital.

Richard S. Trowbridge, M.D. Philadelphia College of Medicine and Surgery, 1852, died, July 11, while visiting relatives in Rockledge, Pa., after two days' illness. He practiced in Philadelphia and Milton, Pa., until 15 years ago, when he retired.

State Boards of Registration.

COMING EXAMINATIONS.

Nebraska State Board of Health, August 3 and 4. State House, Lincoln. Secretary, George H. Brash, Beatrice.

District of Columbia April Report.—Dr. W. C. Woodward, secretary of the Board of Medical Supervisors of the District of Columbia, reports that the examination held at Washington, April 14, 1904, was partly oral and partly written. The subjects examined in numbered 17, and the total questions 80. The percentage required to pass was 75; 14 persons were examined, 11 passed, 3 failed.

College.	PASSED.	Year Grad.	Per Cent.
Columbia University, New York City (1902) 90.78, (1899) 87.18, (1903) 91.21.			
Georgetown University	(1900) 86.06,	(1903)	82.58
Howard University		(1903)	77.66
Johns Hopkins University		(1902)	86.37
National University	(1902) 81.06,	(1903)	78.93
University of Maryland		(1890)	90.33
University of Pennsylvania		(1903)	79.87
	FAILED.		
Bellevue Hospital Medical College		(1898)	71.99
Howard University		(1902)	74.68
Woman's Medical College, Pennsylvania		(1867)	64.81

Illinois April Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at East St. Louis, May 4-6, 1904. The subjects examined in numbered 11, and the total questions 110, the percentage required to pass 75. One hundred and ten persons were examined, 100 passed, 1 failed, 4 withdrew from the examination, 1 was expelled for using notes, 4 were withheld pending investigation of the college by the board. The colleges represented were as follows:

College.	PASSED.	Year Grad	Per Cent.
College of Physicians and Surgeons, St. Louis, (1904). The grade 76 was reached by one, 77 by one, 78 by one, 79 by three, 83 by one, 85 by three, 86 by four, 87 by three, 88 by one, 89 by one			
Medical Department Washington University, (1904). The grade of 79 was reached by one, 81 by two, 82 by two, 83 by four, 84 by two, 85 by four, 86 by three, 87 by three, 89 by one.			
Marion Sims-Beaumont Medical College, St. Louis, (1904). The grade of 81 was reached by four, 82 by four, 83 by two, 84 by five, 85 by four, 86 by three, 87 by seven.			
Medical College of Indiana, Indianapolis		(1904)	84, 83, 82
Barnes Medical College, St. Louis, (1904). The grade of 76 was reached by one, 79 by one, 80 by one, 81 by two, 82 by one, 83 by six, 84 by four 85 by one, 86 by one, 88 by one			
Detroit College of Medicine		(1899)	85
Homeopathic Medical College, Detroit		(1904)	77
Jefferson Medical College, Philadelphia		(1903)	85
Med. Coll. of P. and S., Keokuk, Iowa		(1902)	85
Omaha Medical College, Omaha		(1893)	82
Northwestern University Medical School		(1904)	88
	FAILED.		
Homeopathic Medical College, St. Louis		(1904)	70

The general average for all representatives of the College of Physicians and Surgeons of St. Louis was 83.6; for representatives of the Medical Department of Washington University, 84.2; for representatives of Marion-Sims-Beaumont Medical College, 84.3.

New Jersey June Report.—Dr. E. L. B. Godfrey, secretary of the State Board of Medical Examiners of New Jersey, reports that at the written examination held at Trenton, June 21 and 22, 1904, 90 questions were asked on 9 subjects, and the percentage required to pass was 75. Of the 52 examined 43 passed and 9 failed.

College.	PASSED.	Year Grad.	Per Cent.
Columbia University	(1902) 88.5,	(1904)	90.7
Baltimore Medical College	(1904) 81.8, 76.2, 81.4, 77.8, 89,		
University and Bellevue College	(1904) 87.1, 87.7, 87,		89.8
Univ. of Pennsylvania (1903) 84.4, (1902) 83.5,	(1900)		88.8
Medico Chirurgical College, Pennsylvania, (1904) 86, 86.8, 82.7, 86.5, 81.6, 86.1.			
Howard University		(1904)	80.6
University of Maryland		(1903)	75.1
Coll. of P. and S., Baltimore	(1903) 78.3,	(1904)	85.1, 78.3
University of Toronto, Canada	(1903) 89.2	(1881)	82.0
Jefferson Medical College, (1904) 85.7, 86.8, 86.7, 84.8; 81.6, (1902) 83.3.			(1896)
Yale Medical School		(1892)	83.6
Rush Medical College		(1886)	77.6
Hahnemann Med. Coll. and Hosp., Pa., (1904) 81.7, 76.6, 79.3, 86, 76.4.			
Long Island College Hospital		(1904)	80.7
Boston University School of Medicine		(1903)	91.6
Syracuse University College of Medicine		(1901)	89.0
	FAILED.		
Illinois Medical College		(1902)	68.7
University of Naples, Italy		(1898) 70.5, (1900)	66.7
Baltimore University School of Medicine		(1904)	63.2, 71.7
Jefferson Medical College	(1904) 71.3,	(1902)	71.8
Hahnemann Med. Coll. and Hosp., Pa		(1904)	63.2
Woman's Medical College, Pa		(1903)	72.8

North Carolina May Report.—Dr. G. W. Pressly, Charlotte, secretary of the North Carolina Board of Medical Examiners, reports that the examination held at Raleigh, May 18 to 24, 1904, 70 questions were asked on 7 branches, and a general average of 80 per cent. required. Ninety-seven applicants were registered for examination. Of these 75 passed, 3 withdrew and 19 failed. The highest mark was made by Dr. Marshall C. Guthrie of Raleigh, N. C., 94 1/7. The second place was won by Dr. Hugh E. Bowman of Davidson, N. C., with a grade of 92½. Dr. Wm. A. Bradsher of Roxboro, N. C., came third, with an average of 92 2/7. The following colleges were represented:

College.	PASSED.	Year Grad.	Per Cent.
University of Nashville	(1903) 87.8,	(1898)	83.7
University of the South		(1904)	84.9
University of Maryland, (1904) 80, 86.6, 86.7, 88.8, 91.1, 83.4, 82.4, 84.4, 85.4; (1903) 82.5, 81.4, 83.9, 84.9, 80.4, 82.5; (1902) 82.1			92.2, 80.6,
University of Pennsylvania		(1902)	84.9
University College of Medicine, Richmond, Va, (1904) 80, 80; (1903) 85, (1902) 80.			
North Carolina Medical College, (1904) 80.6, 80.7, 88.4, 90.8, 85.9, 86.2, 86, 80, 86.4, 80, 87, 80, 84.7, 86.2, 82.2, 92.5; (1903) 80, 80, (1902) 80.			
University of Virginia, (1904) 85, 85, (1903) 81.6, (1902) 87.7, 81,			
University of Michigan	(1903) 84.5,	(1897)	83.2
Vanderbilt University		(1898)	80.0
Leonard Med. Coll., Shaw University		(1904)	80, 81.0
Tennessee Medical College		(1901)	80.0
University of North Carolina	(1904) 80, 80,	94.1,	85.2
Grant University		(1897)	80.0
Memphis Hospital Medical College		(1901)	80.0
College of Phys. and Surgs., Atlanta		(1899)	80.0
Medical Coll. of Virginia, Richmond, (1904) 82.6,		(1902)	80.0
Boston University Homeopathic		(1899)	81.3
Niagara University		(1897)	80.0
Columbian University, Washington		(1901)	88.4
Maryland Medical College		(1904)	80.0
Jefferson Medical College		(1903)	85.0
Laura Memorial Woman's Med. Coll.		(1898)	91.5
Columbia University		(1904)	84.6
Coll. of Phys. and Surgs., Baltimore	(1884) 80.6	(1893)	80.0
Louisville Medical College		(1893)	80.0
Medical College of Ohio		(1885)	80.0
	FAILED.		
Louisville Medical College		(1898)	62.5
Cleveland Medical College		(1898)	74.7
University of Nashville		(1904)	70.9
Tennessee Medical College		(1901)	35.6
Leonard Medical College	(1904) 73.2,	(1902)	57.8
Howard University, Washington		(1903)	73.2
Univ. Coll. of Med., Richmond		(1903)	64.6
Grant University		(1899) 65.4, (1903)	68.7
University of Maryland, (1904) 67, 65.8; (1903) 73.2		(1895)	72.8
University of the South		(1903)	74.6
North Carolina Medical College		(1903)	71.3
Georgetown University		(1897)	68.0
Baltimore Medical College		(1904)	46.4
Atlanta Medical College		(1898)	55.4

South Carolina April Report.—Dr. W. M. Lester, secretary of the South Carolina State Board of Medical Examiners, reports the written examination held at Columbia, April 26-28, 1904. The subjects examined in numbered 17, and the total questions 107. The percentage required to pass was 75. Thirty-three persons were examined, 31 passed, 2 failed.

College.	PASSED.	Year Grad.	Per Cent.
Medical College of South Carolina, (1904) 75, 75, 78¼, 84¾, 76¾, 84¾, 78, 78½, 79, 80⅝, 86¼, 75⅝, 80¾, 81⅝, 78, 80¼.			
University of Pennsylvania		(1903)	86¾
Harvard University	(1900) 86¼,	(1902)	76¼
Vanderbilt University		(1904)	78½
University of the South	(1904) 85½	(1903)	75
Jefferson Medical College		(1903)	79⅞
University of Maryland Med. Dept.	(1903) 89¼,	(1904)	78⅛
College of Physicians and Surgeons, New York		(1901)	93¾
College of Physicians and Surgeons, Baltimore		(1902)	84⅜
College of Physicians and Surgeons, Atlanta		(1904)	89⅝
Univ. of Georgia Med. Dept.	(1904) 85¼, 83¼,		78⅞
	FAILED.		
Medical College of South Carolina		(1904)	73⅜
Chattanooga Medical College		(1901)	59⅞

Association News.

Section Transactions.

Certain of the sections are to have printed and bound in cloth all the papers read in their respective Atlantic City sessions, with the illustrations and the discussions. The size varies from 100 to 500 pages. The following sections have ordered transactions: Practice of Medicine, Obstetrics and Diseases of Women, Surgery and Anatomy, Ophthalmology, Diseases of Children, Cutaneous Medicine and Surgery, Laryngology and Otology, Materia Medica, Pharmacy and Therapeutics, Pathology and Physiology. The price, if paid now, is $1 for each book. This is less than cost. After publication, some of these books are sold for $1.25 and some for $1.50. Every year there are many requests for copies after all are sold. We shall print only as many as can be sold. Anyone who has not already ordered the copies he wishes should send the order, with remittance, immediately, as the printing is about to commence.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ended July 16, 1904:

Lynch, Charles, asst.-surgeon, detailed for duty at encampment of Ohio National Guard, to be held in Athens County.

Van Poole, G. McD., asst.-surgeon, reports arrival at Vancouver barracks, Washington, for temporary duty in charge of C. S. O. Department of Columbia. Left Fort Stevens, Ore., same date.

Shortlidge, E. D., asst.-surgeon, reports arrival at Presidio of San Francisco, with Third Squadron, Ninth Cavalry, and Field Artillery, for duty during the Department maneuvers.

Mason, Charles F., surgeon, relieved from further duty at Fort Sam Houston, Texas, and assigned to duty in the office of the Surgeon-General of the Army. Reported for duty and assigned in charge of Sanitary and Disbursing Division and as disbursing officer, Medical Department.

Brown, Harry L., asst.-surgeon, appointed asst.-surgeon, U. S. Army, with rank of first lieutenant, to rank from July 8, 1904.

Baily, Howard H., asst.-surgeon, appointed asst.-surgeon, U. S. Army, with rank of first lieutenant, to rank from July 8, 1904.

Humphreys, Harry G., asst.-surgeon, appointed asst.-surgeon, U. S. Army, with rank of first lieutenant, to rank from July 8, 1904.

Freeman, Paul L., asst.-surgeon, appointed asst.-surgeon, U. S. Army, with rank of first lieutenant, to rank from July 8, 1904.

Arthur, Wm. H., surgeon, granted thirty days' leave of absence about August 27, 1904.

Ebert, Rudolph G., surgeon, announced as chief surgeon, Division staff, maneuvers at American Lake, Wash.

Bourke, James, asst.-surgeon, ordered to duty with troops from Fort Sheridan, Ill., about Aug. 1, 1904, at target range between Winthrop Harbor, Ill., and Kenosha, Wis.

Carroll, James, asst.-surgeon, ordered to make not to exceed three visits per month from Washington, D. C., to Baltimore, Md., to obtain material for Army Medical School.

Ekwurzel, George M., asst.-surgeon, relieved from duty at Fort Trumbull, Conn., and ordered to West Point, N. Y., for duty.

Childester, W. C., asst.-surgeon, reported for duty at Camp Nisqually, Wash., for duty during maneuvers.

Birmingham, H. P., surgeon, detailed to attend encampment of National Guard of Pennsylvania, Gettysburg, July 23 to July 30, 1904.

Phillips, John L., surgeon, left Governor's Island, N. Y., en route to Manassas, Va., on detached duty in connection with maneuvers.

Davis, William T., asst.-surgeon, relieved from duty as surgeon on the transport *Logan*, to take effect on next arrival of that transport at Manila, P. I., and will then reported to Commanding General, Philippines Division, for assignment to duty.

Brown, Henry L., contract surgeon, granted an extension of seven days to his leave of absence from Columbus Barracks, Ohio.

Shellenberger, James E., contract surgeon, arrived at Fort St. Philip, La., for temporary duty.

Hussey, Samuel W., contract dental surgeon, arrived at Fort Missoula, Mont., for temporary duty.

Brown, Henry D., contract surgeon, left Fort Ward, Wash., for temporary duty at Fort Casey, Wash.

Sorber, Ord. M., contract dental surgeon, granted leave of absence for two weeks from Fort Logan H. Roots, Ark.

Carpenter, Alden, contract dental surgeon, granted leave of absence from Vancouver Barracks, Wash., for one month, with permission to apply for an extension of twenty-five days.

Daywalt, George W., contract surgeon, left Fort St. Philip, La., on leave of absence for one month.

Feeney, John M., contract surgeon, relieved from further duty in the Philippines Division, and directed to proceed to Fort Trumbull, Conn., for station.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending July 16, 1904:

Wilson, H. D., P. A. surgeon, detached from the *Vicksburg* and ordered home to wait orders.

Angeny, G. L., P. A. surgeon, orders of March 16 modified; ordered to duty at the Naval Station, Culebra, W. I., with additional duty with the marine detachment at that place.

Craig, T. C., surgeon retired, relieved from duty as member of a committee for fixing a standard for diphtheria antitoxin, under orders of June 30, 1902.

Steele, J. M., surgeon, detached from the Naval Station, Port Royal, S. C., and ordered home and to wait orders.

Keene, W. P., A. A. surgeon, detached from duty on board the second torpedo flotilla and ordered to the Naval Station, Port Royal, S. C.

Campbell, R. A., A. A. surgeon, ordered to duty on board the second torpedo flotilla.

Bishop, L. W., asst.-surgeon, ordered to the Navy Yard, New York, N. Y.

Backus, J. H., asst. surgeon, detached from the *Annapolis* and ordered home to wait orders.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the seven days ended July 7, 1904:

Purviance, George, Asst.-Surgeon-General, granted leave of absence for one month from July 1, 1904, on account of sickness.

Kalloch, P. C., surgeon, granted leave of absence for eight days from July 7.

McIntosh, W. P., surgeon, to assume temporary charge of the Portland, Me., quarantine station during the absence on leave of the medical officer in command.

Currie, D. H., asst.-surgeon, to report to chairman of board of examiners, San Francisco, July 25, 1904, for examination to determine his fitness for promotion to the grade of P. A. surgeon.

Korn, W. A., asst.-surgeon, to report at Washington, D. C., for special temporary duty.

Holt, J. M., asst. surgeon, to report to chairman of board of examiners, San Francisco, July 25, 1904, for examination to determine his fitness for promotion to the grade of P. A. surgeon.

Trotter, F. E., asst.-surgeon, to report to chairman of board of examiners, San Francisco, July 25, 1904, for examination to determine his fitness for promotion to the grade of P. A. surgeon.

McLaughlin, A. J., asst.-surgeon, to proceed to Atlantic City, N. J., for the purpose of making a physical examination of certain keepers and surfmen of the Life-saving Service.

Foster, A. D., asst.-surgeon, granted leave of absence for seven days from July 8.

Robertson, H. McG., asst.-surgeon, to proceed to Point Pleasant and Tuckerton, N. J., for the purpose of making a physical examination of certain keepers and surfmen of the Life-saving service.

McKeen, F. H., asst.-surgeon, relieved from duty at New York (Stapleton) and directed to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters.

Spangler, L. C., pharmacist, to report to chairman board of examiners, Tampa Bay Quarantine, July 11, 1904, or as soon thereafter as may be determined by the chairman of the board, for examination to determine his fitness for promotion to the grade of pharmacist of the second class.

BOARDS CONVENED.

Board convened to meet at Washington, D. C., July 6, 1904, for the physical examination of an applicant for appointment as second assistant engineer in the Revenue-cutter Service. Detail for the board: Assistant Surgeon-General G. T. Vaughan, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened to meet at Tampa Bay Quarantine, July 11, 1904, or as soon thereafter as may be determined by the chairman of the board, for the examination of Pharmacist L. C. Spangler, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Asst.-Surgeon R. E. Ebersole, chairman; A. A. Surgeon G. H. Altree, recorder.

Board convened to meet at San Francisco, July 25, 1904, for the examination of assistant surgeons to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon Rupert Blue, P. A. Surgeon H. S. Cummin, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended July 15, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, June 26-July 3, 1 case.
Florida: General, July 2-9, 8 cases, 1 death.
Illinois: Chicago, July 2-9, 11 cases; Danville, 5 cases.
Kentucky: Covington, July 2-9, 2 cases.
Massachusetts: Fitchburg, July 2-9, 1 case; North Adams, 1 case.
Michigan: At 79 places, June 25-July 2, present.
Missouri: St. Louis, July 2-9, 3 cases.
Nebraska: Omaha, July 2-9, 2 cases; South Omaha, 2 cases.
New York: Niagara Falls, July 2-9, 1 death; New York, 1 case.
Ohio: Cincinnati, June 23-July 8, 6 cases, 1 death; Zanesville, June 4-July 2, 7 cases.
Pennsylvania: Philadelphia, July 2-9, 1 case; Williamsport, 1 case.
Wisconsin: Milwaukee, June 25-July 8, 9 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, May 22-June 5, 291 cases, 103 deaths.
China: Shanghai, May 14-June 14, 10 deaths.
Cuba: Habana, June 18-25, 1 death, source of infection probably imported to case.
Great Britain: Birmingham, June 18-25, 1 case; Bristol, June 25-July 2, 7 cases; Glasgow, June 24-July 1, 20 cases, 1 death; London, June 18-25, 16 cases, 1 death; Manchester, 2 cases; Newcastle-on-Tyne, 12 cases, 1 death; Nottingham, June 11-19, 6 deaths.
India: Calcutta, June 4-11, 1 death; Karachi, June 5-12, 2 cases, 2 deaths.
Java: Batavia, May 14-28, 6 cases.
Mexico: City of Mexico, June 12-26, 12 cases, 5 deaths.
Russia: Moscow, June 11-18, 18 cases, 4 deaths; Odessa, June 18-25, 1 case; Warsaw, June 11-18, 22 deaths.
Straits Settlements: Singapore, May 7-14, 1 death.

Turkey: Beirut, June 4-11, present; Constantinople, June 19-26, 4 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, May 22-June 5, 6 cases, 2 deaths.
Mexico: Coatzacoalcos, June 11-25, 2 cases; Merida, June 19-25, 7 cases, 2 deaths; Tehuantepec, June 19-25, 2 cases, 1 death; Vera Cruz, June 25-July 2, 5 cases, 1 death.

CHOLERA.

India: Bombay, June 7-14, 63 deaths; Calcutta, June 4-11, 36 deaths; Madras, June 4-10, 1 death.
Turkey in Asia: June 6, 361 cases, 210 deaths.

PLAGUE.

Africa: Cape Colony, May 21-28, 1 case; Natal, June 2, present.
Brazil: Bahia, July 9, 5 cases, 2 deaths; Rio de Janeiro, May 22-June 7, 3 cases, 1 death.
Chile: Arica, July 10, 1 death; Antofagasta, May 1-31, 52 deaths.
Egypt: May 28-June 4, 14 cases, 8 deaths, including 4 cases, 1 death, in Alexandria, and 1 case in Port Said.
India: Bombay, June 4-11, 63 deaths; Karachi, June 5-12, 21 cases, 22 deaths.
Mauritius: April 8-May 5, 3 cases, 3 deaths.
Peru: Trujillo, July 10, 1 death.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Typhoid Fever.

GENERAL MANAGEMENT.

Beates, in *Therapeutic Review*, states that it is essential that favorable environment be secured, a quiet, well-ventilated room, a sanguine, bright and tactful nurse; tactful conversation only should be used, visitors should be few and no one be permitted to enter the room who indulges in narratives of bad cases, etc. "A comfortable bed is an inestimable necessity." Germicidal and antiseptic principles should be constantly observed and applied in the care of all the discharges from the patient, the bed linen, all dishes and eating utensils. The hands of the attendant should be thoroughly washed and disinfected after each time the patient is handled.

CARE OF EXCRETA.

The *Therapeutic Review* quotes the following practical suggestions as given out by the Wilmington Water Department:

Keep on hand a five-gallon vessel filled with any one of the following solutions:

1. Chlorid of lime, best quality, to contain 25 per cent. of available chlorin, free from strong odor on opening the box, six ounces to each gallon of water.
2. Formalin (40 per cent.), five ounces to the gallon of water.
3. Carbolic acid, four ounces to the gallon of water.

The choice of these solutions should be determined by the ability to obtain the pure article. Keep vessel tightly corked.

Have the receptacles for the stools (bed pan or night chamber) provided with a closely fitting lid. It is better to have two receptacles of the same kind so that one may be kept clean for the patient's use. When ready for use put two glassfuls of the disinfectant into the receptacle or one-half glassful if the urinal is used so that the discharge comes immediately in contact with the disinfectant when it is voided. No harm is done if the disinfectant comes in contact with the bedclothes. Remove the vessel to a secluded place in the house, add enough more disinfectant to completely cover the discharge, stir contents with stick (burn the stick), replace the lid and allow to stand for at least two hours. The longer the discharges stand in contact with the disinfectant the more harmless they become and less obnoxious to handle. If there is no water closet the discharges should be buried in the soil at least 100 feet from any well or stream. All the linen should be soaked in the formalin or carbolic acid solution (not the chlorid of lime solution) until they are washed. Use the disinfectant freely on all occasions.

CARE OF THE MOUTH.

The importance of the proper hygiene of the mouth can not be too much emphasized. Discharges from the nose and thickened secretions from the mouth should be removed. The teeth, gums and tongue should be cleansed with a very soft tooth brush or with a piece of gauze wet in saturated solution of boric acid, or weak peroxid of hydrogen, or a solution made by adding oil of cassia, six drops to six ounces of water. The mouth should be cleansed with one of the above or similar solutions before and after each nourishment.

DIET.

Beates further states in regard to the feeding of typhoid patients: "Food supplying potential energy, and of a highly nutritious type, must be intelligently administered as each particular case shows its ability to assimilate. Nutriment giving the minimum of residuum is the great object to be attained." He believes that pyrexia is a symptom of insufficient nourishment and the giving of a proper supply of food will influence the temperature.

Manges, in the *New York Med. Jour.*, states that milk is the most important part of the diet, provided that milk agrees with the patient. If the milk does not agree with the patient and a full, uncomfortable abdomen with increasing discharge of offensive flatus results, then it is wise to dilute the milk with plain water, albumin water, rice water, or barley water. If this fails to relieve the distension then it is better to suspend the use of milk entirely for a greater or less period of time and substitute one of the cereal waters mentioned above and meat juice. He allows the patient to chew a piece of beef steak, the nurse standing by and not giving another piece until that one is returned. This procedure is very grateful to the patient, and furthermore keeps the mouth clean and stimulates the flow of saliva. He believes that successful feeding of a typhoid is largely dependent on the cleanly condition of the mouth.

McCrae, in the *Practitioner*, describes the dietetic treatment of typhoid fever as carried out in Professor Osler's clinic in the Johns Hopkins Hospital as follows: The diet is of milk and albumin water; of the former the patient receives four ounces, diluted with two ounces of lime water, every four hours; of the albumin water he receives the white of one or two eggs in four ounces of water flavored with lemon or orange juice, every alternate four hours. In patients with whom milk does not agree, some modification, such as buttermilk, or kumyss flavored with vanilla, or some similar preparation may be employed. The patients are allowed tea, coffee, cocoa or ice cream at any stage of the fever. Bouillon is sometimes given. Beef tea and peptones are never given.

USE OF WATER.

McCrae further urges the importance of giving sufficient amount of water. Their rule is that every patient shall receive at least three quarts of fluid in twenty-four hours; some take as much as twice this quantity. Boot, in *St. Paul Med. Jour.*, advises the free use of water, both by mouth and the use of colonic flushings. He believes that the colonic flush not only stimulates the small intestine to empty its contents into the large bowel, there to be carried out by the irrigation, but more or less of the water is absorbed and aids in eliminating the toxins through the kidneys. In regard to the method he says: "I recommend that the irrigation be used by means of a large rubber catheter or small rectal tube. About half a gallon of plain warm water will suffice for an adult. The higher this can be thrown into the colon the better. In my later cases I have used this almost daily."

Marshall reports in the *Lancet* that he used saline infusion when the heart was weak and failed to respond to the usual stimulation, in profound toxemia and hemorrhage. From twenty to thirty ounces were given four different times as indicated. Very marked improvement was noted after each injection.

HYDROTHERAPY.

This method of treating the pyrexia is universally in vogue.

Few, indeed, are the physicians who rely on the administration of some one of the various coal-tar products to reduce the fever. Cold sponge baths, cold packs and the tub baths may be used at the discretion of the physician. Many patients do not react well to the tub. Manges says in the article quoted from above: "The use of the tub or other hydriatic measures will always stand high in the estimation of those who have used them properly. The original barbaric procedures are no longer needed, since the bath of 90 F. reduced to 80 or 78 F. and accompanied with proper friction will be found ample. The drop in the temperature is in my opinion the least important result of the tub. Too little stress is laid on the increased elimination, the effects on the nervous system, the resultant leucocytosis."

INTESTINAL ANTISEPTICS.

Manges says the best result that can be hoped from the so-called intestinal antiseptics is a moderate antifermentative action. Salol and the bismuth salts are recommended.

Kesteven, in the *Therapeutic Gazette,* recommends eucalyptus, preferably the oil of eucalyptus, eucalyptol having been deprived of its special virtue. The author claims that it gives greater relief to all general symptoms, such as tympanites, tormina, leathery-brown tongue, sordes, dry skin, etc., reduces the hardness and rapidity of the pulse without lowering the strength. The drug is given in doses of ten to thirty minims in capsule or since it is not particularly unpalatable its taste may be easily masked by various adjuvants, such as glycerin, spirits of chloroform, oil of peppermint, or oil of wintergreen, etc.

OTHER DRUGS IN TYPHOID.

Musser believes that the chief indication for alcohol is marked toxemia in elderly patients. In the young he prefers to give the drug in small amounts when there are septicemic changes, using large doses only for short periods.

H. A. Hare concludes from experimental research that alcohol seems to have the power of combating infectious diseases by increasing the bacterial destroying power of the blood.

Manges says of hydrochlorid acid, that if there is any drug that ought to be used in every case of typhoid fever that drug is hydrochloric acid. Its usefulness is based on the fact that the secretion of hydrochloric acid in the stomach is very much reduced in all febrile conditions, its routine administration aids in obtaining a more complete digestion of the food in the stomach, thereby promoting greater absorption of peptones in the stomach and less chance of putrefactive change in the intestine. Ten drops of the dilute acid in a glass of water ought to be given every three or four hours throughout the course of the disease.

Bass recommends the use of castor oil in the treatment of typhoid fever. Favorable results were obtained in all his cases. At no time was constipation permitted to exist; poisons were eliminated almost as fast as they were generated. He gives the drug every twelve hours throughout the course of the disease, in doses suitable to produce one or two movements.

HEMORRHAGE.

Moore, in the *Practitioner,* recommends absolute rest for the patient and for the bowels, obtained by withholding food for several hours and by the free exhibition of opium, preferably in the hypodermic injections of morphia or the following:

R.	Acidi tannici	gr. x	65
	Tincturæ opii	m. x	65
	Spiritus terebinthinæ	m. xv	1
	Mucilaginis acaciæ	ʒii	8
	Tincturæ chloroformi comp.	m. xx	1 30
	Aquæ menthæ piperitæ q. s. ad	ʒi	30

M. Sig.: Tablespoonful at one dose; or the following to prevent meteorism and aid in checking hemorrhage:

R.	Spiritus terebinthinæ		
	Spiritus etheris nitrosi		
	Spiritus chloroformi, āā	ʒii	8
	Emulsii amygd. q. s. ad	ʒvi	180

M. Ft. mistura. Sig.: Shake bottle and give tablespoonful at a dose every three to four hours as required.

An ice bag is laid over right side of abdomen; when hemorrhage is so profuse as to threaten life ice water enemata or a hypodermic injection of salt solution may be employed; in such cases twenty grains of chlorid of calcium every few hours are of value.

Hare recommends the following formula for the diarrhea of typhoid.

R.	Acidi sulphurici aromati	ʒi	4
	Extracti hematoxyli fluidi		
	Spiritus chloroformi, āā	ʒss	15
	Syrupi zingiberis q. s. ad	ʒiii	90

M. Sig.: Two teaspoonfuls every two to four hours.

Eczema.

Merck's *Archives* recommends the following formula:

R.	Ichthyol	ʒi	4
	Acidi salicylici	gr. v	30
	Acidi borici		
	Paraffin. āā	gr. xx	1 30
	Petrolati	ʒi	30

M. Sig.: Apply at bedtime.

The following has also been recommended:

R.	Ichthyol	gr. xv	1
	Zinci oxidi	gr. xlv	3
	Acidi borici	gr. xxx	2
	Petrolati	ʒi	30

M. Sig.: Apply twice daily.

Vomiting of Pregnancy.

Crowley recommends the following:

R.	Bismuthi salicylatis		
	Cerii oxalatis, āā	ʒi	4
	Mentholis	gr. x	65
	Cocain muriatis	gr. iii	20
	Spts. vini rect.	ʒi	4
	Elix. aurantii, q. s. ad	ʒvi	180

M. Sig.: Teaspoonful every three to four hours.

The following has also been recommended:

R.	Sodii bromidi	ʒiv	15
	Elix. lactopepsin	ʒii	60

M. Sig.: Teaspoonful every three to four hours.

Medicolegal.

Evidence of General Reputation as to Health Excluded.—The Court of Civil Appeals of Texas holds, in Home Circle Society No. I vs. Shelton and another, an action brought by the latter parties to recover on a benefit certificate, that the condition of the health of the insured at the time she made application to become a member of the circle could not be proved by general reputation, as such evidence was hearsay.

Insanity Not Provable by Reputation.—The Supreme Court of Montana says that, in the case of State vs. Lagoni, where a witness testified that he had known another who was about 60 years of age, for 18 or 20 years, he was asked to state what was such other's reputation in the neighborhood in which he lived, among his neighbors, as to his being sane or insane. The evidence solicited was clearly incompetent. It is not permissible to prove insanity by reputation.

Sufficient Evidence that Fall Caused Appendicitis.—The Supreme Judicial Court of Massachusetts holds, in the personal injury case of Sullivan vs. the Boston Elevated Railway Company, where the former was thrown from the seat of a large brewery wagon to the ground, a height of 8 or 9 feet, by a collision with a street car, that the testimony of a physician warranted the jury in finding that the inflammation of the appendix was caused by the collision. It says that the physician who, in a practice of six years, principally surgical, had operated between 100 and 200 times for appendicitis, was properly found qualified to testify as an expert, and testified "that such a fall as Sullivan testified to receiving could be an adequate cause of the appendicitis." That was sufficient, taken in connection with the plaintiff's testimony that his health was good before the accident.

Expert Evidence as to Permanency of Injury.—The Supreme

Court of Wisconsin says, in the case of Hallum vs. Village of Omro, brought to recover for personal injuries alleged to have been sustained on a defective sidewalk, that a physician seemed to have given his opinion as to the plaintiff's liability to control, normally, the action of her left limb from having observed her as she walked, and given opinion evidence as to the probable cause of such condition. There was no error in that. Again, the physician, having knowledge as to what the plaintiff testified respecting her condition before and after the accident, was asked, on the hypothesis that her testimony was true, whether the injuries she was suffering from "were liable to be permanent." It was strenuously insisted that such testimony was conjectural and was erroneously received. The court says that it is true that there can be no recovery, legitimately, for permanent impairment in a case like this in the absence of competent evidence warranting a conclusion, with reasonable certainty, that such impairment will exist as a result of the accident; but it is not necessary that opinion evidence should be confined to that high degree of certainty. Experts may properly testify to the mere probabilities of the case. It would ordinarily be very difficult to secure any more definite opinion evidence than that from a conscientious expert. An examination of the cases cited will show that "probable," "likely" and "liable" have been treated as synonymous, each dealing with reasonable probability, not with possibility, and that what may probably or is likely or liable to be the future result of a personal injury is competent evidence to prove what is reasonably certain in the matter. That is according to lexical authority as to the meaning of the words. The better way, however, to invoke professional opinion evidence in such a matter, the court would say, is to ask for the expert's opinion, not using either term. But an interrogative as to what the probabilities are, or what is likely or liable to be the result as regards permanency of the injury, can not be condemned as speculative or conjectural. This does not militate at all against the doctrine that the ultimate vital fact to be determined is what is reasonably certain to be the result. That is for the jury to determine from all the evidence bearing on the question, including the opinion evidence as to what is probable, likely or liable to be the case.

Admissibility of Expert Evidence as to Neurasthenia.—The Supreme Court of Missouri, Division No. 2, says, in the personal injury case of Wood vs. Metropolitan Street Railway Company, that it must be conceded that the disease of neurasthenia, or nervous prostration or nervous exhaustion, though one of the most serious character and causing great suffering, is little understood by the average person, either in its symptoms, or the causes which produce it. Being an affection of the nervous system, it may be said to lie peculiarly within the province of a medical expert to determine its existence and to ascertain its cause. Certainly it can not be said that the average juror is as capable of determining from certain symptoms the existence of such a disease and its cause as a medical man who has made it a study. While the experience and learning of the physician might readily detect it, the ordinary man would know nothing of it. In a word, whether a man or woman is afflicted with neurasthenia, and what produced it, is peculiarly a matter of scientific or technical knowledge. Hence in this case no objection was taken, and properly not, to the testimony of a physician as to the nature of this disease, and its general characteristics, or the usual causes producing it. Manifestly, no one but a physician, and, the court says it might add, one who has made a study of nervous troubles, is competent to speak intelligently on the subject. Futhermore, the court says that in Missouri the rule is well established that a medical expert may give his opinion as to the cause of a diseased condition, or that it will be permanent, or the cause of death, on a hypothetical statement of the facts. And as to the proposition that his opinion may go to the very issue on trial, it was ruled in State vs. Wright, 134 Mo. 404, that a medical expert may give his opinion as to the sanity or insanity of the defendant, having for a basis the hypothetical case, together with what he had learned from an examination of the defendant, though this is the sole issue to be decided by the jury. Indeed, nothing is better settled in the criminal practice than that a medical witness may describe the wounds which he observed on a dead person, and give his opinion whether one or more of them produced the death, or were necessarily mortal. The cases are too numerous to cite. And it is the universal rule in this country that a medical expert may give his opinion as to the cause of death, notwithstanding that is one of the issues and sometimes the only issue in the case. Wherefore, the court holds that there was no error in this case in permitting a question to be asked, or answered by the expert medical witness, as to what in his opinion caused the nervous prostration with which he found the plaintiff to be suffering. He was competent, after his examination of her, to say that was her disease. Then, made acquainted, as he was, by the facts stated in the hypothetical case, he was competent to express an opinion as to the cause of said disease. As to the expert being a hired witness, the fact that he was paid his fee as an expert for the examination of the plaintiff was fully disclosed by the witness himself on a question propounded by the plaintiff's attorney, and the jury had that fact before them in weighing his credibility. It presented no ground of incompetency of the witness.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 9.

1 *Treatment of Gallstones Found as a Coincidence in Abdominal or Pelvic Operation. John G. Clark.
2 Edema. (Second Lecture.) S. J. Meltzer.
3 *Two Cases of Renal Tuberculosis Illustrating the Results of Nephrectomy. L. N. Danforth.
4 Case of Chronic Pancreatitis; Diagnosis; Operation; Recovery. J. W. Chambers and Julius Friedenwald.
5 Concerning the Invasion Period of the Malignant (Estivo-autumnal) Tertian Malarial Parasite. Thomas W. Jackson.
6 *Gangrene of the Finger Caused by Carbolic Acid. G. E. Shoemaker.
7 The Training of the Surgeon. W. S. Halstead.

1. Treatment of Gallstones Coincidentally with Abdominal or Pelvic Operations.—Clark reviews the work done in this particular field of surgical activity of late by various investigators and clinicians, and urges abdominal surgeons to make a most careful record of all gastrointestinal or hepatic symptoms and other vague epigastric pains, and associate these with an examination of the gall bladder. In operating for cholelithiasis he always uses the operation recommended by Kelly. Counter-indications for the examination of the gall bladder are as follows: When the operation in the pelvis has been attended with the evacuation of pus, which if generally distributed in the peritoneal cavity might give rise to a peritonitis, this exploration should be admitted. When the patient is in a critical condition at the termination of the operation, it should not be made. In cases in which operation is done for a simple condition, when the clinical symptoms are clear cut and point definitely to but the one condition, it should again be omitted. In old pelvic inflammatory cases, in which the septic area in the pelvis is completely walled off by adhesions, the examination of the gall bladder may be made immediately after the abdomen is opened, before the pelvic adhesions are broken up. In this way the danger of distributing the septic material may be avoided. Clark summarizes his paper as follows:

1. The usual statement that 95 per cent. of gallstones produce no symptoms is fallacious because it is drawn from autopsy and dissecting-room statistics.
2. Recent researches point very strongly to the bacteriologic origin of gallstones:
3. Bile is not bactericidal, for in the majority of cases of cholelithiasis micro-organisms of a more or less pathogenic nature are discovered.
4. Under these circumstances, many more or less vague symptoms attributed to gastrointestinal or general constitutional disturbances may arise from toxins elaborated around these foreign bodies in the gall bladder.
5. All clinicians admit that there is a wide hiatus in the clinical symptoms between the early formation of gallstones and the so-called classic attacks of biliary colic with jaundice.

6. Abdominal surgeons should make a most careful record of all gastrointestinal or hepatic symptoms and other vague epigastric pains and associate these with an examination of the gall bladder, with a view to establishing a further link in the symptomatology of cholelithiasis.

7. As cholelithotomy in a large series of cases has been attended with less than 2 per cent. mortality, the coincident removal of gallstones with some other abdominal operation is not a hazardous undertaking.

8. In my series of cases, more than 50 per cent. have shown symptoms which could be unquestionably or with great assurance attributed to the presence of gallstones.

9. This coincident operation should be dictated by the most careful surgical judgment, for if the patient is in a critical condition from a prolonged operation, or the primary operation has been a septic one, this extra operation may be attended by serious results.

3. **Renal Tuberculosis.**—Two cases of renal tuberculosis are reported by Danforth illustrating the results of nephrectomy. He says it is impossible to differentiate positivcly a simple renal hypertrophy from a tumor, especially when the hypertrophy is more or less asymmetric, or when the tumor differs but little in shape or density from the kidney. It is impossible to determine the nature of the growth prior to operation. It is a comparatively rare thing to discover tubercle bacilli in the urine; that is, with the methods used by the general practitioner. The fact that tuberculous disease has not appeared in other parts of the body does not prove its absence in the kidney. Deposits of tubercle, too small or too obscure for detection, may be present, so that it is hardly safe to assume that any case of renal tuberculosis is positively primary without a most searching examination of all accessible portions of the body. The great majority of kidney operations must be regarded as exploratory and diagnostic. Danforth prefers to operate in his own cases of renal disease. He believes that a physician can not divest himself of his responsibility for, or his interest in a case, by turning it over to a surgeon; neither can he expect the surgeon to act as an assistant, for the purpose of carrying out the physician's wishes. The post-operative treatment, both medical and surgical, in a case of surgical kidney, is frequently of as much importance as the operation itself. For these reasons he prefers to retain complete control of his cases of surgical kidney and also to do his own operating. He recommends a similar course to other physicians who are giving special attention to renal diseases. The operation presents no difficulties which ought to appear formidable to any physician of experience; the incisions are simple, the landmarks plain, and the organ is easily reached and delivered.

6. **Carbolic-Acid Gangrene.**—Shoemaker reports the case of a young woman who had been given a carbolic-acid lotion by a druggist for the purpose of putting a wet dressing on an injured finger. The result was that three-fourths of the length of her middle finger was dead-black in color, somewhat shrunken, and a line of demarcation had formed close to the hand. Another case is that of a little girl of 7, whose finger had been plunged into carbolic-acid solution of unknown strength and then tied up. Gangrene resulted.

New York Medical Journal.

July 9.

8 *Contribution to the Pathology of the Elastic Tissue of the Aorta. Fritz Schwyzer.
9 *Home Treatment of Pulmonary Tuberculosis. E. Fletcher Ingals.
10 Effects of the Dry Carbonic Acid Gas Bath on the Circulation and on the Diseased Heart. A. Rose.
11 Two Cases of Uncinariasis. J. Norman Henry.
12 Unhealthfulness of Noise. J. A. Gutbrie.

8. **Pathology of Elastic Tissue of the Aorta.**—Schwyzer believes that the elasticity and ductility of the aorta do not depend on the elastic qualities of the elastic fibers alone, but rather on the peculiar construction of the elastic trestle-work and on the collagenous fibers; that the elastic tissue is to be considered as an inhibitory factor against over-expansion; that by studying the lesions of the elastic tissue it is comparatively easy to distinguish between syphilis and arteriosclerosis, and that by the same means the senile form of aortic changes can be distinguished from those of true arteriosclerosis.

9. **Home Treatment of Pulmonary Tuberculosis.**—Ingals emphasizes the importance of forced feeding in the treatment of pulmonary tuberculosis, while tonics, digestive agents and anodynes that do not interfere with the functions of the body are also of much importance. The so-called antiseptic treatment often is beneficial; the open-air treatment about equally so. To do the best for our patients all these should be combined, and when practicable the sufferer should be placed in a good climate. He cites two cases illustrating the effectiveness of home treatment, with as liberal feeding as possible, aided by tonics and digestive agents, anodynes to prevent excessive cough, and antiseptics in large doses. In neither of these cases was it possible to secure open-air living. He uses extract of nux vomica, gr. ½, to improve the digestion; extract of hyocyamus, gr. ¾, to relieve cough; extract of cascara sagrada, gr. 1/3, for the constipation, and sodium sulphichthyolate, grs. 7½, for its antiseptic properties, to be taken four times a day before eating and at bedtime, and to be followed by a glass of milk. It may be necessary to increase the dosage of these drugs, and if the cough is very severe, to add 1/6 of a grain of codein. The first patient to all appearances became well, although there was still evidence of the old trouble in her lungs. She appeared much better while taking the antiseptic treatment, although the improvement in her condition was mainly due to the effects of the medicine in stimulating her appetite, promoting digestion and preventing excessive cough. The second case showed the beneficial effects of the open-air treatment, the patient living with the windows open constantly for the last five months. The medicinal treatment was similar to that prescribed for the first case. Thiocol, 10 grs. three times a day after eating, followed by a glass of milk, was substituted for the sodium sulphichthyolate, and 15 drops of guaiacol were rubbed on the chest twice daily to relieve pain and fever.

Medical News, New York.

July 9.

13 Theory of Mutation in Its Relation to Medicine. Jonathan Wright.
14 Race Suicide from the Gynecological Standpoint. Egbert H. Grandin.
15 Sterility Due to Abnormal Conditions of the Uterus. H. N. Vineberg.
16 Sterility from Vaginal Causes. J. N. West.
17 *Yohimbin; Its Use in the Treatment of Eye, Ear, Nose and Throat Diseases. J. H. Claiborne and Edward B. Coburn.
18 Prognosis and Treatment of Urethral Stricture. Edward L. Keyes, Jr.
19 The Submerged Tonsil. Thomas J. Harris.
20 Pseudobulbar (Glosso-pharyngo-Labial) Paralysis. L. K. Hirshberg.
21 Rational vs. the "Regular" Treatment for Typhoid Fever; Hanna's Case and Some Others. Charles E. Page.

17. **Yohimbin.**—This is a new alkaloid derived from the yohimbehe tree, a native of West Africa. The drug crystallizes in the form of white needles having a silky appearance. It is readily soluble in ethyl, methyl and amyl alcohol and in ether and chloroform, but is only soluble in water to the amount of about 2 per cent. The hydrochlorate is the salt usually employed and is fairly stable except in solution, when it deteriorates rapidly. It may be preserved much longer by the addition of a small amount of chloroform. It is non-toxic when injected in doses of 25 c.c. of a 1 per cent. solution of the hydrochlorate. A local anesthesia is produced, which lasts for one and three-quarter hours. Yohimbin has been used to some extent in operations on the eye requiring local anesthesia, and the author summarizes its action on the eye and its surroundings as follows:

1. A 2 per cent. solution of yohimbin, either alone or in equal mixture with adrenalin chlorid solution, dropped into the conjunctiva cul-de-sac from five to six times in ten or fifteen minutes, will produce both corneal and conjunctival anesthesia. Marked anesthesia of the cornea lasts from thirty to forty-five minutes after the last instillation; the conjunctival anesthesia is at no time so profound as the corneal, and disappears several minutes before the latter.

2. There is a slight stinging sensation immediately following the instillation, which becomes less and less with each instillation, finally disappearing altogether.

3. The eye becomes immediately suffused and continues red for more than an hour after the last instillation.

4. There is no widening of the palpebral fissure.

5. There is a moderate but marked dilatation of the pupil which comes on several minutes earlier after the last instillation with adrenalin and yohimbin in combination than with yohimbin alone, but lasts in either case from fifteen to twenty minutes.

6. The slight blurring of the vision for far and near appears to be due to spherical aberration rather than to paresis of accommodation.

7. Yohimbin alone or in combination with adrenalin is an exceedingly mild mydriatic.

8. Adrenalin when mixed in equal parts with yohimbin in 2 per cent. solution, loses its constricting power on the blood vessels of the palpebral and bulbar conjunctiva.

9. This last-mentioned fact suggests the idea that yohimbin may be an antidote to adrenalin chlorid.
10. In view of the congestion caused by yohimbin, it can not be considered the ideal anesthetic for operations involving the conjunctiva or muscles.
11. As an anesthetic in cataract extractions and in iridectomy, it would probably be effective.
12. On account of the congestion produced by it, yohimbin would be inferior to cocain as an anesthetic in all operations on the eye.

Yohimbin has also been found useful in ear and nose work for the removal of the nasal turbinals and granulations, and of polypi from the ear, because of its freedom from toxicity and because it does not cause the tissues to contract (as cocain does) and so render their removal difficult. A 2 per cent. solution of yohimbin benumbs the mucous membranes in two minutes; in five minutes they are markedly anesthetic, and in ten minutes the maximum degree of anesthesia is obtained. Anesthesia lasts from one-half to three-quarters of an hour, and sensation is restored completely in one hour and a half. It does not act on cutaneous surfaces except by injection. Yohimbin induces hyperemia, which may be dangerous in persons of hemorrhagic tendencies. Some of the advantages of yohimbin are non-toxicity; long duration of anesthesia; it does not markedly contract the tissues; the taste is only slightly bitter; it does not cause unpleasant contraction of throat and mouth. Some of its disadvantages are that it does not keep well; does not contract the tissues; hyperemia and hemorrhage after operation, and salivation.

Medical Record, New York.

July 9.

22 *Illuminating Gas Poisoning; a Clinical Study of 90 Cases. W. Gilman Thompson.
23 Diagnosis of Typhoid Perforation and Its Treatment by Operation. Charles A. Elsberg.
24 Method of Securing Fixation and Hardening of the Central Nervous System Before the Autopsy. B. Onuf.
25 Occipitoposterior Positions. S. Marx.
26 Brief Notes on the Management of Occipitoposterior Positions of the Vertex. John O. Polak.

22.—See abstract in THE JOURNAL, xlii, p. 1378.

Boston Medical and Surgical Journal.

July 7.

27 President's Address, American Gynecological Society. Edward Reynolds.
28 *Aciduria (Acetonuria) Associated with Death After Anesthesia E. G. Brackett, J. S. Stone and H. C. Low.

28. **Aciduria Associated with Death After Anesthesia.**—The authors call attention to the fact that aciduria may be associated with death after anesthesia and report a series of cases presenting certain features in common: Vomiting associated with collapse; a very weak and rapid pulse; an absence of fever until just before death; cyanosis, in the fatal cases, causing extreme dyspnea; apathy and stupor, alternating with periods of restlessness at first, but in the fatal cases gradually deepening into coma and death; and the presence of acetone in the breath and urine. In seven cases these symptoms followed operation. Three of the patients died. In the four mild cases which recovered, no symptoms appeared within the first twelve hours after operation. In none of these cases was the recovery from the operation normal. However, anesthetization alone does not bring on the condition, nor can operative interference and operative shock be regarded as the underlying cause. The sudden onset, the nature and the severity of the symptoms suggest ptomaine poisoning, but in no case was there any diarrhea, which is scarcely ever absent in ptomaine poisoning if the patient lives long enough. Homesickness, fright, confinement in the hospital, and change of food were considered as possible factors in the etiology of this condition. All the cases gave distinct clinical evidence of being a form of acute intoxication due in some way to a disturbance of metabolism which has, among its peculiar manifestations, the presence of acetone and its allied compounds in the excreta. It can be stated positively that the symptoms are not the result of anesthesia, operation or shock, unless in the presence of certain underlying causes still undetermined. It is suggestive to say that most of the cases occurred in children with a high-strung, nervous temperament, in whom the confinement, changed habits, changes in diet, homesickness, dread of operation, the anesthesia, and the operation itself, may lead to changes in the metabolism which have not hitherto been taken into account. These changes may lead to serious or fatal consequences unless all the organs, including the muscular system, are not only sound, but performing their functions normally. It is possible that the toxic agent may be produced by the same conditions which cause the appearance of acetone in the urine, and that the appearance of acetone in the urine, in quantities sufficient to give the ordinary clinical reaction, is to be regarded as an indication of serious and possibly dangerous disturbance of metabolism. Bicarbonate of soda or some other alkali is the only remedy which promises to be of any decided benefit, and it should be given in large amounts by mouth and in enemata. In some instances infusion of large quantities of salt solution under the skin or into the veins seems to be of decided though usually only temporary benefit. The authors summarize the result of their studies as follows:

First, greater attention should be paid to temperament, and to the conditions which influence it, realizing the anxiety and fright, with the accompanying physical disturbances, caused by entering a hospital, remembering that these are particularly noticeable in children of high-strung and apprehensive temperament. Second, the absence of any gross evidence of a pathologic condition, as shown by heart murmurs, evident changes in the lungs and kidneys, or abdominal tumor, may not constitute immunity from the danger of acetonemia, and possible death after operation. Third, decided caution should be paid to those cases in which there may be reason to suspect a fatty condition of the liver. Fourth, it is more than probable that unusual care should be exercised in those cases showing extensive degenerative change, and, particularly, degenerative muscular change, such as is seen in extensive infantile paralysis.

Cincinnati Lancet-Clinic.

July 2.

29 *Diagnosis of Supra- and Sub-Diaphragmatic Suppuration. Joseph Rilus Eastman.
30 Madam Cow. C. L. Patterson.

July 9.

31 *The Recognition and Management of Infantile Eczema. M. L. Heidingsfeld.
32 *Management of Congenital Syphilis in Children. A. Ravogli.

29. **Diagnosis of Supra- and Sub-Diaphragmatic Suppuration.**—Eastman enumerates and emphasizes certain diagnostic facts which are of value in determining the presence of abscess immediately above or below the diaphragm, and the location, source and general characteristics of abscess in these areas. He makes special mention of the value of blood examination in determining the existence of deep-seated suppurations. Although the diagnostic value of the test is limited, in abscesses it is of some value in diagnosticating a deep-seated purulent condition, if the other causes which may give rise to the reaction, such as septicemia, pneumonia, pulmonary tuberculosis, malignant disease, severe anemia, leukemia and pseudoleukemia, can be ruled out. It is wrong to place too much reliance on blood examination, although as mentioned, it may, in some cases, be of considerable value.

31. **Infantile Eczema.**—Heidingsfeld reviews the diagnosis and treatment of this condition, but offers nothing new.

32. **Congenital Syphilis in Children.**—Ravogli considers the management of congenital syphilis in children, laying special stress on the prophylactic treatment. When a babe is born with symptoms of congenital syphilis, from parents apparently well, they must both be subjected to specific treatment. If the parents are known to be syphilitic, we should compel the mother to take anti-syphilitic treatment four months during her pregnancy, in two or three different periods. The influence of the treatment of the mother on the fetus is absolutely wonderful. It is the only true prophylactic measure in these cases.

St. Paul Medical Journal.

July.

33 *Chronic Pancreatitis. Edward Boeckmann.
34 Pleuritic Effusions. Howard Lankester.
35 Diabetes Mellitus. E. W. Benham.
36 Influenza. L. G. Smith.
37 Organization of the Medical Profession. E. A. Hensel.
38 Medical Associations. O. L. Bertleson.

33. **Chronic Pancreatitis.**—According to Boeckman it is reasonable to believe that the vast majority of cases of chronic pancreatitis are due not to gallstones, as is supposed usually, but to infection of the pancreas through the duodenal opening from duodenal catarrh. The condition may also follow pancreatic calculi, stenosis from ulceration or growth, or it may be due to the extension of an inflammatory process from gastric ulcer. There is no one known pathognomonic symptom of

chronic pancreatitis; palpation, even when performed under anesthesia, is a very unreliable method. There may be jaundice, but pancreatic jaundice is not characteristic. The same is true of ascites, fat in the feces, and lipuria. The quantitative estimation of indican in the urine is of importance, since indican is derived from indol, which is formed in pancreatic digestion under the influence of bacteria. An increase of indican, demonstrated with chemically pure nitric acid, means that something is wrong; it does not prove anything conclusively, but may give valuable information. When indicanuria is present we must ascertain whether the condition is transient or permanent. Chronic pancreatitis is often responsible for increased indicanuria and if other causes can be eliminated, chronic pancreatitis should be thought of. Surgical treatment in advanced cases has been followed by very favorable results, yet the author feels that it is proper to go to work tentatively with dietetic, physical and medical measures, inasmuch as many of these cases will go on to a spontaneous cure. Deep massage is useful, likewise outdoor exercise and sports. Eat and drink according to the dictates of experience, remembering that regularity, moderation, temperance, avoidance of extreme cold (ice water) and observance of thorough mastication is sound sense. Glandular stimulants, followed later with intestinal antiseptics, practically are the only internal remedies indicated. Boeckman prescribes a glass of warm Carlsbad water in the morning, and after meals a mixture of diluted phosphoric acid, tincture of nux vomica and compound tincture of gentian, diluted with some water. Alkaline treatment gives immediate relief but aggravates the condition. After treatment as above laid down, he gives intestinal antiseptics, either in the shape of nitrate of silver and naphthalin pills, or iodoform, betol, and animal charcoal pills, to be used for months. If the patient is not benefited by this treatment an exploratory laparotomy is indicated and permissible.

American Journal of the Medical Sciences, Philadelphia.

June.

39 *Surgery of the Prostate Gland. John B. Deaver.
40 *The Clinical Value of the Average Analysis of Gastric Contents. Charles S. Fischer.
41 *General Management and Therapeutics of Nephritis. Beverley Robinson.
42 *Palsy of the Extra-ocular Muscles in Exophthalmic Goiter. Wm. Campbell Posey.
43 Sketch of the External Appearances of Uveitis from Congenital Syphilis Charles A. Oliver.
44 Actinomycosis of the Tonsils. Jonathan Wright.
45 *Report of a Case of Rupture of an Aneurism of the Aorta into the Lung, with Spontaneous Recovery. N. S. Ferry.
46 Primary Tuberculosis of the Breast. Brooke M. Anspach.
47 Case of Meralgia Paresthetica. John E. Donley.
48 *Surgical Scarlatina. Alice Hamilton.
49 *Influence of Daylight in the Progress of Malaria; More Especially in Connection with Quinin Treatment. Gunni Busck.
50 Some Pathologic and Clinical Aspects of Acquired (False) Diverticula of the Intestine. Edwin Beer.
51 Complications of Amebic and Specific Dysentery as Observed at Autopsy; Analysis of 120 Cases. Charles F. Craig.

39. **Surgery of the Prostate Gland.**—Deaver reviews the surgery of the prostate gland and also the clinical history of enlargements, with a description of the technic of the special operations and reports of several cases. The article closes with a statistical table giving the results obtained by various operators with the several operations that have been devised for the treatment of this condition.

40. **Clinical Value of the Average Analysis of Gastric Contents.**—Fischer says that the chief value of gastric analysis lies in the determination of the average capability to work of the intact remaining portions of the secretory structures. It does not make much difference which methods are employed for this purpose, provided they are used systematically. The necessity for some generally accepted system of examination for the proper recognition and classification of chronic gastric diseases is evident from the variety of opinions which exist as to their relative frequency. For some observers the presence of a small quantity of gastric mucus is sufficient to establish a diagnosis of chronic gastric catarrh. Hence, every third case must be looked on as such. Others regard chronic gastric ulcer as a common condition, whereas in reality all modern methods of examination have very materially reduced its frequency. Gastric dilatation will be a common disease so long as splashing below the umbilicus is deemed sufficient for its diagnosis, and gastroptosis must be very prevalent if we are to take as signs of its existence a contracted thoracic angle or the floating tenth rib of Stiller. No department of clinical medicine lends itself so readily to fads as gastrology, due partly to lack of uniformity of classification, but chiefly to the absence of recognized system in methods of examination employed and to conditions imposed for the same.

41.—See abstract in THE JOURNAL, xlii, p. 484.

42. **Palsy of the Extraocular Muscles in Exophthalmic Goiter.**—A case of this kind is reported by Posey, and a number of similar cases occurring in the practice of others, from which he concludes that palsy of the extraocular muscles is not of very rare occurrence, and as such is not to be considered as accidental, but rather as a part of the morbid process of exophthalmic goiter. Just what this part is and what the character and where the seat of the lesion may be, can not, in the still uncertain state of our knowledge regarding the nature of Grave's disease, be asserted with certainty, though it would appear, at least, that in those cases in which there is more or less complete ophthalmoplegia externa, and especially in those in which there are associated lesions in the facial, hypoglossal, and glosso-pharyngeal nerves, that the palsy was of central origin, originating in the nerve nuclei. This reference of the palsies to an involvement of the nerve nuclei is of great interest, for it is additional proof of the central origin of the affection; and while the nature of the morbid process in the nuclei which occasions the extraocular palsies is still to be determined, it is probable that the morbid process is only functional, consisting of an irritation of the centers by toxins which may be generated in the system as the result of some perversion in the normal action of that structure.

45. **Rupture of Aortic Aneurism into the Lung, with Spontaneous Recovery.**—Ferry reports a case of this kind occurring in a man who gave a history of syphilis, and at that time was suffering from organic dementia coming on immediately following a head injury. After the aneurism had existed for sixteen years he suffered from a profuse pulmonary hemorrhage, from which he rallied rapidly. Two years later he was found dead in bed, surrounded by a large pool of blood. The autopsy disclosed the following: The superior lobe of the left lung, into which the rupture occurred, was very dark in color, and firm to the touch. The remainder of the lung was healthy; no signs of tuberculosis or cavity formation. The upper half of the superior lobe of the left lung is taken up by the aneurismal sac, and is somewhat elongated. At the lower end of the sac was a dilation forming a second sac about one-third the size of the first. Immediately beneath this second sac was a cavity, the walls being composed of healthy lung tissue, but very ragged, with the appearance of having been torn apart. This cavity was filled with clotted blood. It communicated with the second sac by means of a small opening. The walls of the aneurism were very much thickened and studded with necrotic areas. On the surface of the lung was found a scar, probably the result of a previous rupture. The aneurism itself occupied the aorta for a distance 10 cm., and was fusiform in shape. Its walls were studded with numerous areas of necrosis. Only eight other similar cases are reported in the literature, and these are reviewed by the author. He concludes that if any one situation is more favorable than another for the spontaneous recovery after rupture of an aortic aneurism, it is the lung, probably because of the better facilities offered for the rapid formation of a clot with which the rupture is blocked.

48. **Surgical Scarlatina.**—Hamilton reviews this condition and reports ten cases from the records of the hospital of the Memorial Institute for Infectious Diseases in Chicago. One hundred and eighty-four cases of this disease now are recorded in the literature. Operations and wounds of all kinds as well as inflammatory processes, are supposed to predispose to scarlatinal infection. Surgical scarlatina differs from medical scarlatina in five ways: 1. The large number of adults that have it. 2. The shorter period of incubation. 3. The mild

angina or absence of angina. 4. The fact that the eruption begins at a wound or in some other unusual region. 5. The slightly precocious desquamation. Careful examination of the reported cases confirms the view held by most French writers that the eruption is often due to septic infection and is not scarlatina. That the variations of so-called surgical scarlatina from the typical form of scarlet fever are not due to the unusual mode of infection, but to the difference in the infectious agent. In the cases where the disease was undoubtedly scarlatina there is no convincing evidence that the relation between the wound and the scarlet fever was anything more than one of coincidence. There is, as yet, no convincing proof that surgical scarlatina is anything more than scarlet fever in the wounded.

49. **Influence of Daylight in the Progress of Malaria.**—Busck reviews the work done in this connection by King, Harrington, Leaming, and others, and arrives at the conclusion that the cause of the special effect of quinin preparations on malarial patients lies in the power of these preparations to make the plasmodia sensitive so that they are destroyed or weakened under the effect of daylight. He bases his supposition on the following: 1. The special effect of quinin in malaria can hardly be explained entirely as a direct outcome of its toxicity with regard to plasmodia, and if we look for an explanation of this effect we must not leave out of consideration a peculiarity so distinct as the power to make micro-organisms sensitive to light. 2. Quinin preparations have decided sensitiveness-arousing qualities, as was shown by Ullmann. 3. According to Jacobson and Dreyer, light, even after passing through a layer of animal tissue, can exercise its microbicidal effect, on the sensitive-made organs. The depth of penetration, of course, depends on the intensity of the light. 4. The tissues of the human body are pellucid, and even if only a comparatively small portion of the surface of the body is exposed to light, the blood, and with it the plasmodiæ, will, on account of its continuous circulation, all the same be affected by the light. 5. If these premises are correct, they indicate the advisability of treating malarial patients with sun baths or electric-light baths in addition to quinin.

Medicine, Detroit.

July.

52 Treatment of Pulmonary Tuberculosis. Robert B. Preble.
53 Annual Economic Loss to Illinois from Tuberculosis. Homer M. Thomas.
54 Diagnosis of Pulmonary Tuberculosis. Frank Billings.
55 Factors Causing Tuberculosis or Aiding Its Spread—Suggestions for Its Prevention. Charles L. Mix.
56 Duty of the State in Restricting Tuberculosis. Harold N. Moyer.
57 Appendicitis—The Case Which Completed by Conversion. James Tyson.
58 Two Cases of Scarlatina-Morbilli and One Case of the So-called Scarlatiniform Serum Eruption in Diphtheria. J. Dutton Steele.
59 *Polyneuritis. L. Harrison Mettler.
60 *Leukemia; with a Consideration of Its Treatment by the Roentgen Ray. E. J. Brown.
61 Chronic Myocarditis Occurring in Elderly People, with Special Reference to Treatment. F. H. Butterfield.
62 *Vaccination. What to Do; How to Do It; What to Expect. E. H. Larned.
63 Lilliputian Delivered of a Living Child by Cesarean Section. L. H. Bernd.

59.—See abstract in THE JOURNAL, xlii, p. 1441.

60. **Leukemia; Treated by the Roentgen Ray.**—Brown reports a case of typical splenomyelogenous leukemia, the diagnosis having been confirmed by blood examination, treated successfully by the internal administration of arsenic and iron and *x*-ray applications to the splenic region twice a week. After one month the patient was very much improved, and the spleen had diminished in size; the blood also had improved. After two months the frequency and distribution of the *x*-ray exposure were increased. Treatments were given daily to the splenic region, the ends of the long bones and to the sternum. In place of the iron and arsenic 1 gr. capsules of quinin, three times a day, were given as a placebo. After seven months' treatment the spleen could only be felt on deep palpation. After ten months' treatment, 100 exposures having been made with a moderately hard tube at a distance of ten inches for ten minutes, the patient was very much improved in appearance and in health. The liver is of normal size and the spleen is not palpable even on deepest inspiration. There is no ascites and no edema of the ankles. The patient is following his usual occupation, and rides a bicycle back and forth from work.

62. **Vaccination.**—Larned insists on early vaccination of an infant, and on frequent revaccination, this being the only sure and safe method of determining immunity against smallpox. He absolutely taboos the use of antiseptics of any kind. Mild soap and boiled water and a clean cloth or gauze sponge, are all one should use in preparing the site for inoculation. He describes his method of vaccinating as follows:

> Gently scrub the site of operation with soap and water, using a gauze sponge, rinse the soap off with another sponge saturated with boiled water, and with a third wipe the skin dry. Preferring liquid vaccine, which is marketed in little capillary tubes, I express a drop from one of them. The instrument I like above all others is a large-sized, common sewing needle, the point of which has been broken off, and the resulting sharp edges dulled by rubbing over a file or a piece of emery paper, and sterilized in the flame of an alcohol lamp or a gas-jet. The needle is held firmly between the thumb and finger; the second, third and fourth fingers resting against the arm or leg to support the hand, and the left hand being used to firmly grasp the limb to make a little counter-pressure. Then, with a rotary motion, rub the vaccine into and through the skin with the needle, working over a surface not to exceed one-eighth inch in diameter.
>
> The smallness of the area inoculated has an important bearing on the complications. The resulting vesicle is always larger than the inoculation, and the smaller the vesicle the less probability that it will be injured, that the crust will be disturbed, or that infection will occur. Also, the smaller the original area the less the possibility of introducing extraneous lofections. A large pinhead represents the typical size of inoculation, and it should never be more than one-eight of an inch square.

Journal of Cutaneous Diseases, New York.

July.

64 Tumor-like Forms of Tuberculosis of the Skin. Walther Pick.
65 *Case of Reinfection of Syphilis. H. G. Klotz.

65. **Reinfection of Syphilis.**—Klotz reports a case of reinfection occurring six years after the previous manifestations of syphilis. The case yielded promptly for a time to mixed treatment with recurrent exacerbations in the form of gummatous swellings over the ribs, bones of the leg, finger, etc. In the initial attack there was no history of chancre, although in the reinfection this was quite evident. The author is convinced of the authenticity of his case, a typical primary lesion appearing within a certain time after exposure more than six years after symptoms of the previous disease had absolutely disappeared. There was moderate but distinct enlargement of the inguinal glands, followed in due time by a typical syphilide, later on an iritis and another papular eruption; finally a hemiplegia. He believes that tertiary manifestations of syphilis may be directly produced through inoculation from tertiary lesions of some other individual.

Indiana Medical Journal, Indianapolis.

July.

66 Dust—A Neglected Factor in Ill Health. Robert Kessler.
67 Preservation of the Perineum in Occipito-posterior Presentations. E. J. McOscar.
68 Treatment of Inflammatory Phimosis. G. Link.
69 *Affections of the Hands and Feet. Isador Dyer.

69. **Hyperidrosis of Hands and Feet.**—Dyer treats this condition as follows:

> Advise the use of white castile soap and restrict excessive drink. Give a small dose of strychnia internally for a long period, about six weeks. For the hands, the use of a 3 to 5 per cent. alcoholic solution of salicylic acid frequently during the day; for the feet, a like remedy in powdered form, namely, salicylic acid half dram, tannin one dram, powdered arrowroot and rice starch, of each half an ounce, dusted in the stockings every day. Where the feet are inflamed and not blistered, simple bathing for twenty to thirty minutes in hot water, with four ounces of laundry starch to the gallon, should be of service before the use of powder. In the more chronic condition lead water may be used on cloths applied at bedtime, and if the blisters suppurate, nothing relieves better than a 5 to 10 per cent. solution of ichthyol.

Northwestern Lancet, Minneapolis.

July 1.

70 Uterine Cancer. C. A. Stewart.
71 *Study of the Effect of Borax and Boric Acid on the Human Body, with Particular Reference to Their Use as Food Preservatives. Charles F. Dight.

71. **Effects of Borax and Boric Acid on the Body.**—Dight studied the effect of borax and boric acid from their introduction into the stomach and intestinal canal until they had been taken into and mingled with the blood, and distributed to the cells of the body generally, without finding any effect exerted that would condemn their use as food preservatives. He con-

ducted a series of experiments on guinea-pigs, feeding them a known quantity of borax for a definite period of time, weighing them regularly, counting the red and white blood corpuscles, and after a careful postmortem, made chemical examinations with the view to detecting borax in the tissues, and a microscopic examination for the purpose of determining any structural change in the stomach, intestines, kidneys and liver. As the result of his studies in this line he believes that he is justified in drawing the following conclusions:

1. Borax exerts no specific action on the animal body.
2. Any effect it exerts is because of and by virtue of its mild alkalinity.
3. The sum total of its effects on digestion is not harmful.
4. It exerts no ill effect on the ingredients of the blood.
5. It does not act as an irritant to the tissues generally or locally, nor cause pathologic congestions.
6. By its use nutrition is not impaired.
7. It does not increase proteid metabolism.
8. It is not cumulative within the body.
9. Borax in moderate amount, 2 grams or more daily, exerts no ill effects on the adult body.
10. In proportion of 0.5 per cent. it preserves fresh, sweet meat from putrefaction for long periods of time extending into months; while smaller quantities, even to 0.1 per cent. or less, have been shown in practical use to preserve for periods of less duration.
11. Putrefaction once begun is not arrested by it nor its further progress checked.
12. It is not a deodorant, removing from or concealing in putrefying meat its offensive odor.
13. All this is true of boric acid, also, except that any effect it exerts is by virtue of its mild acidity.
14. Boric acid may be taken in larger quantities than borax without harm.
15. Borax and boric acid, like anything naturally good, may become harmful when taken in excess.

Kentucky Medical Journal, Louisville.

June.

72 Review of the Present Affairs of the Association. Steele Bailey.
73 Scarlet Fever. C. H. Todd.

Louisville Monthly Journal of Medicine and Surgery.

June.

74 Neurasthenia. Andrew W. Bice.
75 Postpartum Hemorrhage. B. A. Allan.
76 Hysterical or Functional Paralysis. John J. Moren.
77 A Few Points in the Treatment of Syphilis. Henry H. Koehler.
78 The Contagiousness of Pneumonia. Frank C. Wilson.
79 Deformities Following Treatment of Fractures. F. T. Fort.

The Post-Graduate, New York.

June.

80 Pyothorax. Carl Beck.
81 Obstructive Jaundice; Its Medical and Surgical Treatment. Wm. Henry Porter.
82 Angina Ulcero-Membranosa (Plant-Bernhelm Ulcer; Vincent's Angina). Alfred Gross.
83 Shall We Operate for Pyloric Stenosis or Prescribe for Symptoms? Robert H. Halsey.

Detroit Medical Journal.

June.

84 Headache. J. Vernon White.
85 The Present State of X-ray Therapeutics. A. F. Fischer.
86 Arterio-sclerosis and Atheroma. G. W. Wagner.
87 Drainage of Wounds and Cavities. Frank B. Tibbals.

Northwest Medicine, Seattle, Wash.

June.

88 Details of a Scheme for Subjective Measurement of the Pupil of the Eye. Clinton T. Cooke.
89 The Treatment of Acute, Anterior Gonorrhea in the Male, from a Hygienic, Aseptic and Antiseptic Point of View. G. S. Peterkin.
90 Pseudo-membranous Enteritis. Wilbur N. Hunt.
91 Some Characteristics of Eastern and European Clinics. (Concluded.) L. P. McCalla.

Alabama Medical Journal, Birmingham.

June.

92 Cranial Injuries, with Report of Cases. Wm. Henry Robertson.
93 The Mechanical and Operative Lines of Orthopedic Treatment. A. F. Toole.
94 The Doctor's Business Side of Life Insurance. E. H. Sholl.

Toledo Medical and Surgical Reporter.

June.

95 Hay Fever. John North.
96 Movable or Floating Kidney. Charles Betts.
97 Malignant Endocarditis. Charles Louy.
98 Typhoid Fever. E. W. Doherty.
99 Surgical Treatment of the Insane. George P. Love.

Old Dominion Journal, Richmond, Va.

June.

100 Fractures of the Skull. J. Shelton Horsley.
101 Headache, Neuralgia, Vertigo and Epilepsy in Relation to Eyestrain. H. M. De Jarnette.
102 What of the Consumptive? R. H. Garthright.
103 Differential Diagnosis and Treatment of Croupous Pneumonia. Robert F. Williams.
104 Pneumonia—Etiology and Pathology. Manfred Call.

Dominion Medical Monthly, Toronto.

June.

105 Pharmacology and Therapeutics of Salicylic Acid and Its Preparations. Robert MacDonald.
106 Smallpox. Charles A. Hodgetts.

Interstate Medical Journal, St. Louis.

June.

107 Malignant Transformation of Cystic Breasts—Record of a Case. Malvern B. Clopton.
108 Suppurative Osteo-myelitis. William S. Deutsch.
109 Treatment of Certain External Diseases of the Eye by X-rays. John Green, Jr.

Journal of the Mississippi State Medical Association, Vicksburg.

July.

110 Gonorrheal Endocarditis. H. L. Sutherland.
111 Nasal Syphilis. M. H. Bell.
112 Morbid Anatomy of Pneumonia. E. A. Cheek.
113 Mastoid Inflammation with Reference to Treatment, Especially the Preventive Treatment. E. C. Ellett.
114 Treatment of Acute Lobar Pneumonia. J. W. Gray, Jr.
115 Opium. B. F. Ward.

California State Journal of Medicine, San Francisco.

July.

116 Some Reflections on State Examining Boards. W. S. Thorne.
117 Cases of Prostatic Calculi. George Chismore.
118 Malarial Nephritis. G. F. Reinhardt.
119 Pathology and Its Relation to Therapeutics. E. S. Pilsbury.
120 Report of Committee on Medical Education and Legislation. H. S. Orme.
121 Acute Gastroenteritis. Charles Anderson.
122 Complications and Sequelæ of Measles. J. Meyer.
123 Medicolegal Responsibilities of the Physician in Cases Where Insanity Is Alleged as a Defense. J. W. Robertson.
124 Rickets and Proprietary Infant Foods—Report of a Case. Lewis S. Mace.

The Laryngoscope, St. Louis.

June.

125 Tuberculosis of the Nares. Charles H. Knight.
126 Tuberculosis of the Pharynx. James E. Newcomb.
127 Tuberculosis of the Larynx. J. W. Gleitsmann.
128 *Treatment of Tubercular Laryngitis. S. E. Solly.
129 Physiologic Treatment of Cough. Fayette C. Ewing.
130 Case of Hemorrhage Following Tonsillotomy. W. G. B. Harland.
131 Report of Interesting Cases (Localized Pachymeningitis, etc.). Geo. F. Cott.
132 Sarcomata of the Nasal Septum. Richard H. Johnston.

128.—See abstract in THE JOURNAL, xlii, p. 1583.

Southern Medicine and Surgery, Chattanooga.

June.

133 Fracturss of the Skull. J. Shelton Horsley.
134 *After-Treatment of Abdominal Section. Lucius E. Burch.
135 Local Treatment of Pneumonia. E. A. Cobleigh.

134.—See abstract in THE JOURNAL, xlii, p. 1175.

Canada Lancet, Toronto.

June.

136 Physicians Rated by Post-graduate Work. John Hunter.
137 X-ray Treatment of Cancer of the Skin. Dr. Leredde.

Journal of Advanced Therapeutics, N. Y.

June.

138 *The Employment of Static Electricity in the Treatment of Nervous Diseases. William G. Snow.
139 *Perineuritis. Almerin W. Baer.
140 Case of Asthma with Fibroids and Pelvic Adhesions Cured by Galvanism. Charles A. Covell.
141 Cataphoresis. James C. Gill.
142 New System of High-frequency Therapeutics. (Continued.) Frederic F. Strong.

138.—See abstract in THE JOURNAL, xli, p. 977.

139.—Ibid.

Oklahoma Medical News-Journal, Oklahoma City.

June.

143 Address, Oklahoma Medical Society. What of the Future? A. L. Blesh.
144 The Surgeon's Assistant. F. L. Clark.

Columbus Medical Journal.

June.

145 Address, Ohio State Medical Association. Charles S. Hamilton.
146 Cocain Anesthesia in General Surgery. W. J. Means.
147 Adherent Placenta. Wells Teachnor.
148 Cesarean Section. Thomas M. Wright.
149 The Medicinal Treatment of Gastric Ulcers. A. Livingston Stage.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 2.

1 The Hospital Ideal and on the Concentration of Early Medical Studies in London. Thomas Barlow.
2 Acute Malignant Endocarditis. Dyce Duckworth.
3 Early Microscopic Diagnosis of Tumors. C. B. Lockwood.

4 Pads on the Finger Joints and Their Clinical Relationships. Archibald E. Garrod.
5 Intravesical Separation of the Urine from Each Kidney. B. G. A. Moynihan.
6 Dr. Cathelin's Urine Separator. J. Lynn Thomas.
7 The Leishman-Donovan Body in Ulcerated Surfaces. Patrick Manson and George C. Low.
8 Preliminary Note on the Cultivation of Anaerobes. D. J. Hamilton.
9 Value of Some Methods Used for Testing Disinfectants. E. Klein.
10 Experiments on the Disinfection of Bacillus Typhosus with Sanitas Formalin and Carbolic Acid. David Sommerville.

The Lancet, London.

July 2.

11 Experiments on the Immunization Against Infection of Operation Wounds, Especially of the Peritoneum. Johann von Mikulicz-Radecki.
12 Deaths in Childbed; a Preventable Mortality. (Continued.) W. Williams.
13 Causation, Diagnosis and Treatment of Perforating Ulcer in Typhoid Fever. E. W. Goodall.
14 *On the Beneficial Effects of Sodium Arseniate Employed Hypodermically in Tsetse-Fly Disease in Cattle. Edward J. Moore.
15 The Downes Electro-thermic Angiotribe. H. McNaughton Jones.
16 Diabetic Neuritis. F. W. Pavy.
17 *Treatment of Hemorrhoids and Allied Conditions by Oscillatory Currents of High Tension. T. J. Bokenham.
18 Accidental Vaccinia of the Nasal Cavity. W. H. Bowen.
19 Presence of Bacteria in the Organs of Healthy Animals. H. de R. Morgan.
20 Non-flagellate Typhoid Bacilli. J. W. W. Stephens.
21 Case of Traumatic Tetanus: Recovery. H. Collinson.

14. **Sodium Arsenate in Tsetse Fly Disease.**—Moore relates his experiences accruing from the use of sodium arsenate in the treatment of tsetse fly disease in cattle. Fowler's solution was administered in 1 dram doses three times daily without giving rise to any material improvement. Later single doses of 1 ounce were given daily, but these had to be discontinued as they increased the already existing tenderness of the mouth to such an extent that the animals refused all food and their general symptoms became aggravated. In these circumstances he prepared a 1 per cent. solution of sodium arsenate, rendered slightly alkaline with sodium bicarbonate. He injected 1 ounce of this solution subcutaneously on two occasions at an interval of a week. The beneficial effect was marked and immediate; the teeth became firm, the appetite reappeared, the swelling of the glands was hardly apparent, the animal put on flesh rapidly, and the quantity of milk increased very much. There is no doubt that single large injections of sodium arsenate, 10 gr. or even more, well diluted and given at intervals of a fortnight, exercise the most marked beneficial results in cases of advanced tsetse fly disease. Moore also suggests its employment in man, in whom single injections of 20 minims do not produce unpleasant effects.

17. **Treatment of Hemorrhoids and Allied Condition by Oscillatory Currents of High Tension.**—Bokenham confirms the advantages claimed by Doumer for his method of treating hemorrhoids and sphincter fissures by currents of "high frequency." The treatment is painless, it involves no interference with ordinary occupations, and it affects a cure in a very high percentage of cases treated. Analysis of the cases published by others also shows a remarkable consensus of opinion in favor of this treatment. Writers agree that Doumer's method is striking and quickly successful in cases of sphincter fissure, and in healing the small fissures so often associated with hemorrhoids. It is valuable in relieving pruritus ani associated with similar conditions. In the treatment of external and internal hemorrhoids its value is greatest in the early cases where there is little hyperplasia and thickening of the tissues. In cases of old standing, accompanied by much hypertrophic change and infiltration, the treatment gives less certain results, and must be persevered in for long periods.

The Clinical Journal, London.

June 22.

22 *The Inimicality of Pregnancy and Uterine Fibroids. J. Bland-Sutton.
23 Disseminated Sclerosis. Byrom Bramwell.
24 *Some Principles in the Treatment of Syphilis. J. Ernest Lane.

22. **Inimicality of Pregnancy and Uterine Tumor.**—Bland-Sutton says that the harmfulness of the association of pregnancy and fibroids is of three kinds: (1) obstructive, sometimes leading to impaction and even slow torsion of the uterus; (2) septic infection, the result of carelessness in antiseptic details following miscarriage or delivery at term; (3) degeneration of the fibroid, a condition not fully appreciated by obstetricians. The usual color of a uterine fibroid is pale yellow, but in the course of pregnancy it assumes a deep red or mahogany-pink, especially if it is an interstitial fibroid. This change in color, known as "red degeneration," is the result of a necrotic change in the tumor. It is accompanied by painfulness and tenderness, two marked clinical symptoms, especially when the degeneration is associated with pregnancy. So much so is this true that when a tumor suspected of being a fibroid of the uterus becomes painful and tender, it signifies that it is undergoing secondary changes, and especially "red degeneration," or that some complication has arisen in the pelvis. In a fair proportion of cases it means that the tumor is not a fibroid—that the diagnosis is probably erroneous. It is also worth noting that the painfulness and tenderness associated with red degeneration is only markedly observed in fibroids when associated with pregnancy. The author cites five cases in support of his statements.

24. **Syphilis.**—Lane, appreciating that the ordinary syphilitic out-patient has no idea of the gravity of this disease, has had the following instructions printed, a copy of which is presented to each syphilitic patient, and an attempt made to impress on him their importance:

1. The disease from which you are suffering is syphilis, which, unless carefully attended to and treated, may seriously affect your health, your power of work, and even your life. If you follow out instructions and continue the treatment for the time prescribed, you will, in all probability, be eventually cured.
2. There is a danger of your conveying the disease to others for at least two years after it has been acquired, and even while you are carrying out the treatment prescribed.
3. Any spot, sore or ulcer on any part of your body may convey the disease to those with whom you come in contact; consequently great care must be taken to avoid transmitting the disease by means of cups, spoons, pipes or other things placed in the mouth. Such things should never be used by others unless thoroughly washed: further, the disease may be conveyed by kissing.
4. Your diet should be plain but nourishing; all excess in drinking must be avoided, and no spirituous liquor should be taken.
5. The teeth should be cleaned morning and evening with carbolic tooth powder, and smoking should not be indulged in.
6. The treatment must be continued at intervals for the space of three years, but if a metallic taste is noticed or an excessive flow of saliva from the mouth, it should be discontinued for a time.
7. Should you get married before you are informed that you are free from all traces of the disease, your wife will probably contract it, and also any children born of the marriage.

Indian Medical Gazette, Calcutta.

June.

25 An Outbreak of True Beri-Beri in an Assam Jail. Campbell Dykes.
26 *Cultivation of the Bacillus Lepræ and the Treatment of Leprosy by the Injection of a Leprolin Manufactured from Cultures. E. R. Rost.
27 Destruction of Mosquitoes in Bijapur. A. Hooton.
28 Lemna Minor as a Preventive Against Mosquitoes. J. R. Adie.
29 Cultivation of Streptothrix Maduræ. J. W. Cornwall.
30 Report on Plague and Inoculation Operations, Amritsar District. S. Browning Smith.

26. **Serum Treatment of Leprosy.**—Rost has manufactured a serum from cultures of the lepra bacillus which he has used in the treatment of this disease. Small pieces of pumice stone are washed and dried in the sun and then made to absorb beef extract. They are then placed in bottles having a wide central tube leading to the bottom, and an outlet tube at the top. Superheated steam is passed through the bottles, and acting on the beef extract in the pumice, carries over to a condenser the more nutrient values of the extract, the salts and non-volatile substances being left behind. The nutrient fluid is collected in sterilized Pasteur flasks, which, when cooled, are inoculated from cultures of leprosy. These flasks are allowed to incubate at 37 C. for a period of one month to six weeks, until they present a turbid appearance and a stringy white deposit, which on being shaken up forms stringy, white, curly, heavy cloudiness in the flask. The cultures are then passed through a sterilized Pasteur filter several times, after which they are reduced to about one-tenth the original bulk by exhaustion over sulphuric acid in a vacuum; the fluid is then mixed with an equal quantity of glycerin and kept in an icebox until required for use. Ten c.c. of this fluid (leprolin)

causes a violent reaction in a case of leprosy, the temperature rising to 104 F., and the patches becoming red, hot and swollen. Thirty-five cases of leprosy have now been injected with leprolin, and in most of them the injections have been followed by very marked improvement, and in some by almost complete subsidence of the disease. Two cases have apparently been almost cured, there remaining hardly any sign of the original disease. In those cases where the reaction after the injection is severe, there was a great improvement in their condition, whereas in those cases where there was only a slight or no reaction, the improvement was slight or nil. Rost believes that leprolin has a very marked beneficial action in the disease, which is not accompanied by any danger of aggravation; that its continued and persistent use will dispel all signs of the disease.

Bulletin de l'Académie de Médecine, Paris.

31 (LXVIII, No. 23.) Discussion sur l'hygiène de l'alimentation des enfants du premier age (of nurslings).
32 Transmission of Sleeping Sickness by Tsetse Flies. R. Blanchard.—Quelques faits relatifs a la transmission de la maladie du sommeil par les mouches tsétsé.
33 (No. 24.) Sur les médicaments heroiques. Committee report.
34 Traitement de la myopie par l'extraction du cristallin transparent. Lagrange (Bordeaux).

Presse Médicale, Paris.

35 (I, No. 47.) A propos de la décapsulation du rein (of the kidney). G. de Rouville.
36 *Sur un nouveau procédé de diagnostic précoce des affections osteo-articulaires. Chirny and Muret (Paris).
37 (No. 48.) Conservation du lait par l'eau oxygénée (preservation of milk with hydrogen dioxid). P. Desfosses.
38 *Drinking Water for Cities. J. Courmont (Lyons).—L'alimentation des villes en eau potable. Dangers de l'eau de source. Impossibilité d'une surveillance efficace.
39 *Prophylaxie et traitement de la surdité (of deafness). E. De Lavarenne (Luchon). (Commenced in No. 47.)
40 Valeur clinique de la réaction de l'urobématine. F. Deherain.
41 *Treatment of Varices by Walking. Marchais. From society report.
42 *Subnarachnoid Injections of Caffein, etc. J. Glover. From society report.
43 *Röntgen Treatment of Gastric Cancer. Doumer. From society report.

36. Tuning Fork in Early Diagnosis of Bone and Joint Affections.—Chiray and Muret announce that the application of a tuning fork to the bone is scarcely felt by a sound bone, but in case of disease it is experienced as a shaking, a trembling, an electric shock or a burning, as the sensation is variously described by various subjects. By this means it is sometimes possible to discover a lesion long before there is any tenderness on pressure. The tuning fork used was a large one, the branches 25 cm. long, the total weight 500 gm., with 128 vibrations to the second. The foot was applied first to the sound side and then to the affected side, cautiously questioning the subject in regard to the sensations, avoiding any suggestion. In several patients pressure on the head of the femur was not at all painful, while the hyperesthesia to the vibrations was very marked over the iliac spine, great trochanter and head of the femur. It is possible by the negative response to determine the integrity of the bone in case of tumors nearby when clinical examination gave dubious results. In case of Pott's disease there is hyperesthesia in the vertebræ in the incipient stages, but it soon gives way to anesthesia.

38. Drinking Water for Cities.—Courmont proclaims that it is impossible to carry out effectively in practice the French system of water supplies for cities—that is, restricting the drinking water supply to the water from springs in a protected zone. The protection is illusory in fact, and he advocates as far superior what he calls the "American plan" of sand filtration and use of aluminum sulphate.

39. Prophylaxis and Treatment of Deafness.—De Lavarenne is physician at the French watering place, Luchon, and he utilizes the sulphur vapors of certain springs there as a means of sterilizing and relieving the congestion of the mucosa of the ear, nose and pharynx. He has also devised an apparatus by which these vapors are projected into the eustachian tube and middle ear. He describes a number of cases of rebellious deafness thus treated, with recovery of the hearing. Also a number of other cases in which incipient deafness was averted by these insufflations. The effects were very marked in a number of cases of obstruction of the tubes from influenza inflammation—a course of these insufflations has restored the hearing in nearly every instance. He has thus treated 260 deaf subjects. He warns persons with a tendency to deafness to keep away from the seashore, and to take some solution of iodin for ten days, at intervals, in order to maintain the resolving action of the sulphur vapors.

41. Treatment of Varices by Walking.—Instead of repose and elevation of the limb, Marchais cures varices by encouraging his patients to walk more. The circulation is so improved under the influence of a brisk walk that the stagnation causing the varices is ended and they are cured, if of recent formation and improved in any event. The subjects are liable to tire easily, owing to the concomitant edema and atrophy of the muscles. If these are relieved by massage they can then walk one to three hours a day without special fatigue. He has thus treated 22 patients and the results have been highly satisfactory.

42. Medicinal Subarachnoid Injections.—Glover has found by experimental research that solutions of caffein, pilocarpin, atropin, etc., can be injected into the subarachnoid space without harm. When other measures have proved ineffectual and the case is urgent, the subject in collapse, these subarachnoid injections may prove life-saving. In a severe case of heart disease, asystolism, he injected caffein directly into the spinal canal with good results.

43. Roentgen Treatment of Cancer in the Stomach.—Doumer and Lemoine of Lille report that they have treated 20 cases of gastric cancer by means of radiotherapy. Three of the patients are apparently cured; the others were not affected. They suggest that the cured cancers must have been of an epitheliomatous nature, as this class seems most amenable to radiotherapy, while carcinomata do not seem to be affected by it.

Semaine Médicale, Paris.

44 (XXIV, No. 24.) Origine dysseptique des petits accidents du brightisme. N. Chryssovergis (Beyrouth).
45 La position élevée de la tête et du tronc dans le traitement post-opératoire de la peritonite (advantage of elevated head and trunk posture). F. Lejars.
46 Traitement des névralgies par l'introduction électrolytique de l'ion salicylique. S. Leduc. Abstract.
47 (No. 25.) Des abscès profonds de l'abdomen comme premier symptome d' un cancer de l'intestin. T. Tuffier.
48 Les injections intramusculaires de sublimé à dose massive contre la syphilis infantile. V. Imerwol (Jassy).
49 *L'unification internationale de la formule des médicaments héroiques.
50 Sur l'infusion intrapulmonaire d'une solution de tuberculine chez les tuberculeux. P. Jacob (Berlin). From society report.
51 Temporary Constriction of Limb to Prevent Hemorrhage in Changing Dressings. Isnardi (Turin). Abstract.
52 Instillation of Methylene Blue (2 per 1,000) as Preventive of Ocular Complications in Smallpox. Combemale. Abstract.
53 *Adrenalin Internally to Arrest Hemorrhage in Yellow Fever. C. de Souza. Abstract.

49. Unification of Formulae for Heroic Medicaments.—THE JOURNAL duly chronicled the transactions of the international conference on this subject, which was held at Brussels in 1902. The delegates of fourteen states signed the resolutions adopted by the conference, but those of six other countries declined to do so for various reasons. The United States was among the latter—the revision of the pharmacopeia being in the hands of a committee over which the government has no control. As two of the delegates were members of this committee, this abstention is only a technical point. Great Britain and Germany also declined to sign for similar minor technical points. Austria objected to the formula adopted for opium pulvis, and Luxemburg agreed to accept whatever Germany decided on. The only actual opposition to the unification proposed is in the case of Sweden, which objects to the preparation of tinctures by percolation. With this exception harmony seems to be assured, and the unification of the heroic medicines may be regarded as accomplished. It has taken fifty years of effort to realize this result.

53. Adrenalin in Yellow Fever.—De Souza has given adrenalin by the mouth in 36 cases of yellow fever in the hemorrhagic stage. His doses were .015 mg. every fifteen minutes, supplemented by an injection of 300 gm. water containing 30

cg. of adrenalin, with some salt and gelatin. These doses were given for two hours, with the injections twice an hour. The dosage was then reduced. No ill effects were observed.

Archiv f. path. Anatomie, Etc. (Virchow's), Berlin.

Last indexed XLII, page 1523.

54 (CLXXVI, No. 2.) Zur Frage bezüglich der Bewegung und der Emigration der Lymphocyten des Blutes. K. Wlassow and E. Sepp (Moscow).
55 Zur Frage der normalen und pathologischen Histologie der Gallen-Kapillaren in Verbindung mit der Lehre von der Pathogenese des Ikterus. S. Abramow and A. Samoilowicz.
56 Zur Physiologie der Schilddrüse (thyroid gland). K. Kisbi.
57 Amyloider Tumor der Retroperitoneal-Drüsen (glands). T. J. Tschistowitsch and K. J. Akimow-Peretz.
58 Zur Anatomie und Pathogenese der Vorderwand-Divertikel des Oesophagus. A. Brosch.
59 Kritisches zur Frage der Gangrène foudroyante and der Schaumorgane (fulminating gangrene and foam organs). Westenhoeffer. Reply to E. Fränkel.

Beiträge z. Geb. und Gynäkologie (Hegar's), Leipsic.

Last indexed XLII, page 1524.

60 (VIII, No. 3.) *Connection of Streptococcus with Puerperal Fever. E. Baum and W. Sigwart (Halle).—Ueber die Beziehungen des Streptokokkus zum Puerperalfieber.
61 Premature Detachment of Normal Placenta. G. Schickele (Strassburg).—Die vorzeitige Lösung der normal sitzenden Placenta.
62 *Die diagnostische Bedeutung der Ligamenta sacro-uterina. H. Sellheim.
63 *Ruptur eines Chorio-Epithelioms mit schwerer intraperitonealer Blutung. K. Hörmann.
64 *Concerning Malignancy and Spontaneous Healing of Chorio-epitheliomata. Ibid.—Zur Frage der Bösartigkeit und der Spontanheilung von Chorio-Epithheliomen.
65 Uterus gravidarum. R. von den Velden (Heidelberg).
66 Zur operativen Myom-Behandlung. K. Kober (Breslau).

60. **Connection of Streptococcus with Puerperal Fever.**—The vaginal secretions of 103 women in the last months of pregnancy were examined and streptococci were discovered in 38.16 per cent. of those examined once, and in 83 per cent. of the 18 primiparæ examined more than once, and in 55 per cent. of 9 multiparæ. About 20 per cent. of the women with positive findings developed fever, and 11 per cent. of those with negative findings. The fever was very slight in every instance. Aërobic chain cocci were evident in the secretions of more than 75 per cent. of all the women examined, and with better technic they would probably have been found in every one. This ubiquity of the streptococcus suggests a number of interesting queries.

62. **Diagnostic Import of the Sacro-uterine Ligaments.**—Sellheim proclaims that palpation of the sacro-uterine ligaments is the most reliable means of distinguishing between tumors growing into the open abdominal cavity and those located in the peritoneum or in a ligament. Systematic palpation of these ligaments through the rectum should never be neglected in diagnosing gynecologic affections. He gives numerous illustrations to show the anatomy and physiology of these ligaments, and the best technic for their investigation, as well as the interpretation of the various findings of palpation through the vaginal and rectal walls. Rectal examination is much easier than the vaginal. The examining finger in the rectum must be passed beyond the folds of the sphincter ani tertius. This brings it exactly behind the ligamen s instead of below them, and palpation is facilitated by injecting half a pint of tepid water into the rectal ampulla. This distends the ampulla, but the sphincter still protrudes into the lumen and is thus easily recognized. The finger passed beyond it is then crooked and the ligaments are readily felt at once. By pushing the sphincter and sacro-uterine ligament forward and downward, the palpating finger has a free field for further exploring the broad ligaments, the ovaries and tubes and the walls of the pelvis. The thin and yielding rectal wall allows the finger to palpate up to the fork of the iliac artery, and forward almost to the horizontal ramus of the pubis. Sellheim describes the findings in different groups of gynecologic cases. Inflammation in the vicinity is usually accompanied by a thickening and tension of the sacro-uterine ligaments.

63 and 64. **Spontaneous Healing of a Chorio-Epithelioma.**—Hörmann reports a case in which masses of a growth of this kind were evacuated, and recurrences twice removed by curetting, with excision of metastases in the vagina—and now the patient has entirely recovered. In the preceding article he gives the history of the bursting of a growth of this kind in a woman of 38 during cautious examination. There had been no previous hemorrhages in this case.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 229.

67 (XXXI, No. 22.) Successful Suture of Heart. A. Vogel.—Fall von Herznaht.
68 Traumatic Facial Paralysis Cured by Anastomosis of Facial and Accessory Nerves. W. Mintz.—Durch Nervenanastomose geheilte traum. Facialislähmung.
69 (No. 23.) Ueber Operationen unter unmittelbarer Leitung der Röntgen-Strahlen (operating under direct inspection with *x* rays). G. Holzknecht, R. L. Grünfeld and Perthes. Polemic. *See abstract 18, page 1666, of last volume.*
70 *Treatment of Contracture of Joints with Röntgen Rays. E. Moser (Zittau).—Behandlung von Gelenkkontrakturen mit Röntgenbestrahlung.

70. **Treatment of Contracture of Joints with Roentgen Rays.**—Moser does not wait for further confirmation, but hastens to report the excellent results obtained in 2 cases by radiation. Almost all the joints of the first patient were ankylosed and there was palpable friction during movement—probably the results of gout. A skiagram was taken of one knee and the patient complained that she had had pains in all her joints thereafter. Moser noticed that the knee that had been exposed seemed less swollen than before, and he applied the Roentgen rays as a therapeutic measure for a minute to each knee. The patient reported four days later that there had been marked improvement since, not only of the exposed joints, but of all the others. The exposures were continued at intervals of several days, the duration increased to a maximum of three and a half minutes, the knees being the only joints exposed. The improvement progressively continued until the patient is now able to dress herself and do up her hair, previously impossible, and take a half-hour walk. In the other case the patient was a man of 63 and the stiffness of the joints was evidently due to chronic rheumatism. The joints became much more flexible under the *x*-ray treatment, but the pains were not influenced until a week or so later than the perceptible influence on the joints. No other measures were applied in either case outside of the Roentgen rays.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 229.

71 (XXVIII, No. 15.) *Bilateral Ligature of Hypogastric Arteries in Case of Inoperable Uterine Cancer. G. Kösler.—Zur doppelseitigen Unterbindung der A. hypogastrica bei inoperablem Uterus-Karzinom.
72 Eclampsia gravidarum und Bossi'sche Methode. F. Wolff.
73 *Die Nephrotomie bei Anurie Eklamptischer. A. Sippel.
74 Perforation of Vaginal Wall by Pessary. Hildebrandt.—Was mit dem Keulenpessar von Menge passieren kann.

71. **Ligature of Arteries in Case of Uterine Cancer.**—Kösler found that bilateral ligature of the hypogastric arteries in 5 cases of inoperable carcinoma of the uterus promptly arrested the previous hemorrhages. The discharge was also checked, with the exception of one case. This successful result did not last more than six months. The hemorrhages and the discharges reappeared then, probably owing to the development of collateral circulation. The size of the tumor was not reduced in any instance. In still another case he threw a ligature around both of the hypogastric and ovarian arteries and the arteries of the round ligaments as an emergency measure in a case of hemorrhage from arrosion of the uterine artery by an inoperable carcinoma. The results observed commend the measure of ligation of both hypogastric arteries as a vital indication in certain cases.

73. **Nephrotomy in Anuria of Eclampsia.**—Sippel's patient succumbed in coma from persistent anuria in the course of severe eclampsia. The organs were found apparently sound with the exception of the kidneys. The left was of normal size and color, but the right was enlarged and almost a blue-black. The capsule was tense and as it was incised it retracted and the kidney substance gushed forth, showing that it had been under extraordinary tension. He theorizes in consequence that the venous congestion indicated by these findings might have been relieved by nephrotomy in time. Incision of the capsule might relieve the venous congestion and thus cure the otherwise fatal anuria in certain cases of eclampsia.

Monatshefte f. praktische Dermatologie (Unna's), Hamburg.
Last indexed XLII, page 136.

75 (XXXVII, No. 12.) Fall von Erythema induratum (Bazin) kombiniert mit Lichenscrofulosorum. J. Sölinger (Graz).
76 Ueber einen, den Tuberkuliden acneiformes et nécrotiques ähnlichen Krankheitsfall. A. Jordan (Moscow).
77 (XXXVIII, No. 1.) Die X-Zellen des spitzen Condyloms. P. G. Unna.
78 *Freaks of the Compressor Urethræ. C. Berliner.—Verhängnisvolle Launen des Schliessmuskels.
79 (No. 2.) Urethritis bei Oxalurie und Phosphaturie. Oxalurie und Phosphaturie als Symptome der Neurasthenie. E. Delbanco (Hamburg).
80 (No. 3.) *The Effective Constituents of the Polychrome Methylene Blue Solution and an Improvement of the Spongioplasm Stain. P. G. Unna.—Die wirksamen Bestandtheile der polychromen Methylenblaulösung und eine Verbesserung der Spongioplasmafärbung.
81 Mesotan-Exanthem. C. Berliner (Alx la Chapelle). (Also A. Sack in No. 5.)
82 (No. 4.) Classification of Agents of Dermatomycoses. H. C. Plaut.—Zur systematischen Stellung der Dermatomykosenerreger.
83 *Valve Syringe. Engelbreth (Copenhagen).—Die Ventilspritze.
84 (No. 5.) Ueber idiopathische multiple Haut-Sarkomatose (of skin). P. v. Krzysztalowicz (Cracow).
85 (No. 6.) Histologic Study of Certain Reducing Substances Used in Dermatology. V. Lutatl.—Histologische Untersuchungen, etc.
86 Value of Unna's Chloral-Camphor Salve Gauze for Burns. M. Hodara (Constantinople).—Zwei Fällen von Verbrennung mit Unnaschem Chloral-Camphor-Salbenmull behandelt.

78. Freaks of the Compressor Urethrae.—Berliner relates that a young man found it impossible to withdraw a long rubber tube which he had passed into his bladder, the compressor urethræ gripping it so tight that it was impossible to move it. The tube was 4 mm. in diameter, more than a yard long and about two-thirds must have been in the bladder. After fifteen to twenty minutes of waiting, tranquillizing and diverting the mind of the patient, Berliner was able to draw the tube partly out, but then the sphincter gripped it again and another fifteen minutes elapsed before a further attempt was made, which this time proved successful. He argues to show that a similar transient spasmodic contraction might easily simulate stenosis of the urethra, especially after a fright, distress, sexual excitement or in embarrassment from any cause. Tranquil expectancy may thus cure up many puzzling cases.

80. Improved Stain for Spongioplasm.—Unna announces that the effectual element in the polychrome methylene blue stain is a combination of the blue with an alkaline carbonate, forming a methylene azure carbonate. The addition of methylene violet adds still further amounts of carbonates and alkaline chlorids, and enhances its staining properties for spongioplasm. His formula is .25 parts azure carbonate (Giemsa), .25 parts potassium carbonate, 1 part methylene violet (Bernthsen), and equal parts of distilled water and glycerin to make 100 parts.

83. Valve Syringe.—Engelbreth's urethra syringe has been described in these columns. Its special feature is the addition of an asbestos valve which opens and allows the escape of the fluid whenever the pressure rises above a certain figure. By this means it is impossible to inject more fluid than the urethra can conveniently hold without undue distension. The syringe thus adapts itself automatically to the capacity of every individual urethra. He gives an illustration of it, slightly modified from his first syringe.

Therapie der Gegenwart, Berlin.
Last indexed XLII, page 139.

87 (XLV, No. 5.) Puncture of Skull. E. Neisser (Stettin).—Ueber Probepunktion und Punktion des Schädels.
88 Rectal Feeding, Especially in Gastric Cancer. Klieneberger (Frankfurt a. M.).—Ueber rektale Ernährung mit bes. Berücksichtigung des Ulcus ventriculi.
89 Local Treatment of Affections of Lower Bowel. M. Pickardt (Berlin).—Zur lokalen Behandlung von Erkrankungen der unteren Darmabschnitte.
90 *Bloodless Nerve Stretching. A. Lewandowski.—Ueber unblutige Nervendehnung.
91 Phosphorus in Treatment of Certain Convulsions in Children. Gerhartz.—Zur Phosphor-Behandlung gewisser Krampfformen der Kinder.
92 Zur unblutigen Phimosen-Behandlung. Oriipski (Halberstadt).
93 Memories of Kussmaul. Senz.—Erinnerungen an Kussmaul.

90. Nerve Stretching in Therapeutics.—Lewandowski treats certain neuralgic and trophic affections by systematic stretching of various nerves by flexing and twisting the joints, keeping up these exercises for weeks with several repetitions each day. Old cases of sciatica have been rapidly cured by these simple exercises, and the distant effect on remote trophic affections has been surprisingly beneficial. The finger and hip joints, knees, elbows, ankles and wrists are systematically exercised to overstretch the nerves of the region. Sometimes the backs of the hands are placed together before the stretching is done, which increases the intensity of its action. Exercises of the trunk, stretching and twisting the legs to stretch the sciatic nerve, have been found to exert a favorable influence on neurasthenia, etc. He urges that systematic nerve stretching should be ranked with massage, hydrotherapy, etc., as an important physico-therapeutic measure.

Wiener klinische Wochenschrift, Vienna.
Last indexed XLII, page 1459.

94 (XVII, No. 18.) Angina pectoris hysterica. Radioscopia: Tetanus cordis. R. Kienböck.
95 Zur Frage des Hydrothorax e vacuo. M. Siegel.
96 (No 19.) Appearance of Fat in Spinal Cord. J. Zappert.—Ueber das Auftreten von Fett-Substanz im embryonalen und kindlichen Rückenmark.
97 *Surgery of Posterior Cranial Fossa. F. Alt.—Operative Eingriffe in der hinteren Schädelgrube.
98 Fall von Extra-Uterin-Gravidität mit lebendem reifen Kind (with living child at term). H. Peham. Ibid. K. Franze.
99 *Zur operativen Behandlung des Larynx-Karzinoms. H. Koschier. (Commenced in No. 18.)
100 Progress in Knowledge of Syphilis in Last 25 Years. E. Finger.—Fortschritte in der Syphilislehre.
101 (No. 20.) *Inheritance of Syphilis. I. Neumann.—Ueber Vererbung der Syphilis.
102 *Correlation of Physico-chemical Properties and Medicinal Action. W. Panli.—Ueber den Zusammenhang physikochemischer Eigenschaften und arzneilicher Wirkung.
103 Ueber interparietale Hydrokelen. S. Kostlivy.
104 Observations of Cancer Patients After Radical Intervention. J. Hochenegg. Inaugural address.
105 (No. 21.) Ueber Ruminatio humana und ihre Beziehungen zur Hemophilie. O. Lederer.
106 Pseudoangina pectoris hysterica. Radioscopia. Spasmus glottidis, augmentatio pressus intrathoracalis; evacuatio cordis. R. Kienböck. (See No. 18 above.)
107 Physiologie und Soziologie des Incestes zwischen Vater und Tochter unter Indianern. O. Effertz (Oajaca, Mexico).
108 (No. 22.) Ueber den Uebergang der Immun-Hemolysine von der Frucht auf die Mutter. A. Kreidl and L. Mandl.
109 Zur Differentialdiagnose zwischen knötchenförmiger Hyperplasie der Leber und multipler Adenom-Bildung (differentiation of nodular hyperplasia of liver). J. Bartel.
110 Ueber das offene Meckelsche Divertikel. H. Salzer.
111 *Action of Tuberculin Introduced by Way of Air Passages. E. Kaprálik and H. v. Schrötter.—Erfahrungen über die Wirkung der Einführung von Tuberkulin im Wege des Respirations Apparates.
112 Cancer Treated with Radium Rays. A. Exner. From society report.
113 (No. 23.) Experimental-Untersuchungen über weisse Blutkörperchen und Exsudatzellen (white corpuscles and exudate cells). K. Helly.
114 Absorption of Albumin from Intestine. F. Hamburger and B. Sperk.—Biologische Untersuchungen über Eiweissresorption vom Darm aus.
115 Der Influenza-Bazillus als Erreger der Cholezystitis. J. Heyrovsky.
116 *Hot-Air Treatment of Certain Affections of Genital Organs. J. Salom (Chrobak's clinic, Vienna).—Ueber Heissluftbehandlung einiger Krankheiten der Genitalorgane.
117 (No. 24.) Ueber die Syphilis der behaarten Kopfhaut (of scalp). E. Finger.
118 *Action of Sunlight on Skin and Conjunctiva. K. Kreibich (Graz).—Zur Wirkung des Sonnenlichtes auf Haut und Konjunktiva.
119 Ueber die Wirkungsweise hemolytischer Sera (mode of action of). K. Landsteiner and von Eisler.
120 *New Principle Applied to Determine Stomach Outlines. A. Neumann.—Ein neues Prinzip zur Bestimmung der Magengrenzen.
121 Zum Stndium der "Frage der Disposition zur Tuberkulose." L. von Schrötter. Address.

97. Operative Intervention in Posterior Cranial Fossa.—Alt reports 2 cases of abscess in the cerebellum operated on successfully. One was consecutive to an acute, the other to a chronic otitis media. In 3 other cases described there was suppurative thrombosis of the transverse or sigmoid sinus complicated by a circumscribed purulent pachymeningitis externa in 3 instances, and by thrombosis of the jugular vein and a metastatic abscess in the lung in the other case. The last mentioned patient recovered rapidly, the course of the case proving the feasibility of resection of the jugular vein in case of an otitic sinus and jugular thrombosis, and its efficacy in preventing a metastatic focus, while the results establish that an already existing metastasis in the lungs is no contraindication to an operation. Metastatic abscesses in the lungs, of otitic origin, may heal after evacuation into the bronchi, but they generally entail fatal pyopneumothorax. In the other cases chills, pyemic fever and meningitic symptoms had been noted for eight to ten days before the operation, but all the symptoms vanished at once thereafter. Cholesteatomata may

cause extensive destruction of the bony walls and open up the posterior fossa, especially when the bone has been softened by a previous suppurative process. Politzer has reported a case in which the cholesteatoma had hollowed out a cavity which included the outer ear, tympanum, part of the mastoid process, the entire labyrinth and the larger part of the pyramid. Even when the cholesteatoma does not force an opening into the posterior fossa, the latter may become secondarily infected by way of the lymphatics or veins.

99. **Operative Treatment of Cancer of Larynx.**—Koschier concludes from his experience in 13 operative cases of cancer of the larynx that the endolaryngeal operation should be reserved for elderly subjects and those unable to bear general narcosis. Under other circumstances he attacks the growth from without. He removed a cancer the size of a bean by the endolaryngeal route from a man of 73 with pronounced atheroma of the vessels and chronic bronchitis. The patient was apparently in good health a year and a half later. He found always that the thyroid cartilage was not affected on the median line, but about 1 cm. from it, corresponding to the favorite site of cancer of the vocal cords. When this spot is found soft it is an indication at once for hemisection of the larynx. He prefers to operate in two sittings, with an interval of five or six days to allow the patients time to become accustomed to the new mode of breathing, and for the irritation of the bronchial mucosa to subside. In every case in which the cancer started in or involved the epiglottis later, the growth recurred within a year after its extirpation, attacking this time the tongue or tonsil. The prognosis of cancer of the epiglottis is not so good as when the growth starts in the vocal cords, probably owing to the copious lymph supply of the former. One patient succumbed soon after the operation; there had been considerable bleeding from a thyroid vein, with resulting fulminating bronchopneumonia.

101. **Inheritance of Syphilis.**—Neumann concedes that the influence of maternal syphilis is much greater than that of the paternal. Post-conceptional syphilitic infection may affect the fetus even at a very late stage of the pregnancy. But he is convinced that the father can transmit the infection while the mother may be completely sound. He presents 7 such cases out of his private practice—followed for years—in which the mother has remained free from any trace of syphilitic infection, while the father and the child exhibit unmistakable manifestations of it. In 14 other cases, observed at the clinic, the mother was apparently free from syphilis while bearing a child with various syphilitic stigmata. In another series of 6 cases the husband suffered from the severer forms of syphilis and the pregnancies terminated constantly in abortion or the birth of severely syphilitic children, while the mothers were constantly exempt from any clinical traces of the disease.

102. **Correlation of Physico-Chemical Properties and Medicinal Action.**—Pauli reviews the analogies between the physical and chemical properties of the ions of various salts and their medicinal action, claiming that there are general laws regulating them all. These laws he compares to the "leit motivs" in a Wagner opera, weaving in and out and more or less distinct according to the innumerable variations of individual conditions. He attributes a very important rôle to the ions of the salts in the organism. The proteins have the most striking relations with the salts. The albuminoid elements of the organism are those affected by the ions. Anions have a dissolving action on the albumin, and kations a precipitating action. The physiologic action of the ions corresponds to their place in the series of anions or kations. There is a close analogy between the behavior of colloid substances and the vital processes in living matter, notwithstanding the infinite variety of the latter.

111. **Tuberculin Given by Inhalation Instead of Injection.**—This communication from von Schrötter's clinic at Vienna relates in detail the experiences in 28 cases in which tuberculin was administered by inhalation as well as by subcutaneous injection. Absolutely the same results were attained by inhalation as when injected subcutaneously, the only difference being that a larger quantity was necessary to produce the same effect, about thirty times the usual subcutaneous dose being required. All the experiences were with the Bulling spray apparatus for inhalations (thermovariator). About 30 mg. on an average was necessary to induce the Koch reaction in cases of active tuberculosis, while about 250 mg. was required in the cases of inactive or latent tuberculosis of the lungs and in the "clinically non-tuberculous." The reaction induced by inhalation of tuberculin, compared with the reaction that follows subcutaneous injection, affords a more accurate method of diagnosis of the localization of the tuberculous process than has hitherto been attainable. A positive response to inhalation of tuberculin in minimal amounts indicates a tuberculous affection of the parenchyma of the lung—thus localizing the process. The two methods should be combined for an exact diagnosis, especially in the cases with vague symptoms, weakness, emaciation, etc., in which the exact condition of the lungs can not be determined with accuracy. The predisposed can be sifted out by this means from those actually infected. The progress of the infection can also be traced in this way, as a subject refractory to inhalation, while responding positively to injection, may later give a positive response to the inhalation showing that the lungs have been invaded. The inhalation technic may also prove useful in controlling the action of medication, in supervising scrofulous children, in determining the prognosis of surgical intervention on tuberculous joints, etc. The writers suggest in conclusion that diphtheria antitoxin might be administered by inhalation exclusively or in combination with subcutaneous injection, and add that inhalation of radioactive substances—such as Tappeiner's fluoreseent eosin solutions—might be combined with radiotherapy of the thoracic organs as another mode of therapeutic intervention in pulmonary processes. In a number of the cases described the diagnostic inhalation of tuberculin displayed marked therapeutic effect. The tuberculin does not undergo alteration in its passage through the walls of the air passages any more than in subcutaneous injection. A positive response to injection of 1 mg. indicates the inhalation test, and if there is a positive response to inhalation of 30 mg. the lungs can be assumed to be already tuberculous. The utilization of the respiratory tract in immunization, by means of inhalation of toxins in the form of a fine spray, opens new fields for research. Cornet has done work in this line, using the Jahr apparatus. He found that the reaction after inhalation was more pronounced than after injection of the same amount of tuberculin—this result being probably due to the coarser form of the spray from this apparatus.

116. **Superheated Air in Treatment of Gynecologic Affections.**—Salom mentions that this method of treatment has been in vogue at Chrobak's clinic for two years. An apparatus is used of the Reitler type, heated by gas or an alcohol flame, the box made of wire netting and sheets of asbestos, covered with felt. An opening into a box containing calcium chlorid allows the moisture to be absorbed by the chlorid, thus promoting transpiration. The temperature is raised as high as can be borne by the patient, from 90 to 135 C., keeping it at a constant figure if possible, the duration of the application from half an hour to an hour. Fifty-seven patients were thus treated, all but 3 being between 18 and 40. The number of applications ranged from 4 to 77, the average 23. The relief of the pain is one of the most striking effects of the treatment; the patients are improved subjectively first and the objective improvement—as resolution and absorption progress—soon follows. The greatest benefit was derived in the cases of parametritis. Nine of the 23 patients in this class were cured and 12 essentially improved. Six patients with perimetritis were much improved and 2 patients with pelveo-peritonitis with exudation were cured with an average of 26 applications. One of 2 patients with a postoperative fistula was also cured, and all but 5 of 22 cases of tumor in the adnexa were subjectively cured or much improved, but objectively 13 were unimproved. The inaccessibility of the internal genitalia does not allow us to hope too much from this treatment, but even with this restriction it frequently accomplishes results unattainable by any other method.

118. **Action of Sunlight on Skin and Conjunctiva.**—Kreibich has had occasion to observe 3 cases in which the skin reacted to sunlight at the onset of hot weather with a thickening and pigmentation which affected also the conjunctivæ. The similarity between the cutaneous and ocular findings inclines him to ascribe them to the same cause—the action of the sunlight. The eye findings corresponded in every respect with the typical lesions of vernal conjunctivitis. He consequently treated them by covering the eye with a black bandage under which conditions rapidly returned to normal. The chemical rays of the sunlight can readily pass through the lid and affect the eye, and prophylaxis of recurring vernal conjunctivitis should be by shading the eyes and, eventually, the wearing of red protecting glasses. Swelling of the glands in the neck has been observed in connection with vernal conjunctivitis. The swelling may be due to the same action of the chemical rays.

120. **Outlining the Stomach by a New Technic.**—Neumann uses a Politzer rubber bulb with a soft stomach tube for aspiration of the stomach contents, as has been mentioned in these columns. He now announces that after the stomach has been emptied and a clean bulb attached to the tube, it is possible to determine the outline of the stomach with great precision by listening to the sound when air is forced from the rubber bulb into the stomach. A small amount of air is sufficient for the test, thus avoiding distension of the organ. Radioscopy confirms in every instance the findings with auscultation as the bulb is compressed and the air forced into the stomach. He has found this test useful in differentiation of gastric from intestinal stenosis in dubious cases.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed XLII, page 111.

122 (LII, Nos. 3-4.) Zum Studium der Hämatologie. J. Mitelescu (Bucharest).
123 Blutuntersuchungen bei Bilharzia-Krankheit (study of blood in bilharzia affections). A. Kautsky Bey (Cairo).
124 *Ueber Myxödem. A. Magnus-Levy.
125 *Betrachtungen über Leukämie. A. Pappenheim.
126 *Ueber Leucocyten-Granulationen (Ueber Azurgranula und über Pseudo-Mastzellengranula). A. Wolff (Senator's clinic, Berlin).
127 Ueber die Zuckerbildung im Diabetes mellitus (sugar formation). L. Mohr.
128 Ueber das Auftreten der Glukuron-Säure im Fieber (glycuronic acid in fever). F. Blumenthal and H. Wolff.
129 Digestion of Albumin in the Intestine. K. Glaessner (Berlin).—Zur Eiweissverdauung im Darm.
130 Substance Destruction in Fever. L. Mohr.—Ueber den Stoffzerfall beim Fieber.
131 *Zur Pathologie und Therapie der Pankreas-Erkrankungen, mit bes. Berücksichtigung der Cysten und Steine. P. Lazarus (von Leyden's clinic, Berlin). (Concluded.)
132 (Nos. 5-6.) Untersuchungen über Mamma-Carcinom bei einer Katze (cat). E. von Leyden.
133 Ueber Sputum-Virulenz-Prüfungen im Verlauf der croupösen Pneumonie und über die prognostische Verwerthung der Virulenz-Curve. Stuertz.
134 Determination of Volume of Blood Corpuscles by the Electric Conductibility. P. Fraenckel (Berlin).—Ueber die Bestimmung des Blutkörperchenvolumens aus der elektrischen Leitfähigkeit.
135 Cerebrale Localisation der Mimik. M. Sternberg (Vienna).
136 Untersuchungen über die Jodausscheidung nach Gebrauch von Jodkali und von Jodipin (elimination of iodin). H. Singer.
137 *Refractometrische Eiweissbestimmungen an menschlichen Blutserum und ihre klinische Bedeutung (refraction tests of albumin in serum). H. Strauss and B. Chajes (Senator's clinic, Berlin).
138 Property of Digitalin Transiently to Reduce Susceptibility of Heart to Artificial Stimuli. K. Brandenburg.—Ueber die Eigenschaft des Digitalin in nicht tödtlicher Gabe die Anspruchsfähigkeit des Herzens für künstliche Reize vorübergehend zu vermindern.
139 Ueber Leucocyten-Granulation. A. Wolff. See 126 above.

124. **Myxedema.**—In a monograph of 56 pages Magnus-Levy studies the various aspects of myxedema. He emphasizes anew the opposite behavior of this disease and exophthalmic goiter. This opposite behavior is marked even in the gaseous metabolism. He tabulates 14 cases of endemic cretinism and insists on the favorable results of thyroid treatment manifest even by the fourth to sixth week. In myxedema in 10 adults (all but 1 were women), 3 were promptly cured by thyroid treatment. The cure required six months in another case. Two others were essentially improved. The rest refused to continue treatment. Out of 9 cases of sporadic cretinism 5 were promptly cured by thyroid treatment and the others were materially improved. He gives diagrams showing the respiratory gas interchanges in some cases, one with the curve for more than two years, illustrating the influence of various methods of treatment, and of the periods without treatment. Under thyroid preparations the curves of the consumption of O_2 and production of CO_2 rise abruptly and remain high, subsiding again on suspension of treatment. The article is copiously illustrated.

125. **Leukemia.**—Pappenheim's extensive article was sent in last August, and a number of authors have published in the interim views similar to some of those he proclaims, especially that the diagnosis of leukemia can not be based on the blood findings alone. He insists that the most varied circumstances may induce the deceptive picture of a leukemia and simulate it completely. Also that lymphadenoid leukemia is not a distinct entity, but is merely a special form of manifestation of lymphadenoid tumor formation, which may run an aleukemic or a leukemic course, and is thus only a kind of subdivision of pseudo-leukemia. These lymphadenoid hyperplasias are not distinct affections, but sometimes appear as periosteal chloromata, sometimes as essential cutaneous affections, and originate in the most varied infectious etiology, even including the tuberculous, or they may occur as sarcoma formations. The blood findings are not sufficient criteria for differentiating essential malignant hyperplasia from an alymphocytemic lymphosarcomatosis.

126. **Granulation of Leucocytes.**—Wolff affirms that the classification of leucocytes according to their granulation should be maintained, as the objections to it have all been refuted. The presence of azure granulations in the lymphocytes and in the mononuclear leucocytes, indicates a close relationship between these two types of cells.

131. **Pancreatic Affections.**—Among the points brought out in Lazarus' comprehensive study of affections attributable to the pancreas, he emphasizes the fact that it is possible by dietetic measures to rest the pancreas in case of irritation and acute inflammation. The meals should be at long intervals, and it has been found that milk stimulates the secretions of the pancreas less than other articles of food. The functional activity of the organ can be still further reduced by ingestion of alkaline saline waters or Carlsbad salts, sodium bicarbonate or magnesia usta. As these neutralize the gastric juice, the physiologic acid stimulus for the pancreas is suppressed. After subsidence of the inflammatory phase in the pancreatic affection, the indications are to increase the secretion of saliva and thus counteract the results of stagnation and infection and the formation of new calculi. To keep the pancreatic juice fluid, the meals should be nearer together, the intervals not longer than three hours, and food should be eaten before retiring. The diet should be albumin, fat and carbohydrates, all in an easily digestible form. Milk best fulfills all these conditions. Water stimulates the pancreatic secretions, as also peristalsis. The medicinal agents needed are the sialogogs, and possibly calomel and other drugs which may act directly on the pancreas. The organ may also be influenced by mechanical means, deep breathing and manual compression. Stone formation in the pancreas may be prevented by careful treatment of the etiologic factors, catarrh of the stomach or duodenum, cholelithiasis, arteriosclerosis, lues and alcoholism, diabetes, etc. The uncertainty of an early diagnosis and the scanty casuistics of operative treatment of pancreas stones prevent the formulation of decided indications for surgical intervention, but the last decade has contributed to our knowledge of pancreas affections and many have been successfully operated on. Cases of cysts, inflammations, abscesses, necrosis, stones, even epithelial tumors and fat tissue necrosis, have been permanently cured by the surgeon. He mentions that lithiasis of the pancreas occurs pre-eminently at an advanced age, and in males, while gallstone colic chiefly affects women. A supposed gallstone colic in a man, without icterus, especially in the presence of diabetes or fatty stools and azotorrhea, should always suggest pancreolithiasis. Diabetes without colics but with fatty stools is also suspicious.

137. **Refractometric Determination of Albumin in Serum.**—By the technic described it is possible to determine from a single drop of blood the approximate proportion of albumin in the serum. We can thus detect the onset of hydremia or an-

hydremia. The Abbé refractometer was used in the numerous tests described. A single drop of blood was drawn into a capillary tube, which was then fused at both ends and set aside until next day, when it was opened with a file and the serum examined. The findings in a large number of various affections are tabulated. They coincide with the findings by other reliable technics so perfectly that they can be accepted as accurate.

Riforma Medica, Palermo and Naples.

Last indexed XLII, page 1667.

140 (XX, No. 12.) *Influence of Altitude on Heart Affections. G. Galli.—Influenza dell'altitudin sni malati di cuore.
141 Sopra 2 casi di ferite cavitarie (stab wounds of abdomen). P. Fiori
142 *Una famiglia coreica. A. D. 'Ormea.
143 Per l'etiologia del fibromiomi suppurati dell'utero. Ricerche batteriologiche. N. Giannettasio.
144 *Action of Extracts of Tuberculous Glands in Experimental and Human Tuberculosis. F. Valagussa. Abstract.
145 *Sulla cura della obesita. P. Grocco. Abstract.
146 (No. 13.) Sul valore del metode della fermentazione nel dosaggio del glucosio. D. Rivarono.
147 Senile Granulosis from Dissemination from an Old Caseous Focus (35 years). Relic of a Tuberculous Process in the Peritoneum Simulating Typhoid Fever. F. Sicuriani.—Caso di granulosi senile, etc.
148 Three Cases of Foreign Bodies in Air Passages. C. V. Pich. —Corpi estranei nelle vie respiratorle.
149 Sulla catatonia. E. Patini and G. Madia (Naples). Abstract.
150 (No. 14.) *La genesi dello scompenso cardiaco (failure of compensation). L. Verney.
151 *La simpatectomia cervicale in relazione con lo sviluppo ed il decorso dell tubercolosi oculare sperimentale B. De Vecchi and G. Colombo.
152 *Contributo sperimentale all' uso del magnesio in chirurgia. L'assorbimento del magnesio nel parenchima renale. A. Cernezzi.
153 (No. 15.) La tripanosomiasi nell' uomo (in man). G. R. Ruata (Commenced in No. 14.)
154 *Disinfection of Drinking Water with Silver Fluorid. E. Paterno. Abstract.

140. **Influence of Altitude on Heart Disease.**—Galli reports without comment 2 cases of vasomotor neurasthenia of the heart—"irritable heart"—2 of aortic insufficiency and one of arteriosclerosis and myocarditis of the Adams-Stokes type, in all of which the patients derived unmistakable benefit from a sojourn among the mountains. The altitude was about 4,000 feet. The patient last mentioned was taken in the family carriage to the upper Engadine, through the passes, at an altitude of more than 7,000 feet. The ascent was made without loitering and a week was spent at this altitude. No ill effects were observed thereafter.

142. **A Choreic Family.**—Four generations of the family described had eleven members more or less severely affected with chorea, and the young fifth generation seems to be shadowed by the same fate. The only member of the family who has escaped it to the age of 49 was nursed by a foster mother away from home. D'Ormea thinks that this fact is suggestive from a prophylactic point of view.

144. **Therapeutic Action of Extracts of Tuberculous Glands.**—Valagussa found that animals responded with a slight local reaction and loss of weight to injection of a product obtained from caseous glands. These symptoms subsided in the course of successive inoculations. Rabbits thus treated acquired immunity. All his tests proved that the substance was entirely harmless. In tuberculous human beings there was no general reaction—as to tuberculin—when this substance was injected, and it proved itself entirely harmless.

145. **Treatment of Obesity.**—Grocco pleads that the treatment of obesity must be based on the individual findings and be varied from day to day to respond to indications as they arise.

150. **Genesis of Failure of Compensation.**—Verney has examined the hearts in 36 cadavers to determine why compensation fails. He explains it by the hypothesis that when the heart is constrained to perform an extra amount of work (from some cardiac defect or increased resistance in the circulation of the blood, etc.), it becomes hypertrophied. The coronary arteries do not become hypertrophied with it—on the contrary, they are liable to become smaller in diameter as the arteriosclerotic process invades them too. The blood supply thus becomes out of proportion to the size of the organ to be nourished; its nutrition suffers and its reserve forces are soon used up. This assumption supplies an anatomic basis for Martius' theory in regard to the reserve force of the heart. He pointed out that this reserve force becomes exhausted when the hypertrophy reaches a certain limit.

151. **Sympathectomy in Relation to Tuberculous Eye Affections.**—The experimental research here described was conducted at Martinotti's Institute of Pathologic Anatomy at Bologna. The essential consequence of operations on the sympathetic proved to be the dilatation of the blood vessels which they entailed.

152. **Absorption of Magnesium Wire by Kidney Tissue.**—Cernezzi exposed one kidney in 6 large rabbits and inserted in it about 1.5 cm. of magnesium wire, .6 mm. in diameter. The wire entered at one pole and was passed along the convex margin, leaving the pelvis intact. It was absorbed in the course of twenty days, becoming disintegrated about the fifteenth day. The kidney tolerated it perfectly, without apparent disturbance of any kind, the injured tubules being repaired but without neoformation of any entire tubules. These experiments were undertaken to study the technic of magnesium prothesis introduced by Payr of Graz. They have amply confirmed its harmlessness and feasibility. The bibliography on the subject is appended. He mentions that magnesium is malleable and lighter than aluminum, but has to be sterilized in alcohol instead of water.

154. **Sterilization of Drinking Water with Silver Fluorid.**—One part of silver fluorid to 500,000 parts water destroys all germs except anthrax spores and these do no harm by the mouth. This corresponds to a proportion of 2 mg. to the liter of water, or 1.7 mg. of silver, but as a large portion of this is precipitated in the form of a chlorid, the procedure is harmless. Fluorin is a necessary ingredient of the organism. The water does not taste of the drug and is soon clear after its addition.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE CLINICAL STUDY OF BLOOD PRESSURE. A Guide to the Use of the Sphygmomanometer in Medical, Surgical and Obstetrical Practice, with a Summary of the Experimental and Clinical Facts Relating to the Blood Pressure in Health and in Disease. By Theodore C. Janeway, M.D., Lecturer in Medical Diagnosis, University and Bellevue Hospital Medical College. Seventy-five Illustrations in the Text in Many Colors. Cloth. Pp. 300. Price, $3.00. New York and London: D. Appleton & Co. 1904.

THE SEXUAL LIFE. A Scientific Treatise Designed for Advanced Students and the Profession, Embracing the Natural Sexual Impulse, Normal Sexual Habits and Propagation, Together with Sexual Physiology and Hygiene. By C. W. Malchow, M.D., Professor of Proctology and Associate in Clinical Medicine, Hamline University College of Physicians and Surgeons. Cloth. Pp. 308. Price, $3.00. Minneapolis: The Burton Co. 1904.

THE SURGERY OF THE HEART AND LUNGS. A History and Résumé of Surgical Conditions Found Therein, and Experimental and Clinical Research in Man and Lower Animals, with Reference to Pneumonotomy, Pneumonectomy and Bronchotomy, and Cardiotomy and Cardiorrhaphy. By Benjamin Merrill Ricketts, Ph.B., M.D. Cloth. Pp. 510. Price, $5.00. New York: The Grafton Press. 1904.

A SYSTEM OF PRACTICAL SURGERY. By E. von Bergmann, M.D., P. von Bruns, M.D., and J. von Mikulicz, M.D. Volume III. Translated and Edited by William T. Bull, M.D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York, and John B. Solly, New York. Surgery of the Extremities. Cloth. Pp. 918. Price, $6.00. New York and Philadelphia: Lea Brothers & Co. 1904.

A COURSE IN QUALITATIVE INORGANIC CHEMISTRY. By Arthur L. Green, Ph.G., M.D., Ph.D., Dean and Professor of Chemistry, School of Pharmacy, Purdue University, and Charles E. Vanderkleed, Ph.C., B.S., A.C., Analytical Chemist with the H. K. Mulford Co. Fourth Edition. Cloth. Pp. 158. Lafayette, Ind.: Arthur L. Green.

CLINICAL RECORDS OF LIGHT AND X-RAY THERAPY (Illustrated). By G. G. Stopford Taylor, M.D. Durham, M.R.C.S., L.R.C.P. Hon. Attending Physician to the Liverpool Skin Hospital. Cloth. Price, 5 shillings, net. London: John Bale, Sons & Danielsson, Ltd. 1904.

THE SUMMER DIARRHŒAS OF INFANTS, Their Etiology, Pathology and Treatment. By H. Illoway, M.D., Formerly Professor of Diseases of Children, Cincinnati College of Medicine and Surgery. Cloth. Pp. 150. Price, $1.00 net. New York: E. R. Pelton, 1904.

PRACTICAL ELECTRO-THERAPEUTICS. By Franklin B. Gottschalk, M.D., Professor of Diseases of Children at Jenner Medical College. Cloth. Pp. 331. Chicago: T. Elsele.

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Original Articles.

SECONDARY ABDOMINAL OPERATIONS.*

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More than a decade has elapsed since the late Mr. Greig Smith of Bristol fixed the surgeon's standard of attainments for abdominal and pelvic operations in these words: "To be prepared, at the appearance of any complication, to apply the best-known surgical technics; to do what is wanted, and no more than is wanted; to have the manner and method of each procedure mentally laid down in clear and definite lines; and generally to perform the operation in a steady, straightforward, workmanlike manner through the endless complications that may arise, is no trifling call on the capacities of a human being. Much of it may be learned by intelligent practice at the expense of the patients; much may be learned by careful study and practice on the dead body, but most of all will the young surgeon derive information from a close and intelligent personal attendance at the operations of our great masters. Abdominal surgery is no longer a field for legitimate and versatile experiment; certain fixed and useful laws and customs have been laid down by the dearly bought experience of great men; the abdominal surgeon ought to begin fully equipped with such knowledge as has been gathered for him."

Mr. Greig Smith was a conspicuous exponent of the Birmingham school of gynecology and abdominal surgery, and his teachings were those worked out and practiced by the master founder of modern abdominal surgery, Mr. Lawson Tait. Mr. Smith's book on abdominal surgery wielded a world-wide influence and molded the practice of abdominal surgeons in all civilized countries. It is the work of a student, a scholar and a practical surgeon of superior abilities; but the inspiration of its pathology, its surgical methods and technic emanated directly from the master at Birmingham. Our knowlege of intraperitoneal diseases and their complications has advanced wonderfully in these latter years, and our operative technic has greatly improved, but with all our increased resources the standard set up by Mr. Smith in the words I have quoted remains to invite the best efforts of surgeons doing abdominal and pelvic surgery. In the present discussion I shall endeavor to show that when we have disregarded this essential basis of operative work, and wandered away toward greater achievements by more devious methods, we have met with disappointment and have been compelled to retrace our steps. However methods may change, this standard of efficiency must ever be the basis of successful work.

With the lowered mortality resulting from the elimination of sepsis, with the perfect operative methods worked out by increased experience, more difficult operations are now undertaken and successfully completed than formerly. With the modern improved surgical technic, minor degrees of infection are less frequent, and surgical methods have been perfected to such a degree that not only has the mortality rate been diminished, but convalescence is unretarded for the most part by many complications and accidents that formerly obtained with marked frequency. In no one particular is the advance of recent years more marked than in the fewer incomplete operations than formerly obtained, and which contributed so much to an increased mortality both directly and by necessitating secondary operations. By secondary operations, I mean those required some months or years after an abdominal section for the relief of conditions not cured by the primary operation; or to repair results of the primary operation; or to relieve conditions which have arisen after the primary operation and which are pathologic in character, whether resulting directly or indirectly from the original pathologic condition.

The necessity for a secondary operation, often unavoidable in skilled hands, is to a certain extent a reproach to surgery and an annoyance, often an embarrassment, to the surgeon. This class of operations presents special and exceptional difficulties, and often, after the best efforts of skilled surgeons, terminates in disaster or failure. They compose a class quite apart and to themselves in the complications and difficulties presented, and deserve special consideration. *Pari passu* with the improvement in operative methods and skill, secondary operations have diminished; and it will better subserve my purpose in this discussion to direct attention to the means of preventing those sequelæ of operations which necessitate secondary intervention than to describe at length the operative technic of secondary operations. I shall endeavor to emphasize the special improvements in operative methods and the lessons born of experience which have done so much to perfect results and diminish the frequency of secondary operations, and which must of necessity constitute the working basis of prevention.

HERNIA.

The most common cause of postoperative ventral hernia is suppuration of the incision after abdominal section. Fifteen years ago it was estimated that quite 10 per cent. of cases of abdominal section were within three years followed by hernia at the site of the incision. With more thorough skin disinfection, with improved suture material for buried sutures, with more painstaking care of the operator's hands when exposed to septic materia.,

* Read by invitation before the St. Louis Medical Society of Missouri.

with the use of sterilized rubber gloves by assistants and nurses, with more perfect hemostasis, with diminished insult to the tissues, and with greater care in adjusting sutures, suppuration of the abdominal incision has very greatly diminished. The perfection of operative technic along these lines must be regarded as the best means of preventing infection of the incised tissues.

The restricted use of drainage, and especially the substitution of the rubber-covered gauze wick for capillary drainage in place of the glass tube, has done much to lessen the frequency of hernia. In no particular feature of the technic of abdominal surgery has so marked and so universal a change taken place as in the use of drainage. In the early days the drainage-tube played an important and conspicuous part in all classes of abdominal operations. It was used in both clean and septic cases, and, while harmful in some ways, it undoubtedly "covered the retreat" after many incomplete and imperfect operations. Advancing knowledge and improved skill have discarded the tube and reduced the scope of drainage within certain defined limits. Drainage has an important place still in abdominal and pelvic surgery, but as now applied it is seldom the cause of hernia. In cases of suppurative appendicitis, where the open method of treatment is required, with multiple drains, hernia is yet of common occurrence.

The fixation of the pedicle in hysteromyomectomy at the lower angle of the parietal incision with the serre-nœud, after the method of Koeberlé, which was popularized by Keith and Tait, was followed more frequently by hernia in my work than any other procedure. The improved operation, in which the pedicle is dropped beneath the peritoneum and the parietal incision closed as in other sections, has done away with this prolific cause of postoperative hernia. While hernia after abdominal section is less frequent than formerly, it occurs sufficiently often to deserve careful consideration. When operation for this condition is done, omental and intestinal adhesions will offer the principal difficulties.

FISTULA.

This is perhaps the most serious and distressing of all the complications and sequelæ of suprapubic section and vaginal operations. Fistula may involve the bowel, bladder, or ureter. It may occur early after primary operation as the result of injury to coats of the viscus, or it may come on later as the result of ulcerative and necrotic changes.

Fecal fistula results, as a rule, from injury to the coats of the bowel during operation. In separating adhesions of the intestines in deep pelvic operations such injuries are common and should always be searched for and repaired. Fistula is common after operations for appendicitis when the cecum is gangrenous about the base of the appendix. Fecal fistula has been attributed to the pressure of a glass drainage-tube on the intestine; and while I can conceive of such injury by careless manipulation, I have never known it to occur in my own experience. Nature is very generous in dealing with intestinal fistulæ subsequent to abdominal operations, and they usually heal spontaneously. This is especially true of fistula appearing very soon after operation.

Urinary fistula is much less common as a sequel of abdominal operations than fecal fistula. In my entire experience I have had but one case of urinary fistula. While enucleating a densely adherent tumor from the pelvis I injured the left ureter unaware, and urine soon began to flow out of the drainage tract. I have repeatedly injured the bladder and repaired it at once, with invariable prompt healing. Unless the ureter is severed entirely, spontaneous healing and restoration of function is apt to occur, and accidental incision of the bladder resulting in fistula is also prone to spontaneous healing. When, however, either fecal or ureteral fistula persists and secondary operation becomes necessary, the difficulties presented will be such as to tax the highest operative skill. The prevention of these unfortunate complications of abdominal operations will be best facilitated by earlier operations in inflammatory conditions, greater care in protecting viscera from injury, and searching closely involved structures before closing the abdomen.

The adoption of the Trendelenburg position for difficult enucleation of neoplasms and inflammatory masses in the deep pelvis, by which the parts are exposed to the operator's eye, has done much to diminish these annoying sequelæ. Later I will allude to the unavoidable frequency of these complications in vaginal operations on the pelvic organs.

SINUS.

Among the sequelæ of abdominal operations is that of the infected ligature and accompanying sinus. It is both annoying and persistent. Appearing to close for a time only, to reopen and discharge again, to be hooked out by the surgeon, or the sinus opened up and the ligature removed. When a silk ligature is seated in septic tissues, as in the removal of pus tubes, infection is almost sure to occur. When very large and heavy ligatures of plaited silk are placed, the bulk of foreign substance may be so great that they will not be encysted, and abscess and sinus may follow. The use of the absorbable animal ligature will altogether prevent this annoying complication, and thereby do away with secondary operations for removal of the infected silk. The manufacturers have so improved the methods of disinfecting catgut that this substance is rapidly taking the place of silk for ligatures in all septic cases. Many operators use it with satisfaction exclusively for ligatures and sutures. It must be seated and tied with the utmost care, as it has not the secure fixation quality of silk.

SECONDARY SUPPURATING FOCI.

Secondary foci of pus are usually the result of incomplete operations in inflammatory conditions where adhesions divide the suppurative area into multiple pockets; or in suppurating cases wherein the drainage tract becomes obstructed by adhesions, leaving an infected area enclosed and without an outlet. Such conditions usually require secondary operation to open up the enclosed sess cavity and afford free drainage. Such secondary foci formerly obtained frequently after incomplete operations for suppurative salpingitis and peritonitis, but have become less frequent with the improved methods of operation now commonly applied. Such complications are common after vaginal operations for suppurative salpingitis and peritonitis, often requiring secondary operation by abdominal section. Perhaps the most frequent site of multiple suppurative foci is about the *caput coli* in suppurative appendicitis. For this reason adhesions should be separated in all cases that will allow thorough work, and all suppurative foci drained. When secondary operation is indicated it should be done promptly, before the system is overwhelmed with septic products.

ADHESIONS.

A complete consideration of intraperitoneal adhesions after operation would supply material too extensive for the present occasion. In the early days, when drainage

was almost universal and extensive lavage with hot water was in daily use, together with elaborate sponging and mopping, adhesions were of more common occurrence and greater in extent than at the present time. Omental adhesions with traction in consequence on the stomach, intestinal adhesions causing pain and obstruction, are most distressing relics of otherwise successful operations. All abdominal surgeons of wide experience can recall the numerous and difficult secondary operations that were required to release the intestines from adhesions that made the patients' lives miserable. While these conditions were caused in great part by septic processes, there can be no doubt that in a large proportion of cases the injury to the epithelium of the peritoneum from excessive washing and mopping was the cause of adhesions. Nothing has done so much to lessen the frequency and extent of postoperative peritoneal adhesions as the modern practice of sequestrating the general peritoneum by broad layers of gauze, and limiting all traumatism of operation and peritoneal toilette to the immediate pathologic area. Another important means of protecting the peritoneum from adhesive inflammation, and, to my mind, one of the most important additions ever made to the operative technic, is the use of normal saline solution. It is easy for anyone to test for himself the common practice of ophthalmologists in using salt solution to apply to the conjunctiva in order to avoid the pain of plain water at any temperature. Salt solution has a special application to the peritoneum, and one of the most positive is its power to so attenuate septic material as to enable the peritoneum to dispose of it without injury to its own surface. Gauze packing for hemostasis and the Mikulicz method of draining deep peritoneal areas have had much to do with the causation of adhesions. Indeed, it is only recently that surgeons have appreciated the irritating and traumatic effects of placing gauze in the peritoneum. The application of these valuable additions to the operative technic will do much to prevent postoperative adhesions.

FOREIGN BODIES.

So much attention has been given to the importance of counting and marking gauze sponges and pads preparatory and during abdominal operations that accidents are far less common than formerly. Yet the leaving of a foreign body in the abdomen is one of the dangers of every extensive abdominal operation. Symptoms pointing to such accident during convalescence should be promptly recognized and the foreign body removed at once.

VAGINAL OPERATIONS.

Almost ten years have now elapsed since a profound impression was made on the profession in this country in favor of the methods practiced by the French school of surgery in the treatment of inflammatory diseases and neoplasms of the pelvic organs. The visits of Jacobs and Segond to this country, and their skill in vaginal hysterectomy as the initial step in dealing with pelvic suppurations, caused many to adopt the vaginal route as the best means of access to these structures. Vaginal section instead of suprapubic abdominal section was adopted by many in the treatment of almost every form of disease of the pelvic organs. Since it is impossible to deal with the diseased structures by sight and with appreciation of complications, by vaginal incision, many secondary operations were necessitated. Vaginal incision and drainage of tubo-ovarian abscess is a valuable procedure in septic patients, but it is only in a limited proportion that complete cure is effected by this means. Secondary operations by abdominal section is required in a great majority of cases in order to obtain a radical cure. These facts are becoming generally recognized. This class of secondary operations is among the most difficult known to surgery.

CONSERVATIVE OPERATIONS.

A consideration of secondary abdominal operations would be strikingly incomplete without giving proper attention to so-called conservative operations on the uterus, and especially the uterine appendages, as affording such a large class of cases requiring repeated operations. It is well known that in the early period of modern pelvic surgery ovaries and tubes were needlessly sacrificed in the enthusiasm of a new and brilliant surgical achievement. The reaction which came with this error of judgment was followed by the opposite extreme—the effort to remove only a part of diseased structures with the hope that the *vis medicatrix naturæ* would be equal to the repair and restoration of minor pathologic changes. Diseased ovaries were punctured or cauterized or resected and left *in situ;* infected tubes were loosened from adhesions, washed out with antiseptic solutions, and left in the abdomen with the expectation of restoration to normal structure and function. The application of this so-called principle of conservative surgery has necessitated more secondary operations than any other modern surgical innovation. So conservative and capable a surgeon as Dr. H. C. Coe of New York, in a recent article says, after alluding to a previous protest against the extreme application of so-called conservatism in pelvic surgery: "The views then expressed have been amply sustained by my later experience, including about 300 cases. I do not overstate when I say that in over 5 per cent. of these a secondary operation—abdominal or vaginal—has been necessary in order to relieve distressing symptoms, or to cure morbid conditions following the former operation. I have no doubt that this percentage would be higher if I could add cases operated on again by other surgeons." My own experience confirms this statement of Dr. Coe. No useful organ or structure should be needlessly sacrificed; structures infected and damaged beyond repair should be removed.

NEUROTIC CASES.

In this connection it may be well to mention that class of patients familiar to all doing extensive work in abdominal surgery, which may be designated the neurotic class. With persistent pelvic pain and dysmenorrhea they are usually introduced to surgical treatment with cervical dilation and uterine curettage. Again, they seek surgical treatment, and are pleased to have the appendages removed. Later they are apt to have hysterectomy. Always improved for a time by an operation, but never cured, they go their way. To operate in this class of neurotic patients, without demonstrable lesions, is a misapplication of surgery, and should not be done even for the so-called moral effect which, at best, is rarely more than a temporary impression.

The cultivation of ginseng is becoming a great industry in the United States. For a number of years the Agricultural Department of this country has, by circulars and otherwise, been urging the people to engage in the industry because of its large profits, until at the present time there are probably more than fifty growers in the country, and the industry has become quite a thriving one. This root is very hardy and grows in almost any climate. It is used extensively in China.—*Chicago Medical Recorder.*

PRURIGO (HEBRA) AS OBSERVED IN THE UNITED STATES.*

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The opinion is held by some that prurigo, as met with in Vienna, does not exist in this country. It is true that cases from time to time have been reported by Zeisler and others, who are familiar with the disease as it exists in Austria, and while there has been a *quassi* acceptance of these reports, yet they are looked on by many as unique. In England, previous to the International Dermatological Congress, which met in London in 1896, the prurigo of Hebra was unknown. At this congress cases were collected which it was thought corresponded in many ways to those observed in Vienna. These cases were examined by Kaposi and others, who confirmed the diagnosis of prurigo (Hebra), which established the fact that the disease was encountered in England, and to some of the American dermatologists present demonstrated that the prurigo as observed in the United States might likewise correspond to that observed in Vienna. The following cases may be of interest as typical examples of prurigo, as described by Hebra, which have come under my observation in Cleveland, and which correspond with cases seen in Austria, Germany and England:

Case 1.—G. Z., male, 6 years of age, was first seen at the dispensary of Lakeside Hospital July 22, 1900. The mother stated that the child was born in Cleveland, although she and her husband were natives of Germany. There were four other children in the family older than the patient. The family history was good. No previous illnesses, excepting varicella and pertussis when two or three years of age. The mother stated that the child was born at term, was well developed and enjoyed good health until the present disease began, which occurred during the first year of life. It was noticed that the baby was more "itchy" than had been the case with the other children, and when less than a year old was noticed to indulge in vigorous scratching. As the child developed it was noticed that the oft-repeated scratchings gave rise to a papular eruption. This continued and became gradually more marked as the child grew older.

Examination.—When the case came under observation the child was normally developed and intelligent. It was somewhat pale; the lungs and heart were normal, temperature was 98.5, respiration 30 and pulse 90; the urine was normal. The eruption was most marked on the extensor surfaces of the thighs, on the legs, arms and forearms, and to a less extent on the trunk. The butttocks were likewise involved, and during the cold weather the mother stated that these regions gave more annoyance than during the summer. The lesions consisted of whitish papules, some of which had excoriated apices, while others were topped with desiccated blood crusts. Other lesions, again, were pale red. On slight friction the papules became more prominent and extremely itchy. In other places excoriations, which were evidently the result of scratching, were observed. A few small pustules were present, although this was not a conspicuous feature, and was doubtless the result of inoculation of pus organisms in the process of scratching. Over the regions most involved the skin was slightly thickened and of a darker hue than was met with elsewhere, and a few small cicatrices were observed. The skin furrows over the knees were markedly thickened. This was observed to a less extent on the tips of the elbows. The skin appeared to be unusually dry, although the mother stated that she had not observed that the perspiration was greater or less than that observed in her other children. On reviewing the case, the lower extremities were more severely involved than the upper. Further, there was a marked contrast between the parts involved and the skin of the femoral triangle and the popliteal space, as well as on the anterior surface of the elbow, which seemed to be unusually white and thin.

Treatment.—Tonics internally with cod-liver oil, and local applications to relieve the itching, were given. Some improvement was noticed during the summer, and the patient passed out of sight. In January, 1901, the patient returned for treatment, with a condition which might easily be mistaken for eczema, although the same regions were involved, and on close inspection the same papular characteristics were observed. Under soothing applications, which consisted of carbolized boric acid ointment, which later was replaced by an ointment containing carbolic acid and white precipitate, the case again made marked improvement, but at no time did it wholly subside. The case has been seen once or twice since; the irregular attendance is accounted for by the discouraging progress of the disease.

Case 2.—R. R., female, aged 3 years, native of the United States, of English parentage, was seen for the first time Nov. 5, 1897. The patient has two brothers older and two younger than herself, in none of whom could a history of any cutaneous disease be found. Patient has always had good health, excepting that she has had varicella, rubeola and diphtheria. The mother stated that at the age of one and a half years the child complained of a very itchy skin, with the formation of small papules, which become excoriated with scratching and which never fully subsided. It was always better in the spring and summer months, but seemed aggravated by cold weather. The legs were the parts mainly involved. The extensor surfaces of the thighs and over the calves of the legs seemed to be especially selected, although the back and the extensor surface of the arms were likewise involved.

Examination.—When first seen the lesions consisted of pinhead-sized papules, some excoriated puncta, together with denuded areas, evidently the result of scratching, situated on a moderately thickened and slightly pigmented skin. In the popliteal space and the region of the groin the skin remained normal. On scratching, whitish papules which resembled urticaria appeared. These, the mother stated, had always been present to a greater or a less degree. This case was seen at very irregular intervals.

Treatment.—Local applications containing carbolic acid, salicylic acid and tar gave temporary relief, but at no time has the disease wholly disappeared. The opportunity of studying this case has been ample, and in my opinion the diagnosis of prurigo (Hebra) is warranted. The patient has appeared several times a year since, and no great change can be noticed excepting that the skin is somewhat thickened over the parts affected and is of a darker color. Year by year new cicatrices are added. Several methods of treatment have from time to time been resorted to. Internally, cod-liver oil, arsenic and iron, with the hope of increasing the general nutrition, has been followed, but without much apparent benefit. Local applications seem to give temporary relief, although at the same time the skin seems to become habituated to any local application if continued for a few months. On the whole, fatty substances have given more relief than aqueous solutions. As the normal secretions of the parts affected seemed to be diminished, liquid vaselin and carbolic acid ointment were selected and have given marked relief. Tar, resorcin and mercury have likewise been efficacious, although none of these measures seem to possess more than a temporary palliative effect. The disease is much worse in winter, although it does not wholly subside during the summer months.

Case 3.—W. F. W., male, aged 9 years, was seen for the first time Oct. 8, 1902. The disease came at the age of 5 years, and has always been worse in the spring and winter. It was situated more or less over the whole body, although the extensor surfaces of the thighs and legs and the skin of the buttocks were more markedly affected.

Examination.—The lesions consist of whitish or pinkish papules, which become more prominent when scratched, together with small excoriated areas. The arms, and to a less

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

extent the forearms, were from time to time affected in the same way. The skin in the areas involved has become slightly pigmented and perceptibly thickened. There seems to be a lessened activity of both the oil and sweat glands in the parts affected. While the skin appeared to the writer to be unusually harsh and dry, the patient stated that he sweats excessively in the axillæ and about the neck and face.

Treatment.—Tonics were given, together with cod-liver oil, internally, and carbolic acid, resorcin and vaselin were applied locally.

In conclusion, I believe the disease is more common than is generally believed. The disease is often masked by excoriations from scratching, which, together with the pustules, give rise to a dermatitis readily mistaken for eczema. The disease should not be confounded with the prurigo hiemalis of Duhring, which is a very common affection in the Great Lake region in winter. In both diseases, however, there seems to be a diminution in the sebaceous and sudoriferous secretions. Both conditions are of uncertain duration, and may last a lifetime. In both, internal medication seems to have no effect, while in my experience liquid vaselin, to which may be added carbolic acid, is the most universally beneficial application used in the treatment of both forms of the disease.

DISCUSSION.

DR. EDMUND L. COCKS, New York City—I remember a case shown in London in 1896, and I was very much chagrined that our eastern colleagues had something we could not produce in America. I have a patient whom from the early age of one month had urticaria. The lesions were characteristic, would come and go in spite of any treatment. The child, now 9 years of age, is still under my observation and the urticarial lesions have developed into the characteristic lesions of prurigo. He was presented two years ago to the Manhattan Dermatological Society and two of the members who had studied in Vienna agreed in the diagnosis. It is a typical case, I am sure. The flexors of the arms and the popliteal spaces have been free from the first. He has never been nearer Austria than New York; his parents are of Irish descent. During the winter the pruriginous lesions are fully developed, admitting of no mistake as to their character, but in summer the lesions do not come out to the same extent unless he scratches; then, of course, we have the papules covered with small blood clots. Constitutional treatment has benefited him considerably and the pruritis has been relieved by a naphthol liniment.

DR. A. RAVOGLI, Cincinnati—I was surprised to hear the statement made in London in 1896 that in the United States prurigo was not known at all or was exceedingly rare, when every year, between my private practice, hospital practice and clinical practice, I was seeing 10 to 15 cases of prurigo of different degrees of severity. I have cases of prurigo which were called by Hebra prurigo mitis as well as prurigo ferox. I find that pruriginous eczema, which is so difficult to cure, is maintained in children between 2 and 3 years of age, by the presence of prurigo, and the eczema is nothing else than the aggravation of the prurigo on account of the continuous scratching and the condition of the skin.

DR. H. W. STELWAGON, Philadelphia—Philadelphia does not seem to furnish any cases of prurigo. I think a large number of us have been students in Vienna, and if there was one disease about which, on my return, I thought I knew something and was able to make a diagnosis, it was prurigo. I have been looking, however, for the last twenty years for an American case of this disease, and I can truly say I have failed to find one in my native city. There are cases of chronic eczema which may have a resemblance to extremely mild cases of prurigo, but certainly not the ones shown daily in Vienna, where the clinical picture is unique, something that can not be readily confounded with other diseases.

DR. LUDWIG WEISS, New York City—In my service at the German Polyclinic in New York we usually have several cases of prurigo; they are not extremely rare. They are better in summer, when the skin is soft and moist, than in winter, when the skin is dry; the itching is always more pronounced in winter. In making a diagnosis I always try to conform with the diagnostic symptoms which Hebra pronounced papules under the skin, slightly protruding, perceptible more by touch than sight, itching, scratching off the summits, followed by a slight bleeding from the papules, and some coagulated blood as scab adherent to the top of the lesions. We have seen this in every case where we have diagnosed prurigo, and have been extremely careful to exclude papular eczema. There may be some similarity to eczema, but we have never seen such pronounced inguinal dermatitis attending it as in prurigo. In the Manhattan Dermatological Society we have seen such cases repeatedly. In old cases of prurigo we can, as Hebra used to say, in consequence of the resulting induration and pigmentation, almost read the history of the patients by their skins. As to treatment: Being a disease which itches a great deal, we have seen iodin produce good results, but I like the old treatment, the so-called tar baths, better. Brush oil of cade on the skin, then put the patient in the bath for one hour. He then washes himself off with green soap, and after drying talcum powder is applied. The next day Vleminckx' solution is applied, after which the patient bathes. The lime contained in the lotion will precipitate out and be visible on the top of each scratched lesion as a white powder. This treatment is used for a few days, until the skin peels, then talcum powder with menthol is dusted on. Under such treatment the symptoms are mostly arrested.

DR. L. DUNCAN BULKLEY, New York City—I recognize the prurigo of Hebra, having known it very well in Vienna, as Dr. Stelwagon said; but in this country we find relatively few of these cases. I think there is a medium line, perhaps, between what Dr. Stelwagon and Dr. Weiss have said as to its frequency. It certainly does occur in New York. We are seeing cases at the New York Dermatological Society every winter, where a dozen of us agree as to the diagnosis. Within two or three months a boy of 11 or 12 years was exhibited who has had it since infancy. He presented as perfect a picture of the disease as I used to see under the elder Hebra in Vienna, and every one of us absolutely agreed as to its being a case of prurigo Hebræ. He had enormous glands in his groin, and the flexors were entirely spared, behind the knees and at the elbows. On the other hand, I have had many cases shown me in the New York Skin and Cancer Hospital which some of my assistants have insisted were prurigo, but which were papular urticaria or other conditions. That prurigo of Hebra exists as an entity in New York I think every one of the dermatologic society members will verify. Although it is relatively rare, I may see in New York several cases each year.

DR. WILLIAM T. CORLETT—The lymphatic glands, in my experience, are not particularly involved. I do sometimes find secondary infection with a general adenopathy. More commonly there is a slight enlargement of the lymphatic glands in the regions thus involved.

A FALSE OR CICATRICIAL KELOID.*

A. RAVOGLI, M.D.
CINCINNATI.

The name of keloid was given by Alibert[1] to neoplasms made up of connective tissue in the form of patches, strips or tuberosities, having identity with cicatricial tissue. One kind of keloids is developed spontaneously in the derma, with which the keloids are intrinsically connected, while others take their seat on the cicatricial tissue. After they have attained certain proportions they may remain without change indefinitely,

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1. Alibert: Maladies de la Peau, Paris, 1810.

though in rare cases they may undergo involution and disappear.

Alibert himself divided the keloids into two varieties, one true or spontaneous, developed without perceptible injury of the skin, and another false or spurious, produced on cicatricial tissue as the result of a trauma, to which Kaposi[2] added a third one, the hypertrophic scar.

The difference between the two kinds of keloid was denied by Welander, Schütz[3] and other authors, but it must be maintained for the reason that between the two kinds there are differences of a clinical and histologic order.

We[4] have already had occasion to report a case of multiple spontaneous keloid, one of which had assumed such enormous proportions as nearly to surround the whole neck. In that case we were unable to find any previous wound or scar which could have been considered the starting point of the keloid. Moreover, in the same man there was a large scar on his forehead from a severe trauma, which was as smooth and regular as it could be. We agree, therefore, with Berliner[5] and Max Joseph[6] on the necessity of maintaining the difference of the keloids as true or spontaneous, and in false or of a cicatricial order. The spontaneous ones are tumors of obscure or at least unknown causation, developing in the depth of the skin, without any apparent previous scar, while the cicatricial keloids have their origin on the base of scars, which are the result of injuries of any kind, more often of cauterizations and burns.

Fig. 1.—Cicatricial keloid.

Both kinds of keloid, when they have attained a certain degree of development, remain unchanged for an indefinite time, show no tendency to involution, nor to any other degenerative process. They do not spread in metastatic forms, but when removed they are quickly reformed, assuming larger proportions. In the spontaneous keloid the relapse occurs in the form of a cicatricial keloid. In the cicatricial keloid, however, especially when produced on a burn, the relapse takes place with remarkable rapidity, but without any tendency to malignancy.

History.—The case to which I call your attention was in a colored man 38 years old, of an excellent physique, who had never suffered any disease, nor have we been able to detect signs of syphilis.

In an accident by fire he had his back badly burned, for which he did not have regular treatment, using only some vaselin to dress the wounds. The healing of the burned surface was slow, it having taken a few months to obtain complete cicatrization. As soon as the scar was formed a kind of tumor began to grow up, forming a hypertrophic growth, reaching the size and proportions shown in the illustration. While the cicatrix was taking on this hypertrophic development pain began to trouble the patient, which became much worse when the entire area was cicatrized.

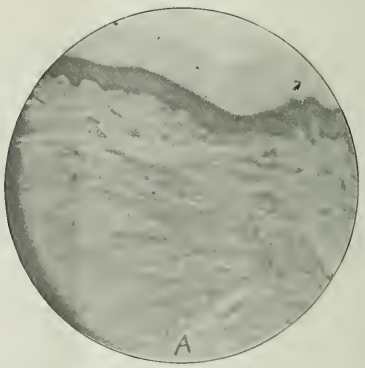

Fig. 2.

Examination.—Present examination reveals several brownish-white areas on the ears, neck, hands and arms, which are the result of small burns. On his left forearm, on the flexion surface, is a superficial whitish scar, the result of the same burn, which covers a round area wider than a silver dollar. It contains in the center a group of five keloids, dark brown, shiny, elevated above the cicatrix, of the size of beans.

The most important lesions are on the neck and shoulders, where the burns had been most extensive (Fig. 1). On the back of the neck is a long keloid surrounding horizontally the inferior part of the neck, elevated for more than a half a centimeter above the regular cicatrix darkly pigmented with round, thick edges. From there two elongated keloids five to six inches in length and three to four in width descend on the shoulders, intersecting both scapular regions. Dark brown in color, they have a polyhedral base seated on the scar, which, on the contrary, is thin, smooth, whitish and destitute of hair and pigment.

On the left side of the neck on a recent cicatrix is a group of keloids, five or six in number, the largest of the size of a cherry. Another keloid is seated under the left axilla on the lateral region of the chest. It is semilunar in shape, two inches in length and half an inch wide, dark brown in color, heavily pigmented, with round, thick edges, elevated above a thin and smooth scar.

The patient was suffering intense pains from the keloids on

2. Kaposi, M.: Lehrbuch der Hautkrankheiten.
3. Schütz, J.: Ein Fall von sogenannten, wahren Keloid combinirt mit Narbenkeloid, Arch. f. Derm. und Syph., vol. xxix, No. 1.
4. Ravogli, A.: Multiples Spontankeloid, Monatshefte f. prakt. Derm., vol. xxii, p. 624.
5. Berliner, C.: Ueber spontane und Narbenkeloid, Monatshefte f. prakt. Derm., vol. xxxiv, p. 321.
6. Joseph, Max.: Ueber Keloide, Arch. f. Derm. und Syph., vol. xlix, Ref. Derm. Zeitschr., vol. vii, p. 291.

the shoulders. The pains were sudden and spasmodic, jerking and contracting, so that they caused restlessness and the impossibility of sleeping.

A piece of keloid was removed for histologic examination, to which I will briefly refer. The body of the tumor is formed by hard fibers of collagenous tissue, arranged in a horizontal direction resembling waves (Fig. 2). In the cicatricial keloid the fibers result of a granular mass in opposition to the clean and neat fibers, which are found in the spontaneous keloid. In our cicatricial keloid the papillary layer shows no papillæ; it has been changed into a kind of granular connective tissue, in opposition to the spontaneous keloid, where the papillæ of the derma are well preserved, with little or no alterations. The stroma is made up of collagenous substance organized in thick connective bundles, entirely destitute of elastic fibers.

In our case of cicatricial keloid the epidermis appears to be much thicker and dense in the horny layer (Fig. 3). The Malpighi layer is also much thicker and is seen to be of large nucleated epidermic cells strongly pigmented and densely packed without any order. There are no epidermic projections, because there are no papillæ nor interpapillary spaces. The epidermic

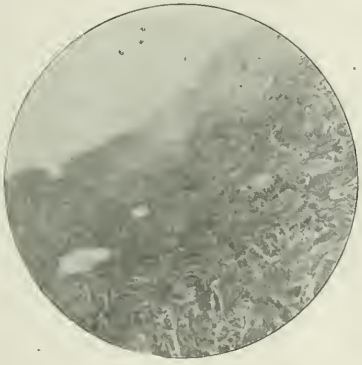

Fig. 3.

cells are large and thick and of the kind found in the stratum granulosum, directly implanted on the connective tissues forming the stroma of the cicatricial keloid.

The epidermis in general shows only traces of the openings of the follicles or of sweat glands, and they are plugged up with thick epidermis. The collagenous tissue which, in the form of thick bundles, forms the stroma of the tumor, is contained in sepiments which are the remnant of the cicatrix as shown by Max Joseph.[7] Between the sepiments in a horizontal direction lymphatic vessels and lymphatic spaces are very perceptible (Fig. 2, A), and on these are crowded thick concentric fibers of the connective tissue.

Some of these cells are greatly enlarged with large round nuclei (Fig. 4). The body of the cell is oval and is usually not well stained. These cells are in strict relation with the adventitia of the blood vessels, against which they are pressed and crowded.

Indeed, as is shown in Figure 5, the blood vessels are greatly increased in quantity, and can be followed in their ramifications in the whole structure of the tumor. They are, however, small and compressed in the midst of the mass of cells and of the thick connective bundles. The condition of the blood vessels varies somewhat according to the age of the keloid. In a recent keloid Crocker[8] found the blood vessels increased and dilated, surrounded by abundant cells. Unna[9] found that the branches or shears of a growing keloid contained enlarged blood vessels, running in a longitudinal direction, on which the bunches of collagenous fibers were densely crowded. The blood vessels are intimately connected with the growth of the keloid, which Unna considers to be a kind of perivascular tumor.

In old keloids (Fig. 6), however, the blood vessels, on account of the pressure of the cells and of the dense fibers, are compressed and reduced to strings, which can be scarcely recognized. In these tumors the cells can not be seen; they have been all changed into connective tissue fibers.

In our case, and with a larger power, elongated tumor cells are seen, and the nuclei so abundantly found in the structure of the keloid, appear to be corpuscles of the connective tissues, which have taken on an enormous development in number and size. The connective tissue corpuscles are more developed in the vicinity of the blood vessels. The specimens were stained with poly-

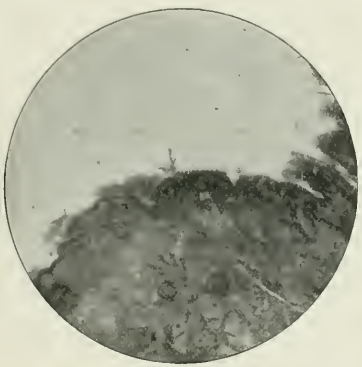

Fig. 4.

chromatin, Unna Tanzer, and some, washed in 1 per cent. solution of carbonate of potassium and decolorized with glycerin ether mixture, Grübler. With 1/8 power they showed a layer of large violet cells, which resembled a great deal the Unna plasma cells. The presence of the plasma cells in the cicatricial keloid was also found by Jadassohn.[10] He has seen plasma cells in nearly all cases of a chronic inflammatory process, but he never has found the same cells in cases of acute inflammation.

One of the important features in the structure of the cicatricial keloid is the nearly total absence of the elastic fibers. We have tried to show their presence by staining with orcein and then hydrochloric acid, with osmic acid and tannin, but we have failed to do so. In fact, Schütz[11] is of the opinion that in the keloid the elastic fibers either are lost on account of the pressure of the

7. Joseph, Max: Ueber Keloide mit mikroscopischen Demonstrationen, Berliner derm. Gesellschaft, Jan. 10, 1899.

8. Crocker, R.: Die Anatomie des Keloids in einem früheren Stadium, Brit. Med. Jour., 1886, quoted by Unna.

9. Unna, P. G.: Die Histopathologie der Hautkrankheiten, 1894, p. 844.

10. Jadassohn: Archiv f. Derm. und Syphilis, Supplementary No. 1, 1892. Ref. Monatshefte für prakt. Derm., vol. xv, 1892, p. 79.

11. Schütz: Quoted by Max Joseph, Berliner derm. Gesellschaft, Ref. Derm. Zeitschr., 1899, p. 219.

connective tissues, or they are subject to peculiar chemical degenerations, and in consequence can not be stained. Joseph, with the use of stains of Unna for elastin and elacin which consist of wasserblau and safranin, was unable to find the presence of the elacin, and concluded that the elastic fibers are entirely destroyed. In our specimens we can see a few thin elastic fibers toward the cicatricial tissues. The elastic fibers are of the greatest importance for the functions of the derma. H. Müller[12] was the first to recognize the relationship between the connective tissue fibers and the elastic fibers in the intercellular substance. Kuskow[13] after a while tried to prove that the elastic fibers in their development are in strict relation with the nuclei of the cells. Blaschko[14] had already described a fine superficial net of elastic fibers which is directly under the rete Malpighi. Unna[15] connected all those discoveries and stated that fasciæ, cutaneous muscles and subepithelial net are the three points of insertion for the whole system of the elastic fibers of the skin. The elastic fibers have important functions to perform; they maintain the skin in its normal position, and when the skin is stretched bring it back to its normal condition. The elastic fibers in the pars papillaris are much stronger; they form a peculiar network, from which fine elastic fibers, as proved by Unna, extend to the rete Malpighi. They maintain the papillæ in their normal order and bring them back when they have been disturbed.

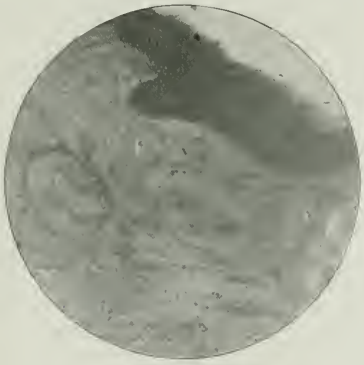

Fig. 5.

Fig. 6.

To all this we should add another function, which is to maintain the connective tissues in their normal position, and to limit their growth. In fact, Iwanow[16] has recently examined histologically the white atrophic cicatricial spots around the follicles of the skin in individuals suffering with acne. He has found that the alterations mostly consisted in the disappearance of the elastic fibers of the corium which normally surround the sebaceous glands and the hair follicles, as a result of the chronic inflammation of the glands. To this destruction of the elastic fibers he refers the frequency of the white spots and of the multiple keloids which have their origin in the acne cicatrix. With his observations he renders much more plausible the opinion of Goldman, that the white spots are the forerunners of the keloid, and that the keloid is the result of the disappearance of the elastic fibers.

According to our observations, we can say that the growth of the connective tissues is greatly increased by the loss of the elastic fibers. It seems that the office of these fibers is that of maintaining the connective tissues up to a certain degree of development. The elastic fibers, when destroyed, are never formed again.

In the structure of the keloid all traces of glands, hair follicles, cutaneous muscles are lacking.

ETIOLOGY.

From the above-referred observations it clearly appears that the destruction or the degeneration of the elastic fibers is the predisposing factor for the production of the keloid. As a determining cause, many have thought of a peculiar infectious pathogenic cause. Balzer and Leroy[17] showed a case of a large keloid of the presternal region of twelve years standing, which had its origin in a small wound made with a penknife. On the same occasion Darier expressed his opinion that the cause of the keloid ought to be found in a local infection. Hallopeau, however, found that the keloid was an affection of embryonal origin. The idea of a local infection in the keloid is also shown by Marics and Fournier,[18] who deny the special predisposition, maintaining, however, an inclination to keloids of the skin of the negroes.

Indeed, the statement of Unna, that all true keloids must have had their origin from a scratch or from a patch of seborrheic eczema, would tend to strengthen the possible infectious origin. Joseph referred to a case of a keloid developed on a small wound caused by a piece of glass. Ehlers[19] showed to the Danish Dermatological Society a boy six years old with five keloids, each one on a vaccination scar. An identical case of keloids developed on the cicatrix of the vaccination was shown by Besnier, and has been made in maulage, which is kept in the museum of the hospital, St. Louis.

L. Nielsen is of the opinion that keloid has its origin in a local infection, and relapses after its removal occur

12. Müller, H.: Bau der Molen. Verhand. d. phys. Med. Gesellsh. in Würzburg, 1860, x, p. 132; quoted by Ludwig Zenthoefer, Topographie des elastischen Gewebes, 1892, Derm. Studien von Dr. P. G. Unna.

13. Kuskow: Archiv. f. micr. Anat., xxx, 1887.

14. Blaschko: Monatshefte f. prakt. Derm., v, 1886.

15. Unna, P. G.: Monatshefte f. prakt. Derm., Supplementary No. 1, 1887.

16. Iwanow, W.: Russ. Jour. f. Haut und Ven. Krank., No. 4, 1903; Ref. Derm. Zeitsh., 1904, No. 2, p. 113.

17. Balzer and Leroy: Societé de Derm. und Syphil., June 9, 1898; Ref. Derm. Zeitschr., vol. v, p. 834.

18. Fournier: Journal des Malad. Cut. et Syph., November, 1898, No. 11, p. 671.

19. Ehlers: Dan. Dermat. Gesellschaft, Sitz, May 3, 1899; Ref. Derm. Zeitschr, vol. vi, p. 755.

on account of a focus of infection remaining in the surrounding tissues.

Thiebierge[20] also favored the microbic origin of the keloid. The same views are entertained by Leredde,[21] who believes that in the acne pustules, which have given origin to the keloidal tumor, there were probably parasites capable of producing the hypertrophy of the tissues.

In our studies with the keloids we have never met with any form which suggested to us the idea of a microbic origin. We are rather inclined to maintain that the lack of the elastic fibers is of great enough importance to explain the abnormal development of the connective tissues. If the keloid is developed on a cicatrix, it is for the simple reason that in the cicatrix the elastic fibers have been destroyed, or have undergone degeneration.

TREATMENT.

Nearly every one who has removed keloids has had the disappointment of seeing, sooner or later, the relapse of the tumor. In consequence, the keloid has been referred to the class of those affections called by the ancients noli me tangere.

Leredde, however, on the authority of Darier, Tillaux, Sabourand and others, maintains that a keloid can be removed and relapse will not follow, if it is completely removed and healed up by first intention. But anyhow he advises not to take the chances if the keloid, in case of relapse, should produce more grave deformity.

In our case, on account of the locality and of the extension of the keloids, no surgical operation could find any indication. The patient was suffering excruciating pains, and so we have resorted to simple medication. A salve containing

R. Resorcin 3ss
Acid. salicyl. ..... gr. xx
Ol. olivæ q. s.
Lanolin ..... ℥i

spread on muslin, was applied. This afforded for the first three weeks great relief, but after awhile the keloids began to get inflamed, the epidermis to excoriate and ooze some serum, so that it was necessary to discontinue its use. Then we began to dust the surface with boracic acid, 5 parts in 100 parts of starch powder. Under these applications the irritation subsided, the epidermis was formed again and the pains and the tenderness entirely disappeared. It seems that the keloids of the neck and shoulders had undergone a process of regressive metamorphosis, as they were reduced by more than one-third of their former size.

Dr. Evans, on taking charge of the service, began to treat the case with the *x*-rays, which were applied for a few minutes two or three times per week. The result has been rather satisfactory, the keloid tumors have become much harder to the touch, they have reached nearly the level of the skin, and the pains and the tenderness have entirely left.

DISCUSSION.

DR. W. S. GOTTHEIL, New York City—I agree with Dr. Ravogli's paper thoroughly save in one particular. I rather hold with those who believe that every case of keloid is cicatricial in its origin, and that there is no such thing as spontaneous keloid. The facts that the so-called idiopathic keloid occurs almost always on the back or sternum, where acne and similar lesions are frequent, or on the face, hands or arms, which are especially exposed to traumatisms, is a strong point in favor of this view. The very smallest lesion may be the starting point of a large, new growth. I have failed also to find any microscopic differences between the two varieties. It has been advised to treat keloid in the same way as a malignant new growth, and to make a wide excision. Good results have been claimed, but I have not seen any; all the cases that I have operated on have relapsed. Actinotherapy has given no results at all in my hands. On the whole, I do not think that we have made any progress in the treatment of the affection and I think that the best service that we can do for most of these patients is to persuade them to leave their keloids alone.

DR. D. W. MONTGOMERY, San Francisco—I had a case of spontaneous keloid in a negro. It was quite symmetrical on the shoulders, back and chest. I took out one of the keloids and found the papillæ obliterated, just as in true keloid. I instituted some treatment which did not do any good, but the microscopic picture was the same as in so-called true keloid.

DR. J. F. WALLIS, Philadelphia—Speaking of vaccination, when associated by the Bureau of Health of Philadelphia, I frequently noticed healing delayed in vaccination, sometimes for months, and instead of the natural cicatrix we would find a soft, jelly-like substance in the tissue remaining livid in color for a considerable time and often breaking down on the slightest pressure or irritation. These cases eventually recovered, but with the scar livid and prominent. I have wondered whether tuberculosis was responsible for this peculiar condition inasmuch as all cases gave a tubercular history.

DR. H. C. BAUM, Syracuse, N. Y.—I remember one early case, a large keloid growth occurring on the sear of lupus vulgaris. Hans von Hebra recommended thiosinamin injections for recent keloids. In this particular case a keloid had also developed on the back of the neck, where the patient had burned herself with a curling-iron and recovery was followed by a large olive-shaped keloidal tumor. Thiosinamin injections flattened down the old keloid on the lupus cicatrix, but did not remove them. It did remove the recent keloid, which rather confirmed Hans von Hebra's employment of it. I felt quite fortified then for handling keloid, for if the injections controlled recent keloids, they should prevent recurrence after removal. Another case came to me with a typical keloid over the sternum, which I excised, following that with thiosinamin injections, the value of which ought to be proven there. The result was that not only the original keloid returned, but a keloid tumor at the site of each puncture of the needle.

DR. MORTIMER A. MOSES, New York City—There is one point in the etiology of keloid that I have not heard mentioned, that is the production of keloid on previous lesions. I saw one case of keloid developed on the site of a maculopapular syphilitic eruption in a young woman. I do not think that the differences between the so-called true and false keloid are sufficiently marked to enable one to differentiate between the two from the histologic picture. In fact, I think that they are one and the same disease, only that in the "true" keloid the traumatism has not been evident. In regard to treatment, I have seen two cases benefited by the use of thiosinamin injections, and Pernet of London has suggested using a 15 per cent solution, but instead of dissolving it in alcohol, using a mixture of equal parts of glycerin and water. This gives less pain than an alcoholic solution.

DR. M. L. HEIDINGSFELD, Cincinnati—My histologic experience leads me to concur with Drs. Gottheil and Moses, that a differential diagnosis between false and true keloid can not be made. I am loath to believe that the disappearance of elastic fibers is of any etiologic significance. Their absence is due to pressure atrophy, the same as we find in many infiltrating forms of cutaneous new growths, and is an effect and not a cause. The mere absence of elastic fibers does not produce keloid, as is abundantly evidenced by lines of pregnancy, stria atrophica and similar lesions, where there is a complete absence of elastic fibers, and the lesions are atrophic and distinctly depressed.

DR. A. RAVOGLI—Joseph first maintained that false and true keloid are the same thing, then later he found that it is a necessity for the pathology and for the treatment to maintain a difference between the two keloids. I find that in true keloids

20. Thiebierge, G.: Maladies de la Peau, Paris, 1895.
21. Leredde: Revue Pratique des Mal. Cutan. Syphil. and Vener., March, 1904, p. 77.

it is sometimes very difficult to find the first scar which has produced a keloid. However, when we see a keloid on a cicatrix we call it a cicatricial keloid, which, on account of the infiltration and of the running of the keloid, shows some differences in its histopathologic structure. I think the maintenance of a distinction between cicatricial and spontaneus keloid is interesting and useful for the pathology and for history of this disease. As to thiosinamin, I note that Hebra used it a great deal, but at present it has been nearly abandoned. Recently Peré resorted to interstitial injections of 5 per cent. solution of creosotal in order to produce reabsorption of the tumor, but the results have been rather poor, and instead of seeing a diminution of the keloid they have seen it take larger proportions. I can not state what the relation is between tuberculosis and keloid. In the cases I have had occasion to observe I have found the patients in good physical condition, with no signs of tuberculosis. It may be that some cases have shown tuberculosis, but I think that is more of a coincidence than anything to do with the existence of a keloid. So I can say also with syphilis. I see a great deal of syphilis, but very rarely have I seen a case of keloid come on a syphilitic lesion. In regard to the elastic fibers, I believe they are lost only in those affections where we have a great deal of hypertrophy of the collagenous tissues, for instance, we often find in fibroma of the skin that very little elastic fibers remain. I believe the lack of elastic fibers is the secret of the formation of the keloid.

A COMPARISON OF PHOTOTHERAPY, RADIOTHERAPY AND HIGH-FREQUENCY THERAPY IN SKIN DISEASES.*

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NEW YORK CITY.

Unlike the lawyer who, in the preparation of his brief, has his precedents behind him, the physician who attempts to write on treatment by light and rays and the newer electrical currents of the day has most of his precedents ahead of him. What to-morrow can bring forth no man may know. What the near past has revealed to us is sufficient to cause us to pause in wonderment and admiration. Were not my task sufficiently arduous in attempting to compare methods between which there often seems to be so little comparison, I would gladly dwell on the marvelous things which each method has accomplished in its own peculiar sphere. What the Röntgen ray is capable of in a therapeutic way takes it out of the realm of doubtful test. It can no longer be said to be an unknown quantity. Since, too, the position of the ray in the spectrum has been pretty well determined, its original designation, modestly given, should be dropped. The quantity of its position and power is no longer unknown. Let us consider it as the Röntgen ray.

Each of the three modes of treatment mentioned in the title has its own peculiar field of utility. Each has its more or less distinct limitations, and each is susceptible of enhancing the value of the other when judiciously combined, or employed in succession. The statement so often made that in light treatment we are dealing with a known quantity, while with the ray we have an unknown quantity of uncertain action, is not so forcible an argument as it was a short while ago. With the advances in ways of measuring the dose, the dangers of undesired deep effects and sloughing from Röntgen rays have been practically done away with.

It may be said that in each separate application of the light treatment a "burn" results. By this term we mean the pronounced reaction without which little therapeutic result is secured. With the ray serious skin lesions can be destroyed without the slightest redness from the ray ever showing on the skin. In destroying neoplastic growths by means of the high-frequency spark a reaction occurs, too, if prompt and pronounced results are anticipated. It is, perhaps, as much entitled to the designation "burn" as is the ray effect of similar degree, though naturally much more circumscribed as a rule. In a general way, it may be said that arc-light therapy is limited to a few skin diseases, and that for certain countries where lupus is not common the limitations are very restricted. If my opinion should be based on my personal experience alone, I should unhesitatingly say that the ray would accomplish for lupus all that the light would, and this, too, more expeditiously.

It must be remembered that nowhere outside of Copenhagen, and perhaps London and a few other places, is the method carried out in all its details in a way to warrant anyone drawing comparisons. Nor must the results obtained from small modifications of the original apparatus be taken as a basis of judgment.

The ray is capable of intensifying the actinic reaction, and the high-frequency current hastens the *restitutio ad integrum* when the ray has produced too severe reaction.

On mucous membranes the ray has a decided advantage over the light.

COMPARISON OF THE TWO METHODS.

In making a study of the relative merits of radiotherapy and phototherapy it seems at the present time necessary to consider only a few diseases as they are influenced by the Röntgen ray and by the actinic rays, as applied by Finsen and his followers.

First, we must appreciate the wider range of usefulness of the Röntgen ray, which is not restricted wholly to surface influence, as seems to be the case with the ultraviolet light. To be sure, the results have so far not been brilliant in many internal or deep-seated affections, but that the *x*-ray produces a pronounced action on deeper tissues can not be doubted.

In the treatment of lupus much stands in the way of definite conclusion at the present time concerning the relative merits of *x*-ray and actinic light. There is the personal equation, with individual preference, greater experience and greater skill with the one than with the other. Phototherapy has been perhaps more profoundly studied, and more cases have been treated to a point of cure.

That the Röntgen ray has a great influence on lupus tissue there can be no doubt. Many have been cured. The proportion of failures, so far, has been greater than in the other method. We must remember, however, that the greatest success has been achieved by the originator in Copenhagen. If we compare lupus treated by the two methods the world over, the difference in end-results is not so marked.

The chemical light penetrates deeply, homogeneously, and pains less; herein lies its advantages over older methods, granting that end-results are equal. In point of time, this method has the advantage over the older when we calculate the period over which the others, exclusive of ablation, must extend.

A careful computation of statistics points to phototherapy as the method offering the largest percentage of actual cures.

The advantages of the *x*-ray as compared with the actinic method in the treatment of lupus are that (1)

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

we can treat larger areas; (2) it is much more effective in ulcerating lesions; (3) we can treat lesions of the mucous membranes; (4) the treatment is much shorter in duration.

The *x*-ray is more uncertain; the dosage is not so well established or controlled; the limitations are not so well mapped out, and harm can more readily be done.

Reports, although numerous, represent too large a proportion of cases which have "improved." Naturally, we can consider only those discharged or reported by competent observers as clinically cured. In this country, at least, where lupus is rare, and presumably in others as well, statistics must be based on the competency of the observer from the diagnostic side. Reports have been made of lupus treated by these methods which were not lupus at all, but syphilis or something else.

There is one feature of radiotherapy to make it of decided advantage, and that is entire absence of pain or discomfort, and the much-restricted number of applications required.

Among other advantages of the Finsen method are that it is not very dangerous to the operator, while the *x*-ray has been known to produce serious results. While the actinic is the more tedious treatment, it has the advantage that it can be carried out by trained or semi-skilled persons—nurses, etc. This is not so practical with the *x*-ray, which should be under the direct supervision of the physician.

In epithelioma, curettage should be employed coincidentally with either of these methods.

The actinic ray reaction is apt to come on, if at all, in from four to five hours, and the resulting slight dermatitis, resembling that produced by the sun's rays, is usually readily controlled by some simple application.

The dermatitis following the *x*-ray comes on only after some days, or even weeks, and the extent and ultimate results are very uncertain. The reaction, when severe, is not controlled by ordinary methods of treatment.

The actinic treatment is less likely to produce burn than the *x*-rays.

The resulting cicatrix after phototherapy is softer, whiter, and generally better, as a rule, though most excellent scars often follow radiotherapy.

The effect of the chemical rays is very irritating on the conjunctiva and the retina, while the *x*-rays exert very little effect.

The use of amber-colored and red-colored glasses and the use of dark red shades at the windows will lessen the irritation in case of inflamed eyes. Blue glasses, however dark, are found unsuccessful.

Leredde and Pautrier[1] make a comparison of the results obtained by phototherapy in lupus vulgaris and lupus erythematosus with those following other methods of treatment. They conclude that phototherapy is the one method which gives the best results in tuberculous lupus, giving deepest action, although radiotherapy may in the future be found just as useful. While a cure can not always be promised, the number of failures is small. In lupus erythematosus this method of treatment is superior to all others, although the results are much less constant than in tuberculous lupus. It is necessary to produce complete sclerosis, and the phototherapy should be continued until a cicatrix is formed. The indications and contraindications for the employment of this method of treatment are as follows: It is indicated in every case of tuberculous lupus which has resisted other methods of treatment. The results are uncertain in cases with much thickening of the tissues and in those in which a deep sclerosis has been produced by other treatment. In vegetating lupus the volume of the tissues should first be reduced by scarification or caustics. In elephantiasic lupus this method of treatment generally fails. It is contraindicated in recent lupus, which can be cured by ablation with union by first intention; and in lupus of the trunk and extremities, which can be cured more rapidly by other methods. In tuberculosis of the extremities it is likewise inapplicable because the hyperkeratosis and acanthosis prevent the penetration of the chemical rays. In lupus erythematosus it is contraindicated in the superficial wandering forms curable by other methods. It can be applied only in those cases in which the disease reappears in the same places, and in which other methods have failed. In the fixed forms, with or without a tendency to atrophic regression, it may be employed after the failure of other remedies. Every case ought to be treated energetically from the beginning, since the longer it lasts the deeper and more rebellious it becomes. In those cases which have resisted phototherapy, properly carried out, radiotherapy or radioactinic therapy may be tried.

In skin diseases in general the field of usefulness for *x*-rays is much broader than for Finsen's method. Here the lesions must be few and localized, while the ray can be so applied as to take in extensive surfaces, or the entire body, as in mycosis fungoides.

LUPUS.

In two cases of lupus with marked ulceration treated by Morris,[2] Finsen's method was found useless, but in both the ulcers healed rapidly under *x*-rays. When the mucous membranes are involved the *x*-ray gives good results. That of the nose is attacked with difficulty by the ultraviolet rays, but very easily with the *x*-rays. Many cases of lupus under treatment by either method improve up to a certain point, but stop short of a complete cure, so that whichever is used it must be supplemented by some of the older methods.

Scholtz, who has had a very extensive experience, covering a number of years, with the *x*-rays in all varieties of lupus, in his report of 55 cases claims to have brought about a complete cure in the majority in a very few months, with very satisfactory cosmetic effects. This seems to compare very favorably with the actinic method, which requires a much longer time, with much more inconvenience to the patient as regards the comparative length and frequency of exposures.

Freund says much the same length of time is required in the two methods; the resulting scar is equally good. He advises raying large surfaces and applying actinotherapy to remaining foci.

Heidingsfeld[3] speaks of three cases in which the ray had failed, but under the London Hospital or Sequeira lamp the nodules disappeared.

Harrison and Wills[4] found that, while two out of three lupus erythematosus patients improved under actinotherapy, they made more rapid progress under the *x*-rays.

Sequeira, of the London Hospital, believes from a trial of both methods that the actinic gave better results. Out of 154 cases treated by the latter, 42 were successful.

Leredde and Pautrier report on 40 cases. Of these, 37

1. Annales de Dermat. et de Syph., 1902, No. 8.

2. Practitioner, April, 1903.
3. Cincinnati Lancet-Clinic, 1903, vol. lxxxix.
4. Bristol Medico-Chirurgical Journal, 1903, vol. xxi.

remained under treatment sufficiently long for conclusions to be drawn; 8 were cured, 7 nearly cured, in 10 definite areas were cured, and final cure was seemingly sure from actinotherapy.

At first it was believed that the beneficial action of the chemical light in lupus was mainly due to the direct destruction of the tubercle bacilli by this light, and that the light reaction was only of minor consideration.

But careful investigation seems to show that the destruction of the tubercle bacilli is mainly due to the reactive inflammation of the tissues, the increased blood flow, or to the eventual chemical changes taking place, and not to the direct action of the light.

Nagelschmidt believes that the destruction or weakening of the tubercle bacilli through the direct action of light is the first result, and that only after this is accomplished the light reaction becomes an issue by facilitating absorption and assisting in the regeneration of the tissues.

For the most successful results it is necessary that the patch should be dry, and the lens be pressed hard against it.

If, by the use of the *x*-rays or with the aid of applications of various medicines, an ulcerating lupus can be dried up, then treatment can be continued with the actinic light.

From November, 1895, to January, 1902 (seven years), 804 cases were treated in the Finsen Institute; 412 were cured, of which number 124 showed no recurrence in from two to six years, and of which 288 had been free from recurrence for a period of less than two years. Of the remainder, 192 were nearly cured and 117 remained under treatment. In 67 the treatment was interrupted by death, illness or other cause, leaving 737 for study. Of these the result was favorable in 695, unfavorable in 42, or 6 per cent., against 94 per cent. of good results. At the St. Louis Hospital in Paris Gastou-Baudouin and Chatin[5] report 30 cases, with 7 failures, 12 partial cures and 11 complete cures. Leredde and Pautrier[6] give 43 cases, 8 of which were cured, 7 almost cured, with 28 still under treatment. In a recent visit to Paris I had the privilege of seeing the work being done by Gastou and Leredde, among others. At the Broca Hospital I found my friend Professor Brocq operating by the well-known methods of ante-Finsen days on a number of lupus patients in whom the light had been successful up to a certain point, but beyond which it seemed incapable of producing further benefit.

Such instances illustrate the point on which I have previously dwelt in former publications, that these methods are not to be relied on exclusively, but must often be fortified by other measures.

Malcolm Morris reports on 65 cases, 11 of which were cured, no relapse taking place in from six months to two years. In 15 cases slight remnants have remained or relapses have occurred; 15 are still under treatment. All patients remaining sufficiently long under treatment were improved.

Forchhammer found that out of 456 patients treated, 130 showed no recurrence during an observation of from one to five years. These are undoubtedly included in the larger statistics of Finsen.

Harrison and Wills report on 42 cases being treated by the Lortet-Genoud lamp. Almost all were improving at the time of report.

In the London Hospital 398 patients have been treated, with 149 discharged as cured, up to 1903.

5. Annales de Dermat. et de Syph., April, 1902.
6. Phototherapie, Paris, 1903.

At the St. Louis Hospital in Paris, up to May, 1903, when I visited the laboratory of Professor Gastou, 250 patients had been treated, and about 100 were reported as cured.

In lupus erythematosus the *x*-ray gives at least as good results as phototherapy. Compared with high frequency and radium therapy, too few data are available, but excellent reports have been made on the high frequency.

As between phototherapy and radiotherapy, on the one hand, and older methods (application of iodin, pyrogallol, caustic potash, strong carbolic acid, chlorid of zinc, scarification, galvanocautery), on the other, the newer methods have the decided advantage.

ALOPECIA AREATA.

Here the time element must not be ignored in forming final conclusions. The well-known tendency for many patients to make spontaneous recovery should not confuse the observation.

When a recent case responds promptly to chemical light we may credit the method with the result.

The conditions of control have been complied with in a number of instances, including Finsen's own cases (49, with 30 cures). Sabouraud believes, and we must lean to his way of thinking, that the irritation produces the equivalent of that we aim at in our older methods. In my own practice I have experienced little difficulty in the non-universal cases in securing renewed hair growth within comparatively short time-limits with pure carbolic applications at long intervals (three or four treatments in six or eight weeks). This is surely much simpler, more time-saving and inexpensive.

Localized chronic plaques which resist this and similar measures will sometimes give way under chemical light or *x*-raying. Comparing the latter, it would seem that more patients have so far recovered under radiotherapy.

EPITHELIOMA.

Here the *x*-ray is unquestionably superior, though the arc lamp will cure lesions of the cancroid and rodent-ulcer type.

When we compare the number of patients treated for lupus by actinotherapy with those treated for epithelioma, the reports so far available seem insignificant as compared with those reported on from radiotherapy.

Among the reported results are Forchhammer's 24 cases from the Finsen Institute, with 11 cures; Sequeira's 3 successful cases; Burgdorff's 8 cases, with 3 reported cured and 4 improved. My personal experience with exclusive actinotherapy in cancer has been slight. In several instances actinic rays have been tried for a time, but given up in favor of the *x*-ray, whose effects seemed more prompt and satisfactory.

Malcolm Morris reports 27 cases of rodent ulcer in which the *x*-rays were also employed. In 13 there were favorable results, but it is difficult to assign to actinotherapy its exact share in the cures.

Sjögren had 10 cases of rodent ulcer, with 5 cures.

In carcinoma Finsen's statistics show 17 patients, with 8 good and 2 fair results.

SYCOSIS.

While ultra-violet rays have been tried with some success, as in long-standing sycosis of the upper lip (Leredde, 2 cases), the method falls far short of the brilliant results following radiotherapy.

HIGH FREQUENCY CURRENTS.

As a result of a close clinical study of over 250 skin affections treated in my office by high-frequency currents,

the following conclusions can be drawn: (1) I am convinced that in a comparatively large number of dermatologic affections the local action of high-frequency currents aids in their cure. (2) In a limited number of patients in whom nutrition is at fault, D'Arsonvalization or autocondensation helps to bring about a prompter removal of local lesions. (3) In parasitic affections, while it has an influence, I have not been able to convince myself that the results are prompter or better than in older methods. (4) That the broadest field of usefulness is in the markedly pruriginous affections, and in those intimately connected with the nervous system and associated with pain. (5) An important, and, as I believe, a growing sphere, is that filled by the high-frequency spark in the almost painless destruction of the small neoplasms, including nevi, moles, warts, tumors and malignant growths, as well as in lupus and lupus erythematosus. (6) Compared with the Röntgen ray, skin affections as a whole are less benefited by these currents; but the two methods often enhance each other's influence.

Basing general conclusions on nearly 450 personal cases, beside the 250 mentioned as having been subjected to high-frequency currents, I think the following statement may be made:

CONCLUSIONS.

1. In the vast majority of cutaneous affections the Röntgen ray is of greater utility than either the actinic or high-frequency methods.

2. In lupus the Finsen method, though tedious and disagreeable, is efficacious. The combined ray and high-frequency spark may prove to be equally good.

3. The actinic method is less beneficial in cancer than the Röntgen ray.

4. The high-frequency method is exact, no more disagreeable than the actinic, and for small lesions of epithelioma, lupus, lupus erythematosus and many skin diseases gives quicker and better results.

5. All three can be advantageously combined for the different stages and phases of a large class of affections.

30 East Thirty-third Street.

DISCUSSION.

DR. W. T. CORLETT, Cleveland—A little over a year ago I visited some of the dermatologic centers of Europe, starting with Copenhagen, where, through the courtesy of Professor Finsen, I had the opportunity of studying the light treatment and of becoming familiar with the Medicinske Lysinstitut. I remained there eight days, which enabled me to observe some of the results of his treatment. Some of my conclusions on leaving Copenhagen were that in lupus erythematosus the Finsen light was superior to the Roentgen ray, and gave better results in a greater number of cases; in fact, I thought it the best method I had seen. The second disease, which was especially well treated, was vascular nevus. In two cases of this disease observed, one was practically cured, and the other, which was still under treatment, about half of the area having been gone over showed better results than I had seen by any other method. Through Germany to Vienna I saw the Finsen light used in almost all the hospitals, and very badly used in most of them, especially where nurses were subsidized to apply the treatment. Finsen is very particular that the light is accurately focused on the area to be operated on. One of the most interesting experiences in this connection was Lang's clinic in Vienna, where three methods were employed in treating lupus vulgaris: first, came a group of cases under treatment with the Roentgen ray, another group treated with the Finsen light, and the third class of cases under the older surgical procedures. Every Friday the progress made in these cases was compared. No definite conclusions had been arrived at as to the advantage of one or the other form of treatment. In Paris one hears of many improvements in the Finsen light, but the results I saw were not good, and the so-called improvements in the appliances were, in my opinion, inferior to those used in Copenhagen. In London, where, next to Copenhagen, the light is best given, I saw many of these modifications of the Finsen light apparatus relegated to the garret, where they were dust-covered and unused. Briefly, the impression gained after months of careful study and comparison was that the most efficacious rays were those found in the the Finsen light as originally given out, and that the instruments made in Copenhagen, although inferior in mechanical construction, are the best procurable at present. Moreover, I believe of the two methods the Roentgen ray has the larger field of usefulness. As regards mucosus fungoides and its treatment, in Vienna I saw one-half of the body exposed to the Roentgen ray, with complete subsidence of the disease on one side, the unexposed side being unaffected. I have used the *x*-ray in one case of mucosus fungoides now under treatment at Lakeside Hospital, with apparently good results, so far as the individual lesions are concerned.

I would like to ask Dr. Allen if he has actually found the high-frequency current beneficial in *x*-ray burns. How long, in the case referred to, was the *x*-ray burn in healing? Some of us, I know, have had experience with *x*-ray burns that have lasted almost indefinitely. We have all seen cases of syphilis treated with the Roentgen ray, and other most ridiculous mistakes are constantly being made.

I have used the high-frequency current for about two years in lupus erythematosus, at first with some improvement in the cases thus treated, but, as I previously stated, the disease goes away of its own accord, at least in all of the cases thus treated the disease has promptly returned. In alopecia areata I have used it as a counter irritant. In acne I have used it in the same way, as a stimulant, and some cases seem to get well, but any other stimulant might act equally well. In pruritus it has failed to allay the itching.

DR. W. S. GOTTHEIL, New York City—I would emphasize the absolute harmlessness of the Finsen method: I have never seen it do any damage to the patient or to the operator, and I have employed it extensively. There is no doubt at all that the concentrated light of an effective are not only penetrates the tissues, but can be made to traverse the entire body. I published the results of my experiments in the *Medical Record* last year. I must protest, however, against the results published by operators using small and inefficient light sources. Power (amperage) is required for penetration and therapeutic effect. Arcs running on less than 40 amperes are useless; I employ 50 to 60, and Finsen and his collaborators now use 100 ampere arcs. No satisfactory results can be gotten on arcs of 10 or 15 amperes, and the machines using incandescent bulbs, no matter of what candle power or in what combination, have next to no actinic power at all, and are merely diaphoretic agents. Actinotherapy has a place in cutaneous therapy, but results or non-results claimed to be obtained by measures that are manifestly useless should not be credited to the actinotherapeutic method.

DR. M. B. HARTZELL, Philadelphia—We formerly heard a good deal about the necessity of accuracy of dosage, but in the use of this remedy, as in others, it is not so much the size of the dose as the effect produced. We all know how much remedies differ in effect on various individuals, so with this; in one individual you obtain a decided effect after a few exposures, in another almost no effect after a great many exposures. While it is necessary to be careful that we do no harm we must employ the remedy for a certain effect, not to give a certain dosage. There is no doubt that in this remedy, as in all others, accuracy in dosage is desirable. The remedy is being employed in every sort of disease; every kind of disease is being reported as cured; for example, I may refer to alopecia areata. We all know how promptly the hair will sometimes fall out after the employment of this remedy, and it seems curious that we should employ the same remedy to promote the growth of the hair. I have doubts as to whether this remedy should be tried in a case of alopecia. Ordinary alopecia, we all know, is

capricious and the hair may return after a few months spontaneously, but if the Röntgen ray has been tried it gets the credit for something with which it had nothing to do. As to the use of the Finsen light in this country, where lupus is a rare affection, its employment is restricted. It requires a tremendous length of time, and the area treated at each sitting is comparatively small. As to the final result there is very little difference between the *x*-ray and the Finsen light; you can obtain as satisfactory results from a therapeutic and cosmetic point of view with the former as with the latter.

DR. M. H. BAUM, Syracuse, N. Y.—In regard to the possible frequent error in diagnosis, where syphilitic lesions have been considered to be of the nature of lupus; in one instance a patient called on me just before taking a train for New York, having a large ulcerated lesion over the right brow. The impossibility of doing justice to the case in the limited time given, led me to refer her to a colleague in New York, and I am quite sure he made an error in diagnosis, considering it lupus. He applied actinic therapy, thirteen treatments, during which time the disease progressed. On her return a careful investigation disclosed the fact that she was a specific patient, and had elsewhere on the body other lesions of syphilis. The ordinary constitutional treatment cleared up this trouble. An opposite experience was a case of very extensive ulceration involving the lower occipital region and both sides of the neck, that applied to Dr. Weigel of Rochester for treatment. A diagnosis had been made of tubercular ulcer, and while he did not concur in the diagnosis he used the *x*-ray, with the result of healing these ulcers quite promptly. In this case the re-growth of hair was illustrated. The patient's hair below the occipital region was entirely removed, and no follicles could be seen. I have seen the patient within a few days, and the most luxuriant hair on her head grows from the patch made bald by the *x*-ray. The case was seen afterward by Dr. Hyde and others, who agreed that it was specific, and while these lesions healed under the *x*-rays, new ones would break out. She finally recovered under strong antithetic treatment. The germicidal value of high-frequency currents was shown in a case of bubo which had been opened by my assistant. Cultures were made from the secretion, showing a tremendous variety of pus germs, particularly the staphylococci. It was teeming with them. The interior of the bubonic tissue was treated directly with the high-frequency electrode. After the second treatment another culture was made, which was negative, and in a few days this tremendous ulceration healed entirely, and at no other time was it possible to get a culture of any sort. No other germicide was used. I have treated one case of pruritus of the scrotum which was of 20 years' duration, where the scrotal tissues were leathery and thickened; I never saw a case so extreme. This patient has had no other application than the high-frequency current, and there is entire regeneration of the tissue and recovery. There is no more pruritus nor distress, and the tissues are normal.

DR. JAY F. SCHAMBERG, Philadelphia—We have been using actinic rays of light in the treatment of cutaneous diseases at the Philadelphia Polyclinic for about a year and a half. The lamp in use is the London Hospital lamp. A number of cases of lupus vulgaris and lupus erythematosus have been faithfully and perseveringly treated. Some have received as many as two hundred treatments. The results in lupus vulgaris have on the whole been disappointing. While improvement was noted in some cases it was not pronounced enough to warrant the time, trouble and expense involved. I am firmly of the opinion that these various modified lamps, of which the London Hospital lamp may be considered a type, do not produce sufficient penetration to cure deep-seated and long-standing lupus lesions. A pronounced superficial reaction amounting to actual blistering may be secured by exposures of an hour or an hour and a half, but we have repeatedly treated lupus nodules in this manner without effecting their disappearance. With the *x*-rays in lupus vulgaris brilliant results are often obtained. But all cases of lupus vulgaris do not react equally well to the rays. Indeed, some cases appear to be but little influenced by them. In the present state of our knowledge it would appear that the best treatment for lupus vulgaris is the Finsen light, applied, however, with a powerful lamp. The *x*-rays, I believe, are to be preferred in lupus of the mucous membranes, in lupus accompanied by ulceration and in papillomatous cases. In one case of lupus erythematosus with pronounced vascular dilatation great improvement has followed the use of actinic light with the London Hospital lamp.

DR. C. E. SKINNER, New Haven, Conn.—In reference to the remark which was made a few moments ago that the *x*-rays should never be recommended as a remedy for falling hair, I would like to say that although, as a rule, the application of the *x*-ray will cause the hair to fall out, and if it is repeatedly killed in this way that it will after a while fail to come back, yet it is not such a very uncommon thing for those who use the *x*-ray extensively as a therapeutic agent to see the growth of hair very noticeably accelerated on parts which have been exposed. In a case in which the neck was being radiated for enlarged cervical lymphatics, after treatment for several months there appeared on the side of the neck radiated a growth of hair an inch and one-half long where normally there had been nothing but very rudimentary hair structures. This case will soon be reported. I do not feel competent to state whether or not the *x*-rays should be recommended as a remedy for alopecia, but the stimulation of the growth of the hair which has been so often reported and which undeniably obtains in so many cases, should be given due consideration before the measure is unqualifiedly condemned as a remedy for this condition.

DR. A. E. CURRIER, Detroit—Regarding the recurrence of hair after its destruction by the *x*-ray, I have a patient suffering from mycosis fungoides and after raying the whole body he said his daughters made the statement that his hair was getting thicker and becoming darker in color, and such was the fact. There were a number of lesions on the forehead and I took no pains to protect the scalp. Another case was one of lupus, and the first case from which I got quite a severe burn in the use of the ray. A large patch of alopecia resulted, but the hair has returned, which I think is usually the case after the use of the *x*-ray. In my experience the use of the ray on the mucous membrane has not been very favorable. In a case of lupus, where the ray was applied to a lesion on the conjunctiva, no effect was produced. The eyeball became affected and was removed. In spite of this and a number of curettements, the lupus lesion still remains in the orbit, while a number of patches of the diseases have entirely disappeared from other parts of the face. I would ask Dr. Allen to give us his technic of the high-frequency current.

DR. H. R. VARNEY, Detroit—In order to get prompt results in most skin affections under the light treatment it is important that we curette the area or perhaps apply arsenical paste to remove masses, and then push the light treatment, whatever it may be; as rapidly as possible without necrosis of the new tissue. We have all seen cases where the lesion treated after becoming accustomed to the ray has come to a standstill, so I would emphasize the importance of pushing as rapidly as possible any light treatment. As to *x*-ray dermatitis, the cases I have seen where there has been necrosis have been in alcoholics. There seems to be very little cell resistance in alcoholic patients, and the most destructive burns I have seen have been in this class of cases. As to medication for dermatitis, I have found none that would relieve the condition, but, on the contrary, would aggravate the existing dermatitis. My course in dermatitis, wherever developed, is to see the patient every other day and give a short treatment with the ray, not stopping my treatment altogether, but give a mild two, three or four-minute treatment with the ray, and I can check the dermatitis that way better than with any local treatment and allowing the patient to go away and perhaps fall into the hands of some other physician, with the burn. This I make as an important point. In my early experience I would allow a patient to stop all treatment with a burn of the first or second degree, but now I believe it is possible to check those conditions by mild treatment with the tube further away and shorter duration. My experience with the high-frequency current is of little interest, as I have used it but a short time.

DR. L. DUNCAN BULKLEY, New York City—Referring to a

point made by the last speaker, I have seen great benefit in mild *x*-ray dermatitis from its continued, and even rather frequent use, every few days, in a very mild degree. I do not know why I first suggested it, but on seeing the dermatitis, partly to keep up the effect and partly hoping that all would go well, I said, let us try two or three minutes at a greater distance of the tube. I did not see any indication for stopping it entirely. The gentleman also remarked that he did not find anything else to control it. I find that a 25 per cent. watery solution of ichthyol painted over an *x*-ray burn makes it more comfortable, and I think helps heal it more quickly. I also use an ichthyol ointment. I know personally of the brilliant results from the light treatment of lupus in Copenhagen, but the same results are not often obtained elsewhere, partly because many attempt to make the treatment with too short and severe an application, and thus get the external effects before the light has penetrated into the deeper tissues, and the lupus develops again because it has not been radically destroyed. In regard to the use of high-frequency currents, I think that we are just beginning to know what they will do. I do not know whether many of you have tried the high-frequency currents, with a carbon point, on vascular nevi. I have had two very striking cases. One was in a young girl who was several months in the hospital, and the results of the treatment of a port-wine discoloration which affected a large share of the face were certainly remarkable. The other case is still under treatment. Certain portions beneath the eye which we have treated are to-day normal and at ordinary talking distance you would not notice any redness. I burn the surface a little with the carbon point, so that there is almost a vesicle formed: the destruction goes just deep enough to alter the tissue and yet leave practically no scar. Time and again it is done, very superficially at first, subsequently going a little deeper. I am thoroughly satisfied with the portions which I have treated. In pruritus the high-frequency current is very valuable in relieving an itching dermatitis. I do not know how many of you have used the high frequency for warts, especially of the scalp, where they are sometimes very annoying. The carbon point, with high frequency, is applied to the wart until it is blistered, and there is a little hemorrhage, and the wart then dries up, and when the crust has fallen, in a few days, the surface is level. Two or three applications may be necessary.

DR. C. W. ALLEN—Dr. Corlett's question brings us to the subject discussed by Dr. Hartzell, whether the high-frequency current is of any benefit in *x*-ray dermatitis. In a general way, it is. Not only in the superficial second-degree burn, but also in the ulcer which has resisted other measures for a long time, and I base this view largely on the treatment of one particular case. It was a deep-seated lesion supposed to be a cancer of the liver, sent to me by Dr. Waldo, who asked me to treat it for him. I accepted the diagnosis; it looked to me like cancer of the liver, and I began to treat the woman. After treating her for some time she suddenly developed a very pronounced necrotic burn. When I left for Europe last March I gave her a note to a colleague, asking him to excise the ulcer. She had a pendulous abdomen, the tumor had gone down so, and the ascites had disappeared so that there was room for excision. On my return from Europe I found she had not presented herself to this gentleman, and not hearing from her I mourned her as dead; I thought she was entitled to die from her carcinoma and dismissed her from my mind. A short time ago, on entering my waiting-room, there she sat, looking very much better than when I last saw her, and she said she was much better; said she had done nothing since, but had stayed at home and consulted no one. The burn had healed about the margins, presenting the picture with which you are so familiar, an ulcer in the center covered with a persistently recurring membrane, and showing absolutely no tendency to heal further in spite of various applications, powders, pastes, lotions, etc. (as a rule salves did not do well). I said to my assistant one day, "You start in with the *x*-ray or with the high-frequency current." Fortunately, he adopted the high-frequency method. I believe that the case was really never cancer at all, but syphilis and she developed a sudden bad burn because of the syphilis. If these tissues will react in that way in alcoholics they will probably do so in syphilitics, and I think in both classes of cases we have to be careful. Under the high-frequency current the ulcer began to pucker and heal up and now it is nearly healed. So I can say in my experience with both classes of cases, the second degree of burn and the third degree of burn, that the high frequency does well.

THE DEVELOPMENTAL DEFECTS OF THE SKIN AND THEIR MALIGNANT GROWTHS.

DISCUSSION.*

DR. JOHN A. FORDYCE, New York—Much interest is taken at the present time in the development of malignant growths, and a tendency is displayed to discredit the parasitic theory and attach more weight to the possible embryonic origin of malignant growths. A study of such cases as Dr. Anthony has included in his paper certainly has a tendency to encourage a belief in Cohnheim's theory of the development of these tumors in embryonic rests. Regarding the question of the so-called multiple benign cystic epithelioma, experience has shown us that these cases are not always multiple. We may have single tumors on the face which show the clinical features and the histologic structure of benign epithelioma. Some of the rodent ulcers which develop on the face may persist for years as small pearly tumors, possibly due to some congenital displacement of epithelium. I do not intend to say that in every case of epithelioma or malignant disease of the skin there must be some congenital abnormality. In epithelioma of the lip or tongue, chronic irritation, or the pre-existence of some antecedent affection, like syphilis, is the chief factor in bringing about the disease.

DR. A. RAVOGLI, Cincinnati—I have had in my practice several cases of nevocarcinoma. I think four, in the course of three or four years, have died in consequence of carcinomatous metastasis, showing that nevocarcinoma is a very dangerous and malignant affection. I think we should study carcinoma as we do tuberculosis, and I think we shall see that carcinomas vary according to the tissues which are affected. I believe the resistance of the tissues which are affected has a great deal to do with the nature and the spreading of the epithelioma. We have for instance, a mild case of epithelioma which lasts eight or ten years without causing any trouble; a little limited ulcer or tumor, remaining for years without spreading, and later the process goes deeper and affects the tissues of the skin, which are loose and which allow the introduction of the cancerous elements into the system, and then we have the formation of these nodules, the secondary carcinoma, and then the metastases in the skin. I think that from the beginning a superficial epithelioma is not at all different from carcinoma; the only difference lies in the place where the carcinoma is situated and in the resistance of the tissues which isolate it and keep it from spreading. In the same way we have lupus vulgaris remaining for years without producing an infection. But if these nodules go deep into the subcutaneous tissue or lymphatic vessels, then we have the formation of a tubercular gumma, etc. I believe we have the same thing in carcinoma; the tissues of the nevi are very loose and of less resistance, and I believe that this peculiar looseness, this non-resistance of the tissues, has a great deal to do with the extension of the carcinomatous process.

DR. W. T. CORLETT, Ohio—To me the word nevus is more especially associated with derangements of the circulation, and when we apply nevus to abnormalities of development other than vascular, I think it becomes confusing. I am in accord with Crocker, who advocates employing the qualifying term, "embryogenic," when there is reason to believe the defects take their origin in fetal life. I have not seen that the children of syphilitics, or those one or two generations removed from a syphilitic subject, show any more tendency to the development of abnormalities of the skin than those without such antecedents. There is a popular belief among the laity that melanotic

*This is the discussion on the paper by Dr. H. G. Anthony, Chicago, the chairman's address before the Section on Cutaneous Medicine and Surgery, at the Fifty-fifth Annual Session of the American Medical Association, at Atlantic City, June 7-10, 1904. The article appeared in THE JOURNAL, June 18, 1904, p. 1606.

sarcoma frequently develops from pigmented moles, and from my clinical experience I think there are strong grounds for believing this to be true, in a large number of cases. One of the cases referred to by Dr. Ravogli, I think, also came under my observation. This woman had a pigmented congenital mole over the sternum. When she was about 25, this gave rise to a melanotic sarcoma, with metastasis, and death. This, in my experience, has been fairly common. I do not, however, wish to be understood as saying that all pigmented moles become malignant.

Dr. A. Ravogli—Of these four cases of nevocarcinoma, two were pigmented and two were entirely unpigmented, and the two that were entirely unpigmented died in the same way in two or three years.

Dr. J. A. Fordyce—It might be well to bear in mind that nearly every one has a mole, but the occurrence of malignant growths is extremely rare.

Dr. M. L. Heidingsfeld, Cincinnati—The lay term nevus includes so many widely dissociated clinical and histologic conditions, angiomata, pigmentations, teratomata, telangiectases, albinism, hirsuties, defects, etc., that I think it unfortunate that it should have ever attained scientific value. I believe that the chairman is taking a retrogressive step, however, in limiting the scope of the term merely to those conditions present at birth. That position was formerly taken by many authors, but to-day the most conservative, Besnier not excepted, include anomalies which develop, not only days and months, but even years after birth. Inasmuch as it must be conceded that many of these anomalies develop from tissues which to all appearances, and as far as positive knowledge permit us to judge, are perfectly normal for a considerable period of time, we can not afford to become too dogmatic in our study of causation and base the etiology of every case on the purely conjectural assumption of misplaced embryonic remains. It is probable that some of these anomalous growths spring from normal glands, follicles and tissues, incited to new growth and development by causes and influences equally obscure as misplaced embryonic remains.

Dr. D. W. Montgomery, San Francisco—I think that the slate-colored nevi are more likely to give rise to malignant growths than the buff-colored ones. I do not know whether that is a feeling simply or whether it is really a fact, but I have always looked on the buff-colored ones as practically innocent. I remember the case of a young girl who had a slate-colored nevus on one side of the great toe. She was being operated on when I first saw this nevus. The surgeon referred to it and said he would like to cut it out also, but he had not gotten permission to do so. Shortly afterward this nevus began to grow irritable and to thicken and leak. The surgeon then burned it down well with the thermocautery, and it healed with a good cicatrix. Soon after the girl consulted me for enlargement of lymphatic nodules in the groin, on the same side as the affected toe. I gave an absolutely bad prognosis, and could not advise operation. She died of very widespread metastasis. These metastases were sarcomatous, some of them inky black, some half black and half white, and some were wholly white, so that the metastasis did not follow exactly, as regards pigmentation, the original growth.

Dr. H. G. Anthony—I have not a doubt, in answer to Dr. Fordyce, that single tumors may occur in benign cystic epithelioma. Furthermore, I believe there are some tumors of traumatic origin which closely resemble these various malformations of the skin. In a certain number of cases these malignant tumors will develop in places in which there is no evidence of there having been previously a mole; but if you cut the tumor out and examine it, you will often find it has the exact histopathology of the mole. There is a decided difference between a carcinomatous metastasis and metastasis from one of these growths. A characteristic of the carcinomatous metastasis is that it is a transportation of the original tumor to the site of the metastatic growth. If a patient has a primary carcinoma of the stomach and secondary carcinoma of the liver, the secondary retains the character of the primary tumor, and you have an equivalent of a part of the stomach growing on the liver, so that by an examination of the metastatic growth you can sometimes determine in what part of the body it arose. These tumors have exactly the appearance and character of the epithelial cells of the nevus. I have examined metastatic growths in these tumors in all parts of the body, and always found the same cell present.

In regard to Dr. Corlett's statement that the word nevus should be limited to designate vascular growths, I would say that in this country it has never been used in that way. The surgeon and general practitioner use the term for any kind of growth that is present at the time of birth, and if you use it in any other way you will cause confusion. If you speak of a growth of the skin which develops at the time of puberty, and many of these do—benign cystic epithelioma and fibroma molluscum frequently do—they ask, how is it possible that a nevus should appear for the first time in adult life? Because of that objection I use the term developmental defect of the skin. If you use that and omit the word nevus everyone will comprehend your meaning; that is why I want to popularize this expression. In regard to anomalies of development being due to the toxins of infectious diseases, such as leprosy, syphilis and tuberculosis, I am not prepared to pass an absolute judgment on it; I simply hold it out as a suggestion, as one of the things which should be considered. In the majority of instances where dermatologists come in contact with malformations of the skin they make no effort to assign a cause. My position is that we should try our best to see if we can not assign a cause, and those two possibilities I have spoken of should be considered. Eulenberg's "Real Encyclopädie der Gesammte Heilkunde" says that it is settled that syphilis may cause defects in development. In regard to the statement that melanoma from a nevus is common, I do not think it is. If you will examine patients who come into the dispensary for various diseases you will be surprised to note that the person who has not a nevus on some part of the body is exceptional. Of the cases I have gone over since I had this subject in mind 90 per cent. had nevi. So a malignant growth developing on one of these nevi is exceptional. As to the color Dr. Montgomery has mentioned, I will state that it is a rule where metastatic growths occur from nevi the different growths differ one from another within wide limits. Without having my attention previously called to the slate-colored nevi, which are more apt to take on malignancy than others, I regard it as incidental. There is one thing that I believe influences to a certain degree the color of these nevi, and that is outward pressure. The outward pressure of tumors seated in the deep skin very frequently will produce atrophy of the epidermis as they press outward, and the pigment will decrease. So that may be an element in producing the color, and when the tumor begins to grow there is a diminution of the color.

Dr. Heidingsfeld's statement that some of these anomalous growths spring from normal glands and tissues is not correct, because, first, they appear in succeeding generations; second, they are usually present at birth; third, they have a systematic arrangement. I agree that it is unfortunate that the word nevus should ever have obtained scientific value and that is the reason I wish to drop it as a scientific term and substitute the expression "developmental defect"; the meaning of which can not be misunderstood and which is not a step backward.

Safe and Certain Cure for Ankylostomiasis.—The *Gazette Méd. Belge* comments with amazement on the scant attention paid to the announcement made at the last international congress of hygiene in regard to the discovery of an absolutely safe and certain cure for ankylostomiasis. The Liège physician who made the announcement has found in his extensive experience that it always destroyed the parasite and neutralized the toxins without fail. It is merely a mixture of 1.5 to 2 gm. of sulphur, .4 to .5 gm. of terpin, and 1 to 2 gm. of condurango. He advises to give it indiscriminately to all the workmen in an infected mine, as it can not harm the well, while it cures the affected subjects. The *Gazette* does not mention the name of this confrère, but in an editorial, xvi, No. 5, states that the future will inscribe his name as one of the greatest benefactors of humanity, as with this simple, inexpensive and harmless medication ankylostomiasis can be entirely eradicated.

THE CONSIDERATION OF LATE HEREDITARY SYPHILIS.*

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CHICAGO.

On several occasions young girls from 5 to 18 years of age have been shown at meetings of the Chicago Dermatological Society, who presented undoubted lesions of tertiary syphilis, without a history of extragenital infection or previous eruptions of syphilis, and in whom none of the triad symptoms of hereditary syphilis was present. In the discussion of these cases it was apparent that a difference of opinion existed as to whether these were cases of extragenital infection or cases of long periods of latency in hereditary syphilis. The question which arose was: Can hereditary syphilis manifest itself for the first time some years after birth by the presence of such late lesions as occur in the acquired form, and with a total absence of triad symptoms?

That long periods of latency is one of the chief characteristics of acquired syphilis there can be no doubt, as we all have seen cases in which from ten to twenty years have elapsed from the time the disease was acquired to the time the tertiary symptoms appeared.

If long periods of latency may occur in the acquired form of syphilis, why may they not occur in hereditary syphilis? Syphilis is the same whether acquired by the individual himself directly, or transmitted to him by his parents at the time of conception. Such being the case, then we might expect to find long periods of latency in hereditary syphilis, and, if long periods of latency do not occur, then this form of the disease differs from ordinary or acquired syphilis.

While it often may be extremely difficult to establish the fact that children born of syphilitic parents and exhibiting late lesions may not have had other lesions early in life, still such cases are not infrequently met with. They must, however, be very carefully scrutinized, in order to avoid error. The ease with which one may be deceived in this matter is illustrated by the following cases: I have under observation at the present time several children who presented symptoms of hereditary or congenital syphilis at the time of birth, but who are entirely free from evidence of the disease at the present time. Were these children to be observed at the age of 20 years, and lesions of syphilis be found present, these children never having been informed by their parents or physician that they were born with the disease, would naturally give a negative history, and their cases readily be misconstrued or accepted as cases of acquired syphilis.

In establishing a diagnosis of hereditary syphilis, there are three points, known as the triad of syphilis, which have long been looked upon as of the greatest value. These are, namely, Hutchinson's teeth, interstitial keratitis, and a particular form of deafness. Let us consider these points in order:

TEETH.

Great stress has been laid on the diagnostic value of the Hutchinsonian teeth, but they in themselves are late manifestations of inherited taint, and can be accepted in no other sense. They are not present in the first or temporary teeth, but in the second or permanent teeth, which do not appear until the fifth or sixth year, and are not always indicative of syphilis when present, as J. C. White[1] has reported a case of a boy who presented the central incisors notched from side to side, with the lateral incisors wanting, in whom the suspicion of syphilis was absolutely excluded. The other teeth were normal. The deformity followed a sudden and severe attack of cervical adenopathy. Again, the characteristic teeth are present in only a minority of those who are the subjects of inherited syphilis, and it is unquestionably true that teeth of perfect development may not infrequently be seen in the mouths of those who have suffered severely from inherited taint.

INTERSTITIAL KERATITIS.

This is perhaps the most frequent of Hutchinson's symptoms, and occurs usually between the ages of 6 and 15 years; but, unlike the Hutchinson teeth, it may appear as early as the second or third year of life. Fournier claims this symptom may be due to malnutrition, as well as to inherited syphilis, and no differentiation between these two etiologic factors can be made in the effects on the cornea.

LABYRINTHIAN OR CENTRAL DEAFNESS.

This syphilitic deafness, depending, possibly, on lesions of the auditory nerves, is most frequently met with in children about the age of puberty, or in adults, and manifests its presence by the following symptoms: It is, as a rule, unilateral in the beginning; but after a shorter or longer period, varying from a few weeks to some months, the other ear becomes affected, deafness appears suddenly, and advances rapidly; it is not accompanied by pain, or any discharge, although occasionally an otitis media purulenta may be present. The patient complains of noises, dizziness, and sometimes even attacks of vertigo occur. The deafness is usually progressive, and after some weeks may become absolute. It is not improved by anti-syphilitic treatment.

While the above-mentioned points are of great diagnostic value in hereditary syphilis, there are others which, although perhaps not so common, are nevertheless of much significance when present.

Among these may be mentioned acute ulcerative destruction of the palate in young persons. This in itself is almost conclusive proof of an inherited taint.

Edmond Fournier[2] and some other French writers lay great stress on the findings in the fundus of the eye as an aid in the diagnosis of hereditary syphilis. In one case he describes atrophic chorio-retinal plaques in both eyes.

In another case the remains of an old papillitis was seen. Vascular changes, and alterations of pigment, which the oculist, Antonelli, stated could only be the stigmata of hereditary syphilis, were observed in one eye, and in the other there was a rudimentary optic neuritis, a diffuse retinitis of several months' standing, manifesting itself by several foci of exudations in the central region, by a suffusion which was quite extensive, and by multiple separations of the retina in the temporal and upper sections of the eye fundus.

Late hereditary syphilis may affect the skin, appearing as gummata, singly or in groups, of solid nodules, which are dark red in color, and are most frequently seen on the face or forelegs. These nodules may later break down and ulcerate. On the face they most frequently attack the nose, and when on the legs the anterior surface. The ulcers are sharply defined and clearly

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

1. Archives of Dermatology, April, 1878.
2. Annales de Derm. et Syph., 1904, p. 152.

cut, with abrupt, uneven edges, and present the usual characteristic appearances of the ulcerating gummata of acquired syphilis. Unlike early acquired syphilis, we never have any scaly or small papular eruptions.

Notwithstanding all of these points, it must be admitted that there are patients in whom, in spite of the modern development of diagnosis, the recognition of inherited taint is still a matter of great difficulty, if not an impossibility. We must, however, be prepared to encounter now and then manifestations of inherited syphilis in those who do not show a single corroborative feature. Hyde[3] remarks that not every child with Hutchinsonian teeth, with cranial bosses, with natiform skulls, or suffering from a rebellious affection, is the victim of inherited syphilis, and that even the painstaking labors of A. Parrot have not sufficed to obliterate the distinction between syphilis and rickets.

Cases of latent hereditary syphilis are not very numerous in the literature:

Jordan[4] reports the following two cases:

CASE 1.—Patient, army officer, 22 years old. Applied April 23, 1902, for treatment for disease of the knee joint. He denied all knowledge of venereal disease. About the end of April, 1901, patient first complained of pain in both knee joints on climbing stairs. This without apparent cause. In June pain disappeared from the right knee joint, while the pain in the left became more intense. Early in July the army surgeon noticed a swelling of the knee joint and induced the officer to ask for a furlough.

Treatment.—No improvement was noted after treatment with baths and compressed applications, consequently the patient entered a surgical clinic in September, 1901. Effusion in the left knee joint was treated with iodin, compression and hot air. The swelling decreased in amount, but did not entirely disappear. Palpation of the joint was painful and an incision was made above the patella, under the supposition that the case was one of tuberculosis. Drainage of the joint with iodoform gauze. Examination of the urine was negative as to gonococci. The wound healed and the patient was discharged in November, wearing a plaster-of-paris dressing or cast. The end of March following the swelling in the joint, which had never entirely ceased, became increased.

Examination.—April 1, 1902, when first seen by Jordan, the left knee joint was markedly swollen and tender, and there was slight swelling in the right knee. Both joints were freely movable. A thorough examination of the young man did not reveal any signs of a past tuberculosis or lues.

Treatment instituted consisted of complete rest in bed, baths and compression bandages.

Diagnosis.—A week later, notwithstanding this treatment, the swelling increased in the right knee joint, and closer observation gave the impression that the cause of this swelling was syphilis. Jordan made his diagnosis by exclusion. Hydrops could not be accounted for by its usual etiologic factor. Trauma was excluded. Acute articular rheumatism was absent. No signs of gonorrhea were present and also no tuberculosis. The negative results of the incision, combined with all the preceding features, brought him to the conclusion that this was a case of lues. The slow bilateral effusion in the knees, the slight pain, the insignificant functional disturbance, the changing of the symptoms and the failure of all treatment were all facts in favor of syphilis. As acquired syphilis was excluded with certainty, it could only be a case of late hereditary syphilis. The favorable result following specific treatment justified this diagnosis.

Family History.—The family history of the patient disclosed the following facts: The patient's father was a physician and became infected with syphilis on the hand while attending an accouchement in 1872. He married in 1877. His wife, who was still alive, stated that on several occasions he had had eruptions on the face, and took iodid of potassium.

Maternal history: First pregnancy in 1878. Premature birth. Child died a few hours after birth. Second pregnancy, 1879. Miscarried at five months. Child dead. Third pregnancy, 1880. A normal, healthy boy. (Jordan's patient.) No affections. Fourth pregnancy, 1883. Aborted at two months. Patient's mother, in 1886, had a stroke of apoplexy, but completely recovered. In 1887 she had an ulcer of the soft palate, which rapidly healed under antisyphilitic treatment. The patient's father spent nine months in an asylum in 1882 for some brain trouble. Marked improvement. In 1883 committed suicide.

The diagnosis in the patient's case was latent hereditary syphilis. The treatment was sodium and potassium iodid, with the result of complete recovery. In November the patient resumed his duties as an army officer.

This case is considered a typical one of latent hereditary syphilis, with a single localization.

The second case was one of bilateral exudative gonitis, combined with keratitis parenchymatosa, in which complete recovery followed antisyphilitic treatment. The history of this case is as follows:

CASE 2.—Patient, a boy, 5 years of age, came to the clinic in July, 1895, suffering from a bilateral inflammation of the knee joints; the knees were swollen, and the ends of the bones considerably thickened. There was also a keratitis parenchymatosa. Dec. 15, 1895, after a course of treatment, the patient was discharged. In January, 1901, trouble appeared in the eyes. In the spring of 1903 the patient, who was now 12 years old, was again examined and found healthy. On the left cornea some cloudiness, due to scar, was found. This lessened the field of vision considerably. The joints were found to be normal. With the exception of the scar on the cornea, no evidence of syphilis could be detected.

Family History.—Father had an ulcer on the penis in 1881. Married in 1886, or five years later, and infected his wife in about a month. Symptoms in mother were roseola, condyloma of labia, and mucous patches in throat. By Oct. 28, 1886, all symptoms disappeared under treatment. In 1887 gave birth to child, which died two days after birth. In 1888 another miscarriage at six months; fetus dead. In 1889 again miscarried at six months; fetus dead. In 1890, the fifth labor was normal, and a boy, the herein-mentioned patient, was born. The next, or sixth, labor was normal, and the child, which at this time was 9 years old, was anemic and suffered from headaches. The seventh pregnancy: Premature birth, stillborn child. In 1895 eighth pregnancy, normal delivery at term; child at this time 7 years old and healthy. The ninth pregnancy was again premature: fetus dead. The last pregnancy occurred in 1898; labor normal and child healthy.

This case substantiates Fournier's observation that in a syphilitic marriage the birth of a healthy child does not warrant that the children which may follow will be healthy; but, rather, that a syphilitic child follows a healthy one. In this case the period of latency was five years.

Hünicken[5] (Brunic) reports a case of syphilis hereditaria tarda:

History.—The mother of the patient, who had always been healthy, was infected by her husband in the second month of her pregnancy. The corroborative symptoms of the mother's syphilitic infection were condyloma of the great labia and anus; roseola; angina; and periostitic headache.

Treatment.—The symptoms all disappeared after six months of antisyphilitic treatment (inunctions). It was expected the mother would miscarry. On the contrary, however, labor occurred at term, and a healthy boy was born. He remained healthy, with no evidence of syphilis; learned to walk when 2 years old; was vaccinated at age of 3 years. At 9 years old he complained of pain in the knee on walking. This was followed by swelling of both knee joints. Diagnosed simple synovitis. Was treated with ice, compression and rest for

3. Med. News, Dec. 14, 1897, p. 727.
4. Münch. med. Woch., 1903, 50, p. 1324.
5. Deutsche med. Woch., 1896, vol. xxii, p. 46.

three weeks, with no improvement. At this time both tibiæ were discovered to be highly sensitive to the touch. The diagnosis was changed to latent hereditary syphilis, and the trouble, after four weeks' treatment by inunctions and potassium iodid, entirely disappeared.

Barthelemy[6] reports the following case:

History.—A man contracted syphilis and was treated by Ricord for eighteen months, at the end of which time he married. For twenty-five years following he had no manifestations of syphilis. His wife bore him five children, all at term, except the last, when labor occurred at eight months. The first child was treated by Millard for submaxillary ulcerative lesions, which were diagnosed scrofulo-tubercular lesions. When Barthelemy saw this patient he took these lesions to be local bacillary lesions. She had become a woman, 25 years of age, and had given birth to a healthy child one year previously. The second child, a son, when 23 years old, was treated for two years for acquired syphilis.

Her third child, at this time a girl of 20 years, is the subject of this case. She has never had any stigma of syphilis, either on her body, teeth, eyes or ears. A month previously a bulla, the size of a fifty-cent piece, was noticed. This was thought to have been caused by a burn or stinging of an insect. Burning and itching were severe, and became more intense and deeper from day to day, until a large granulous wound was present, which showed all the characteristics of a tertiary ulcero-circinated syphilid, and a nummular gumma of the skin, which diagnosis Fournier confirmed, without reserve. The gumma was located on the knee, and appeared twenty years after birth.

E. Gaucher, Lacaperre and H. Bernard[7] report a case of latent hereditary syphilis with dental dystrophia:

History.—A female, 19 years old, was brought to the Hospital Saint Antoine, March 14, 1900, in a state of semi-coma. Examination revealed a right hemiplegia, with aphasia. Patient had given birth to a child a month previously.

The diagnosis made at the time was puerperal infection and metritis; bilateral phlebitis of the thighs; pulmonary embolism, which accounted for the pain in the thorax. To explain the hemiplegia and aphasia, it was supposed to have been caused by a fibrinous coagulation in the heart, which is slightly dilated. Patient positively denies any venereal infection, and of her father's history nothing could be learned. The patient's child died a few days after birth, showing no trace whatsoever of syphilis.

Treatment.—The appearance of the teeth attracted attention and suggested the possibility of syphilis, which suggestion was followed out, and the patient placed on daily inunctions, and four grams of kali iodid internally. Marked improvement followed immediately, and the patient was discharged from the hospital May 24, 1900.

One year later (April 21, 1901), patient returned to the hospital for consultation. There were present tertiary cutaneous gummata on the legs. The diagnosis was latent hereditary syphilis. Dental dystrophia revealed the presence of hereditary syphilis at 20 years of age. No previous accident would suggest the existence of syphilis, but a few months later the appearance of gummata on the legs and the effects of treatment confirmed the diagnosis.

Lannelongue[8] mentions a case of a young man, 34 years old, who had a typical gummatous ulcer on one of his legs, the nature of which had not been suspected until the patient consulted Lannelogue, who diagnosed latent syphilis of hereditary origin. He mentions also three more cases of latent hereditary syphilis, in young girls, who were about to be married, and who never knew that they were thus afflicted.

6. Annales de Derm. et Syph., 1899, 3d ser., vol. x, p. 262.
7. Annales de Derm. et Syph., 1901, 4th ser., vol. II, pp. 437-46.
8. Bulletin de l'Acad. de Méd., Paris, 1903, 3d ser., vol. xlix, p. 532.

CASE 1.—Young girl, from a syphilitic father. Suffered with a gumma of the leg.

CASE 2.—Young girl, 23 years old, for past four years affected with a phagedenic serpiginous ulcer of the leg.

CASE 3.—Young girl, 20 years old, affected with gumma of the soft palate.

H. G. Anthony[9] reports a case:

History.—Twenty years ago a man acquired syphilis. He married while the roseola was present, and immediately infected his wife. A child was born three years after the marriage. Eleven years ago, when the child was 6 years old, he examined the family. The father and mother showed unmistakable evidence of the disease, but the child was free from symptoms of hereditary syphilis. Since this examination the mother, knowing that she herself had had syphilis, has always been very solicitous regarding the welfare of her daughter, and watched for skin eruptions or other possible symptoms of the disease, and up to this time she had never observed anything of a suspicious nature.

In October, 1903, she brought her daughter to Anthony again. She was 17 years old, and was found to have a circinate, ulcerating, tubercular syphilid, situated on the anterior surface of the chest. There was nothing in the history of the case which would in any way suggest a possible extragenital infection, and genital infection could be excluded as thoroughly as it ever can be.

Born of a syphilitic mother, who was known to be syphilitic at the time of conception, there is every reason to suppose that this is a case of hereditary syphilis, in which no appreciable evidence of the disease was present up to the seventeenth year of life.

L. Duncan Bulkley[10] reports the following interesting case:

Examination.—Mrs. H., aged 24; fairly well developed. When first seen there were the active elements of a tubercular eruption on the forehead, right ear, arms, knee and back. On the left arm there were two patches, of a dull-red color, about an inch and a half in diameter, composed of curved lines, or rows of tubercles, which have advanced, leaving scar tissue behind, which later surrounded the elbow. The right arm was similarly affected. On the shoulders was an eruption, dark red, or copper-colored, with some crusting in places, composed of irregular patches of tubercles, and cicatricial tissue by the side of the more recent disease. The eruption extended down the back six or eight inches. Near the left knee there was a patch of the same form of lesion, and a few scattered tubercles on the upper lip. All portions of the eruption presented the same features, composed of tubercles of a dark-red or coppery color, elevated from one to two lines above the surface, either touching each other or separated by an erythematous redness. The cicatrices are all alike; supple, mostly white. The more recent ones stained and slightly depressed. In the middle of the forehead there was a depression in the bone, pyramidal in shape, the apex resting at the bridge of the nose and being about two inches wide at the base.

History.—Of the origin of this she could give no exact account. It had taken place slowly, beginning, she thought, at about 16 years of age. There had never been any externally discharging ulceration there. When 5 years old she had a deep sore near the ankle, which lasted four or five months, and which left a scar. Two years afterward, when she was 7 years of age, the present eruption first made its appearance, and has continued since, a period of fourteen years. She had been under medical treatment off and on, but never with any great success.

Family History.—Her family history was not clear. She thought her father was healthy. A sister, 30 years of age, she said, had the same eruption; and her sister's children were also affected. She herself had been married seven years, and had had four children, two of which are dead.

This patient remained for a time under antisyphilitic treat-

9. Illinois Medical Journal, November, 1903, p. 368.
10. Archives of Dermatology, January, 1878, p. 70.

ment, and improved nicely, but disappeared before sufficient time had elapsed to accomplish a cure, so the ultimate results of treatment can not be stated.

The two cases reported by Willis S. Anderson[11] contain several points of interest. The histories are as follows:

Case 1.—M. B., a girl, aged 16.

Family History.—Mother, apparently healthy, with no history of syphilis. Father not seen. Mother has had nine pregnancies. The first and second children were boys, who are alive and healthy; the third and fourth were premature, at eight months; bodies decomposed. The fifth was the present patient. The sixth, seventh and eighth are alive and healthy. The ninth died of pneumonia when nine months old.

Personal History.—The patient's general health has been fair. Eighteen months previously she had pain in her legs for a number of weeks. Has had enlarged glands in the neck for years. About two months before coming to the clinic, she noticed a pea-like swelling at the mucocutaneous junction on the left side of the septal cartilage of the nose which she thought was a cold sore. This increased in size, spreading to the upper lip and into the nose, especially attacking the septum. There were no pain or constitutional symptoms.

Examination.—The examination of the nose showed that there was an extensive ulceration of the whole cartilaginous septum, including the columna, and of the uper lip. The ulcerated area was covered with thick crusts, and there was a foul, irritating discharge from the nose. The whole of the septal cartilage was nearly ready to slough out.

Treatment.—The next time the patient was seen, the entire cartilaginous septum, including the columna, was removed. The parts were kept clean, and potassium iodid given internally. The condition improved and the ulceration ceased.

Case 2.—M. O., a girl, aged 14.

Family History.—No history of parental syphilis could be obtained. Mother always healthy; had had four children. Three alive and well. One died, aged seven months, of pneumonia. No miscarriages. Father is in excellent health, and denies ever having had syphilis.

Personal History.—Patient, when one year old, fell and struck on her nose, but no permanent injury resulted. Her general health has always been good and nasal breathing free. Six months before coming under observation she commenced to have obstruction to breathing through the right side of her nose. No cause could be discovered, unless possibly it was the result of boxing with her brother. The obstruction gradually increased, but was unaccompanied by pain or constitutional symptoms. She was brought for treatment, because of the obstruction, commencing deformity of the nose and enlargement of the lymphatic glands just below the angle of the jaw on the right side.

Examination.—Examination revealed a red, globular tumor, of about the size of a pea, attached to the right side of the septal cartilage, well forward. Just behind the anterior growth could be seen another globular tumor filling the nasal passage. There was bulging of the nose exteriorly, corresponding to the right ethmoid cells. As the nasopharynx was filled with the growth, it was evident that the tumor filled the whole nasal passage. There was marked swelling of the glands of the right side of the neck. The tumor in the nose was fairly firm in consistence; not painful, and did not bleed readily when touched. The glandular mass in the neck was not accompanied by any pain or tenderness. No ulceration was observed in the nose, and there was only a moderate acrid discharge. The growth in the nasopharynx had an angry appearance, and was covered with thick, tenacious mucus. The general health of the patient was little impaired. Her symptoms could all be accounted for by the nasal obstruction and the pressure of the growth.

Treatment.—The diagnosis of late hereditary syphilis was made by exclusion, and the patient placed on kali iodid internally and mercurial inunctions, with the result that the growth gradually melted away and the enlarged glands disappeared.

At the present time I have under my care the following case:

History.—A girl, 16 years old, is one of seven children, all healthy and robust. Patient's menstruation first appeared when she was a little over 15 years of age. About this time patient suffered intensely from pains in the legs and nocturnal headaches. On the right foreleg were noticed elevated red spots, as the patient describes them, varying in size from that of a split pea to almost, if not quite, the size of a twenty-five-cent piece. Within a month the left foreleg presented a similar condition to that on the right leg. When the patient first came under my observation, she presented typical ulcerating gummata on both legs, without any other evidence of hereditary taint, and an absolutely negative history as to any skin eruption or sickness of any character in the earlier years of her life.

Family History.—The mother of the patient is a subject of ichthyosis,, and states that she had had two miscarriages, occurring without apparent cause; the first at between five and six months, and the second at between six and seven months. On the right hip of the mother examination reveals a scar which resembles that following a syphilitic ulceration, although she denies all syphilitic history. The patient's father refused to be examined or interviewed.

Treatment.—Under antisyphilitic treatment our patient made a prompt recovery.

Fournier[12] says that latent hereditary syphilis may manifest itself at any age, from young adult up to old age (less frequently in old age), at 51, even at 60 years, and older.

We have grown away from the teachings of Kaposi, Barenspring, Lang, and others, who state that cases of latent hereditary syphilis are not authentic. They say that if this disease be congenital or hereditary, there must have been infantile manifestations. We accept as facts the teachings of Fournier, Neuman, Sigmund, Hebra, and others, that these cases are authentic, and do occur.

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DISCUSSION.

Dr. A. W. Brayton, Indianapolis—Those of us who are getting along into the second half century and have been practicing and teaching general medicine for twenty-five years can authenticate the statements made by Dr. Campbell in regard to the late manifestations of hereditary syphilis. I have never found a case of locomotor ataxia, and but few of general paresis, that I did not find a history of syphilis, and just as a parasyphilis may develop under varied conditions of acquired syphilis so we may look for late lesions in hereditary syphilis.

Dr. L. Duncan Bulkley, New York City—I have seen hereditary syphilis up to 20 or 30 years of age, and many cases even where there has been practically no clear antecedent syphilitic history. I do not, however, believe that a case of late hereditary syphilis never shows anything before. I have never convinced myself that there can be an infection and nothing take place until thirty years afterward, but I think that in many cases the earlier manifestations have simply been overlooked. I do not believe that anyone can look at a case of hereditary syphilis superficially and make a correct diagnosis. It is only by study, and by a careful consideration of a case, and exclusion of other conditions, that we can arrive at a diagnosis. Many of these cases that are often regarded as subjects of hereditary syphilis, I believe to be cases of constitutional syphilis, acquired during or after birth, which occurs much oftener than we imagine. Only a short time ago a child of two years was brought to my office with a large hard chancre on the prepuce. The father and mother were

11. New York Med. Jour., July 26, 1902.

12. Bulletin de l'Acad. de Méd., Paris, 1903, 3d ser., vol. xlix, p. 532.

certainly pure and free from any taint of syphilis, yet at two years of age the child had a chancre of the penis, not from circumcision. It was finally traced to the nurse, who had turned out to be a very loose character, and had just been discharged because she was found to be pregnant. She had given it to the child through lesions of the mouth. In the case of that child, if it had not been seen and diagnosed by some one who knew, but had recovered and had late lesions of syphilis, it could be readily supposed to be a case of hereditary syphilis, while it was really a case of early infection. Do not forget that those cases where you can not get a history may have had an infection early in life.

DR. C. W. ALLEN, New York City—Ranging myself with the older practitioners I would say that I have been teaching syphilis for a number of years, and I have had it happen many, many times, that in analyzing a case I have said to the students: here is a case where we can make out nothing but late hereditary syphilis without any history of preceding infection. I realize with Dr. Bulkley, that acquired syphilis may often escape observation. I have seen acquired syphilis in the very young where the parents have been healthy. I am convinced that without a preceding history, without knowledge of any syphilitic lesions having manifested themselves, an individual may arrive at the age of twenty or more years, up to thirty, and possibly far beyond that, and then show unmistakable lesions of syphilis.

DR. MORTIMER A. MOSES, New York City—Concerning the sign of hereditary syphilis described first, I think, by Silex of Berlin—the furrows at the angle of the mouth—is this sign of absolute corroborative value or is it seen in any other condition than hereditary syphilis?

DR. H. C. BAUM, Syracuse, N. Y.—I concur absolutely in all the findings of the paper. I had one case, a young woman 23 years of age, who had never employed a physician, but was delivered by a midwife. She came to the late Dr. U. H. Brown of Syracuse on account of a destructive gumma of the nose. He made a diagnosis of gumma, and his plan of treatment was indignantly rejected by the patient and by her husband, who had always been well, and by her mother, who accompanied her, and who was very much offended at any such suggestion; she herself having always been well, and never having had any other pregnancy than that of the patient. I was brought in and confirmed the physician's diagnosis, and yet treatment was refused. A year later she reappeared, with tremendous destruction, and applied for treatment. She responded nicely to treatment, and looking up the case afterward it was found that the father had died in a soldiers' home at Bath. I wrote there and was told the cause of death was syphilis.

DR. R. R. CAMPBELL—With respect to acquired infantile syphilis, it is gratifying to note that this form of the disease is far less common than is usually believed. Fournier has a record of but 45 patients of this class coming under his observation, though he adds that he believes, as many more have been seen by him, regarding which no notes were taken. In so far as I have been able to learn, the highest number of this class of cases reported by authorities other than Fournier, has been twenty-five. Replying to Dr. Moses, in my opinion the red furrows at the angle of the mouth can not be accepted as a symptom of any particular value in hereditary syphilis, for the reason that I have found it too often in the acquired form of the disease to grant it particular importance as an indication of the hereditary origin of the disease.

Hematemesis Substituting Menstruation.—Rapallo y. Vela of Madrid reports a case of gastrorrhagia recurring two months in succession at the periods of suppressed menses. The subject was a nervous, anemic young woman and the menses had been suppressed for several months. The gastrorrhagia was combated by rest in bed and cold, fluid food, with hot applications to the lower abdomen and legs and appropriate tonic medication. Menstruation returned normal the following month and thereafter. The case is cited in the *Semana Medica*, No. 21, 1903.

HAS INFLUENZA BEEN A CAUSATIVE FACTOR IN THE INCREASE OF APPENDICITIS?*

PHILIP MARVEL, M.D.
ATLANTIC CITY, N. J.

In introducing a subject, the discussion of which is largely a matter of inference and analogy, I realize that I am presuming too much on the indulgence of a scientific body, and my apology may be stated in the desire for a more comprehensive knowledge of the causative agents of the diseases in question, together with the hope that this feeble effort will serve to stimulate a closer clinical observation bearing on the possible relations concerned, and especially a more extended scientific investigation looking to the nature and environment of the organisms involved.

THE HISTORY OF INFLUENZA.

A brief review of the many-sided disease—influenza—will recall to us its ancient and modern history. According to the report made by Parson to the British Medical Association in the year 1891, influenza was first recognized as an epidemic disease by Livy and Hypocrates in the year 412 B. C., and more than 200 years passed following their announcement before other supposed epidemics were recorded. During the sixth and ninth centuries Italy was said to have been visited two or more times by the same disease; this was followed in the early part of the tenth century by its appearance in Germany and France, after which time the world seems to have experienced a period of immunity for more than 200 years. Admitting that there may properly arise some question as to the accuracy of these earlier observations, Wilson states that our positive knowledge of this disease dates from the year 1510, when the first great epidemic visited Europe, including the British Isles. This was shortly followed by another visitation in 1557, and was the first of record observed in America. The history of the past four hundred and odd years records more than seventy epidemics, one-half of which have been so extensive as to deserve the name of pandemics. In the past century just closed there have been about forty visitations in this and European countries, those of special and more direct importance to us being of the winters 1889 and 1890, 1891 and 1892, 1894 and 1895, and that of the past winter, 1903 and 1904. I may state incidentally, however, that during the past five years the eastern and middle portions of our country have been more or less subjected to outbreaks of this disease, though less severe in form, than were the special epidemics to which reference is above made. The last epidemic of importance previous to the winters of 1889 and 1890, was in the year 1847, since which time a number of scientific investigators have been keen and persistent in their researches for the causative agent of this disease, believing it to be of bacterial origin, but it was not until the year 1893 that their efforts were crowned with any degree of success, at which time Robert Pfeiffer announced the discovery of an organism which he regarded as the specific exciting cause. This discovery has since been confirmed by no less able investigators than himself. It is not for me to challenge the statement that the Pfeiffer bacillus is the exciting or causative agent of influenza, and I shall raise no question as to this fact, whenever a pure

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

and simple infection takes place, but in the greater number of cases observed there has been recognized the more probable presence of a mixed and complex infection, and therefore it does not seem in any wise conclusive that any bacillus, whether it be that of Pfeiffer or any other, can be held to be the only causative agent operative in this disease, unless, perchance, the physiochemical forces, when deranged or perverted by its presence, may in some way operate so as to convert otherwise harmless and innocuous bacteria into toxic-bearing and disease-producing agents. Momentarily leaving this part of the subject, I wish to refer briefly to the history of appendicitis.

THE HISTORY OF APPENDICITIS.

This disease may also boast of ancient history, though its recognition did not take place until during the second decade of this century. In the year 1836 Addison is given the credit of having first recognized and correctly described the disease in question, but according to our present knowledge of appendicitis, its recognition and description at that time gives no evidence that it did not exist as a disease long before. Its subsequent history has been given so much attention by both the medical and surgical world that reference to its more recent history would seem quite sufficient to bring the subject before us. With the early history of antiseptic surgery, the inflammatory diseases of the abdominal cavity received a fresh stimulus, and were dealt with from an entirely new point of view; and simultaneously with the treatment of typhlitis and perityphlitis, it led to an important controversy, the last word of which has not yet been heard. Foremost among the American surgeons to recognize and successfully treat this disease were Fitz, Weir and McBurney, with whose writings the most of you are too familiar to require further reference. The older writers did not altogether overlook the probable etiologic relationship between the diseases of the appendix and that of the cecum, as is particularly well shown in the writings of Grisolle, Rokitansky and Volz, but they were quite as much puzzled in their efforts to isolate the specific cause of the same, in those days, as we are in these.

Anatomically speaking, the appendix has about the same structure as that of the large intestine, but differs somewhat in its histologic relations, which may be considered of some practical importance bearing on this subject. The mucous membrane of the appendix during the earlier years of life contains an extraordinary number of lymph-follicles, which richness in lymphoid tissue makes it resemble somewhat the structural formation of the tonsil. Most important of these anatomic divisions, however, is probably that of the circulation, which is derived from the superior mesenteric artery, and forms an anastomosis with a feeble and insignificant collateral circulation from the cecum. Therefore, when disturbed for any reason, mechanical or otherwise, as by inflammatory swellings, adhesions or exudates, any of which may involve or lessen the lumen of the vessels, it will of necessity limit the arterial supply and immediately threaten the life of the tissue involved, thereby aiding the necrotic processes so often observed in the appendix. Some writers, among whom may be mentioned Ribbert and Kelly, claim that the appendix is but a relic of what was once a large cecal pouch, that has been and continues gradually undergoing involution. From the number of autopsies made independently by both, each reports the evidence of retrograde, atrophic changes, with the absence of inflammatory evidences in from 23 per cent. to 25 per cent. of the cases examined. The inference to be drawn from the foregoing reports is that if the said atrophic changes are taking place rapidly in this generation, involution would seem to make the appendix particularly susceptible and vulnerable to either toxic or infectious irritants.

The location of the appendix makes it singularly exposed to dangers arising from bacterial invasion and toxic absorption; and, again, the great preponderance of lymphoid tissue in it, during early life, which readily undergoes atrophic change, may have something to do with the fact that after thirty to thirty-five years the disease is known to be much less frequent than in the earlier periods of life, except that of the infantile or milk-fed period, in which it is noticeable that few cases occur. This observation may at least be interesting in the suggestion that with the introduction of the various forms and varieties of food, accompanied by the incidental fermentations which follow, the bacterial flora in the intestines become more abundant as well as possibly more virulent. The concretions, fecal and other kinds, have been present in a large number of cases, varying, according to reports of different writers, from 15 to 47 per cent.; however, their absence is yet sufficiently frequent, when considered with the conditions surrounding the involvement of the tissues in question, not only to indicate, but to make it more than probable that some form of bacteria is the active agent, and is necessary to provoke an attack of appendicitis, and that the coproliths play only a secondary part as a causative element, being regarded by many as accidental to, rather than causative of, the disease.

Returning to the first part of the subject, that of influenza, when we glance at the great number and variety of diseases, and of diseased conditions attributed to this malady, the list is so large that one is at once struck with astonishment, and the question involving the accuracy of so liberal an admission immediately arises, but so long as we remain in doubt as to the positive cause of the one, and the possible etiologic relation it bears to the other, we are in a questionable position to demand a more careful classification.

Therefore, if some of these diseases bear such a close relation to influenza as not to admit of a question, this can not be said with reference to the diseases more directly under discussion. If influenza has been a causative factor in the increase of appendicitis, the latter disease should have been increased in the localities wherein the former disease has been most prevalent, and the number of cases should have been increased, *pari passu,* with the frequency of the visiting epidemics; and, again, some evidence of appendicular involvement should have occurred with, or shortly following, convalescence from the former disease; also organisms common to both diseases might reasonably be expected to be found with or in some way allied in the retrograde changes associated with the progress of the invasion. The following references and personal observations, together with statistical data, are in support of the foregoing propositions. I have to regret, however, that I have been unable to find tabulated records satisfactorily supporting all of the claims above made, but your own personal observations and information obtained from other sources, namely, the current medical literature, etc., will strengthen your confidence, to the extent at least, of aiding you in accepting the possibility of certain changes and relative happenings, to which reference hereafter will be made. The medical literature of to-

day furnishes the burden of proof confirming the statement that influenza has been much more prevalent recently in the eastern, middle, western and northern states in our country than in the southern states, and doubtless the same may be said to be true in foreign countries. Reference to the same records affords no lack of evidence that appendicitis likewise has been more frequently observed in the former states or sections of the country than in the latter ones. Again, observations and reports of cases are not wanting in which to prove the occurrence of appendicitis associated with both the acute attack of influenza and during the period of convalescence. It is generally accepted that the cocci are very much more commonly found in the necrotic processes of both influenza and appendicitis than are the bacilli. In those cases where an early operation affords opportunities for bacteriologic investigation and the detailed accounts, as recorded by Stengel in the American edition of Nothnagel's "Encyclopedia of Practical Medicine," Volume 8, enumerate many of the latter which are found to be common in both diseases, but whether the bacilli or the cocci play the most important and active rôle in the early invasion, and can be considered directly causative in both diseases and not accidental thereto, is a question the bacteriologists have not yet settled. To the extent, however, as above stated, the relation is a common one.

Illustrative of and bearing on what has already been stated as supportive of the foregoing propositions, through the courtesy of the Pennsylvania, Episcopal and German hospitals of Philadelphia, I am able to present the following data taken from their annual reports, which strongly reflects the very great activity of the causative agent, or agents, of the latter disease, during the past period of five years, especially as contrasted with the former two periods of five years under consideration:

A detail of the cases of appendicitis treated in the Episcopal Hospital from 1889 to 1903, inclusive:

Disease.	1889	1890	1891	1892	1893	Total cases for five years.
Appendicitis—Medical	0	0	2	3	0	
Surgical	0	1	0	2	7	
Total cases each year...	0	1	2	5	7	15

Disease	1894	1895	1896	1897	1898	Total cases for five years.
Appendicitis—Medical	7	4	0	0	9	
Surgical	15	33	48	53	57	
Total cases each year...	22	37	48	53	66	226

Disease.	1899	1900	1901	1902	1903	Total cases for five years.
Appendicitis—Medical	6	7	1	4	4	
Surgical	53	84	86	147	124	
Total cases each year...	59	91	87	151	128	516

A summary of the cases of peritonitis treated at the Episcopal Hospital, Philadelphia, between the years 1884 and 1903, shows that from 1884 to 1888, inclusive, there were 11 cases; from 1889 to 1893, there were 25; 1894 to 1898, 47; 1899 to 1903, 45; total, 128.

A detail of the cases of appendicitis treated in the Pennsylvania Hospital from 1889 to 1903, inclusive:

Disease.	1889	1890	1891	1892	1893	Total cases for five years.
Appendicitis—Medical	0	1	0	6	7	
Surgical	0	0	0	0	0	
Total cases each year....	0	1	0	6	7	14

Disease.	1894	1895	1896	1897	1898	Total cases for five years.
Appendicitis—Medical	9	20	10	34	0	
Surgical	0	0	0	0	51	
Total cases each year....	9	20	10	34	51	124

Disease.	1899	1900	1901	1902	1903	Total cases for five years.
Appendicitis—Medical	0	0	0	0	0	
Surgical	62	90	98	122	114	
Total cases each year....	62	90	98	122	114	486

A summary of the cases of peritonitis treated at the Pennsylvania Hospital shows that from 1884 to 1888 there were 44; 1889 to 1893, 55; 1894 to 1898, 77; total, 176.

The number of cases of appendicitis treated at the Episcopal Hospital, as above detailed, from 1889 to 1903, were respectively, from 1889 to 1893, 15; 1894 to 1898, 226; 1899 to 1903, 516; total, 757 in 15 years.

The number of cases of appendicitis treated at the Pennsylvania Hospital, as above detailed, from 1889 to 1903, were respectively, 1889 to 1893, 14; 1894 to 1898, 124; 1899 to 1903, 486; total, 624 in 15 years.

In the cases reported from Pennsylvania Hospital are included all cases of pelvic cellulitis, abdominal abscess, tubercular enteritis, typhlitis and perityphlitis, etc.

From the German Hospital the report includes only five years, beginning with 1899. In 1899 there were 223 cases; in 1900, 290; in 1901, 371; in 1902, 437; in 1903, 475—making a total of 1,796 cases, all operative cases. There was no attempt at arranging the acute and chronic.

If we study these cases from the records of the Pennsylvania and Episcopal hospitals together, in the first period from 1889 to 1894, we will find but a total of 29 cases; for the second period of five years 350 cases, or an increase of more than twelve times the number treated in the first five-year period. Again, if we study it from the standpoint of each hospital alone, in the Pennsylvania Hospital we will find 8.75 times as many cases treated in the second five-year period as in the first, and 34.66 times as many in the third or last five-year period as in the first. In the Episcopal Hospital we find fifteen times the number of cases treated in the second five-year period as in the first, and 34.41 times as many cases in the third or last five-year period as in the first. In studying the records of the last five-year period (which is the only one obtained) from the German Hospital, we find the increase, respectively, for each year over the first year of the period, beginning with 1900, to be 67, in 1901 148, in 1902 214, and in 1903 252 cases, or a relative percentage increase each year over the first year of the period, of 30 per cent., 65 per cent., 94 per cent. and 113 per cent, or in round numbers, 1 3/10, 1 7/10, 1 9/10, and 2 1/10 times the number treated in the first year of this series.

If we take a summary of the cases of peritonitis from all causes as recorded in the Pennsylvania Hospital reports, from the years 1884 to 1889, there were 44 cases; from 1889 to 1894 there were 55 cases; and from 1894 to 1899 there were 77 cases, or a total of 176 cases. The records in the Episcopal Hospital during the same periods of five years each, respectively, show 11, 25 and 47 cases, making a total of 83 cases. The foregoing includes the number of cases of peritonitis from all causes, treated in both the medical and surgical wards, some of which doubtless have been included twice in the count, as it is more than probable that they were recorded first in the medical and afterward removed to and were enrolled in the surgical ward; and in the case of the Pennsylvania Hospital there is to be considered the addition of all cases of abdominal abscess, pelvic cellulitis, tubercular enteritis, typhlitis and perityphlitis, etc. While this data must not be considered as offering proof of the relation of the one disease to the other, it is at the same time exceedingly interesting and equally instructive in giving us an idea of the very great increase of appendicitis during the past five years, as contrasted with the previous five-year periods under consideration; and secondly, in the astonishing fact that in the Pennsylvania and Episcopal hospitals, both of which are known to have been provided with the services of some of the ablest and best known physicians and surgeons of the country (thus giving rise

to the least possible question of errors in diagnosis), there were operated on more than seven times as many cases of appendicitis in the third or last five-year period, as there were cases of abdominal inflammatory diseases of all kinds, of sufficient grade to cause peritonitis during the first and second five-year period preceding. In the Episcopal Hospital alone there were operated on 3½ times as many cases of appendicitis during the past year, 1903, as there were treated cases of peritonitis from all causes during the ten years previous to 1894, and 1 1/3 times as many cases as were treated from all causes, save those recognized as appendicitis, during the ten years just past.

If a similar comparison be made with the number of cases operated on at the German Hospital during the same years, the figures would read 13 1/5 times and 5 1/6 times the number of cases of peritonitis previously referred to. Therefore, it seems to me the claim is perfectly admissible, whatever may be the cause, that appendicitis has increased and has increased so very greatly in the past five years in general, and each year in particular, that we can not longer fail to recognize this fact, that the great increase has been largely within the past five years, and that no other general disturbance has been so prevalent within that time as that of influenza. In the Pennsylvania Hospital, during the three five-year periods under consideration, there were reported, respectively, 14, 124 and 486 cases of appendicitis, or 624 cases in 15 years, and in the Episcopal Hospital during the same periods there were treated, respectively, 15, 226 and 516 cases, making a total of 757 cases, in the corresponding period of fifteen years, and together in the two hospitals a total of 1,381 cases. In the Pennsylvania Hospital the past five years ending with 1903, there were 486 cases. In the Episcopal Hospital the past five years ending with 1903, 516 cases, or a total of 1,002 cases, leaving only 279 cases treated at the above hospitals, viz., Episcopal and the Pennsylvania, for the previous period of ten years, or an average of 27.9 cases each year, as contrasted with 201 for each year in the last five-year period, viz., from 1898 to 1903.

With reference to the records of the German Hospital, my studies have been confined wholly to a period of five years, beginning with 1899 and ending with 1903, which reports give the yearly records, respectively, of 223, 290, 371, 437 and 475, or a total for the past five years of 1,796 cases, making a general total treated in the three hospitals during the past five years of 2,798 cases, or an average of 559+ per year, and 2.13 times as many in 1903 as 1898.

Being desirous to know how some of the representative men of the profession felt with reference to the subject under discussion, I addressed a letter to each of the following physicians and surgeons, namely: J. M. Anders, Philadelphia; Frank Billings, Chicago; Judson Daland, Philadelphia; Hobart A. Hare, Philadelphia; John H. Musser, Philadelphia; William Osler, Baltimore; John B. Deaver, Philadelphia; W. W. Keen, Philadelphia; William J. Mayo, Rochester, Minn.; A. J. Ochsner, Chicago; Roswell Park, Buffalo; John A. Wyeth, New York City; Chas. Stockton, Buffalo, N. Y.; and received an answer from all excepting Dr. Roswell Park, who was absent in Europe.

It seems quite a coincidence that the physicians were equally divided in their opinions for and against the possible influence influenza may have as a causative factor in the increase of appendicitis, while the surgeons, with one exception, expressed themselves favorably to the opinion that it has been a causative factor. I attach the opinions as expressed in the letters received.

PHILADELPHIA, May 3, 1904.

Replying to your query, "Has Influenza been a causative factor in the increase of appendicitis?" would state that, in my view, an affirmative answer is demanded by the facts. There is evidence to indicate that influenza and other infectious processes may invite appendicitis.

In a paper embodying a statistical study of influenza (The Philadelphia Hospital Reports, vol. iii., 1896, by the writer), it was shown that this disease increases the bodily susceptibility to typhoid fever, and more particularly pneumonia. In the same article the fact was illustrated by statistical evidence that influenza diminishes receptivity of the body to malarial infection.

It is doubtless true that infection with a specific microbe may be favored by the recent occurrence of an infectious disease due to some other organism; per contra, the occurrence of an infecting disease may not only establish immunity from the disease itself (e. g., measles and scarlatina), but also lessen or even destroy the receptivity to certain other diseases of the same class.

Judging from personal experience and observation, I am persuaded that attacks of influenza are sometimes complicated with or followed by appendicitis, and hence that an etiologic connection of considerable significance between these two important, acute, infectious processes will be shown, by more extended observations, to exist.

On the other hand, there is much danger of confusing the abdominal symptoms of influenza with appendicitis. I have sometimes observed both pain and tenderness in the appendicular region in the course of otherwise typical influenza. Instances of this sort, however, are not to be regarded as being complicated with appendicitis; it requires the presence of localized resistance to render the diagnosis of appendicitis even reasonably certain. I have, however, met several cases in my experience in which influenza appeared to be the cause (although at times a somewhat uncertain one) of acute appendicitis. I would say that in all cases of influenza the diagnosis of a complicating appendicitis must be made with due caution and reserve. Very sincerely yours,

J. M. ANDERS.

CHICAGO, Ill., May 4, 1904.

In answer to your letter of the 2d inst., I am obliged to say that I have never seen a case of appendicitis which led me to believe that influenza had been a causative factor as related to it. Influenza has been so common in our country since 1889 that almost all people have suffered from the disease at some time during that period, but as stated above I can not recall any case in which appendicitis and influenza were in any way related.

FRANK BILLINGS.

PHILADELPHIA, May 3, 1904.

In my opinion, influenza has been an important etiologic factor in appendicitis.

JUDSON DALAND.

PHILADELPHIA, May 3, 1904.

In reply to your note of May 2, let me state that I have not noticed any relationship between influenza and appendicitis.

HOBART A. HARE.

PHILADELPHIA, May 4, 1904.

Only as influenza knocks down the resisting power of the individual can one realize its causal agency in the production of appendicitis. I have no exact data to give. I have no reason to think from my experience that the Pfeiffer bacillus has been productive of appendicitis in any of the large number of cases that I have seen.

J. H. MUSSER.

BALTIMORE, May 4, 1904.

I have no facts which would lead me to suppose that influenza has been a causative factor in the increase of appendicitis. I should say it has not been the case here, where we have not suffered to an extreme degree from the disease.

W. OSLER.

BUFFALO, N. Y., May 5, 1904.

I believe that influenza has been a causative agent in producing appendicitis, for the reasons that it is an important factor in lowering the general resisting power of the economy; that it has been prone to involve the accessory cavities of the respiratory tract, and by analogy should affect those of the digestive tract; that in point of fact, tenderness over the region of the appendix is distinctly observed in a proportion of cases of intestinal influenza; and, finally, that following an epidemic of influenza clinicians believe that the proportion of cases of appendicitis has been larger. I am aware that this evidence is not beyond question, but I have none more positive to offer.

CHAS. G. STOCKTON.

PHILADELPHIA, May 5, 1904.

There is no donbt in my mind that influenza being a causative factor of catarrhal conditions in general, during epidemics of the same appendicitis is more viable.

JOHN B. DEAVER.

PHILADELPHIA, May 3, 1904.

I have a very strong conviction that the prevailing influenza of the last few years has been a decided factor in the increase of appendicitis, especially of the catarrhal form.

W. W. KEEN.

ROCHESTER, MINN., May 3, 1904.

It is a new idea to us, and I can only say that I have not noticed that appendicitis was more noticeable during the influenza season.

W. J. MAYO.

CHICAGO, May 4, 1904.

In answer to your inquiry, I would say that I have encountered a considerable number of mild appendicitis cases which have appeared within a week after the beginning of a severe influenza, and I had considered this condition as a cause of the disease.

A. J. OCHSNER.

NEW YORK CITY, May 3, 1904.

In answer to your question, "Is influenza a causative factor in the increase of appendicitis?" I would answer: In view of the fact that influenza diminishes the normal resistance to septic infection it must of necessity increase the dangers of infection from the appendix.

JOHN A. WYETH.

The following abstracts, with the exception of the first, have been gleaned from foreign literature:

FINNEY and HAMBURGER, in a paper entitled "Relation of Appendicitis to Infectious Diseases," state that the clinical evidence proves distinctly the relationship between influenza and appendicitis. They were impressed by the increase of appendicitis during every epidemic of influenza; also, the close relationship existing between the two. They know six instances where appendicitis followed immediately or during influenza. Jour. A. M., 1901, vol. li, p. 941.

WINTERNITZ, "Bacteriology of Appendicitis," states that he found the influenza bacillus (Pfeiffer) in pure culture in one case of appendicitis, in which the appendix was removed in the interval, or subsequent to the attack. He further states this organism is capable of producing appendicitis, which must be of the prevalent catarrhal type, and it may change from this, without mixed infection, into the gangrenous form, as it is capable, without other assistance, of producing gangrene. The proof for this is the fact that it is not found normally in the intestine, but only associated with pathologic processes.

He considers this type of appendicitis as an abdominal influenza, and says that most likely many cases of appendicitis are due to influenza bacillus.—Orivosi Hetilap, 1900, vol. xliv, No. 13.

ADRIAN demonstrated influenza bacilli in a periappendicular abscess. Influenza was followed by a slight injury to the abdomen; the symptoms and signs of appendicitis followed at once; also sore throat and bronchitis, with influenza bacilli in sputum. Abscess in ileocecal region was opened; the pus contained the same organisms.—Mitteilungen aus den Grenzgebieten der Medecine au Chir., 1901, vol. vii, p. 407.

PEERE, in a paper entitled "Influenza in Its Surgical Relations," reports his experiments and gives his results as follows: After injecting influenza bacilli into different parts of rabbits, he usually obtained general intoxications; sometimes he was able to get local suppurations; of 63 injections into abdominal cavity, Pfeiffer bacilli was found localized six times. Does not say in what organs. —Deutsche Zeitschrift für Chirurgie. 1901, lix, Nos. 1 and 2.

LUCAS-CHAMPIONNERE believes in the direct connection between appendicitis and influenza. Believes it due to influenza by producing an intestinal catarrh.—Acad. de Medecine, February, 1901.

FRANKE wrote that he had often seen appendicitis within a short time after influenza; that they were in reality more commonly found together now than they used to be. He sees a direct connection between the two, through the intestinal catarrhs that are very common in influenza. In 1897 appendicitis seemed to be epidemic. He relates the case where three individuals of one family were attacked with appendicitis simultaneously after influenza. One was operated on because of pus, recovered without operation, the third was operated in the interval because of constant colic, etc. He further relates two other cases in detail; the first recovered, the second did not. In the latter case the appendix was perforated; both followed during convalescence from influenza. He also relates a case in which pseudo appendicitis exists; neuritis, neuralgia of the abdominal nerves, may simulate appendicitis. Such cases are considered related by him; some have even gone to operation. Other observers report such cases.—Mitteilungen aus den Grenzgebieten der Medecine au Chir., 1899, vol. v, p. 248; and in vol. v, p. 2, same journal, he states that appendicitis is a much more common disease since influenza epidemics are so frequent.

PEYER, L., states that cases of appendicitis after influenza are common, and that appendicitis following influenza has been observed.—Deutsche Zeitschrift für Chirurgie. 1903, lxvi, 1.

TEISSER reports a number of such cases.—Thèse, Paris, 1891.

LEICHTENSTERN reports many cases occurring during the influenza epidemic of 1889, and maintains there is a direct connection between the two. He further speaks of influenzal typhlitis and enteritis.—D. en W. 1890 No. 11, etc.

MERKLEN says that during the influenza the virulence of the intestinal bacteria is heightened, adding: Appendicitis is much commoner since influenza has returned to us. In another article (also in Gaz. Heb'd., 1897, No. 24) he reports three cases of appendicitis in children following influenza. In these cases he believed there existed a family predisposition—viz., an enteric catarrh, which made it easy for the influenza to increase the virulence of the intestinal organisms.—Ibid., 1897, 404.

PEYER stated that appendicitis sometimes seems to be epidemic. He relates an instance where three members of one family were taken simultaneously with influenza and appendicitis. It may appear several days or several months after influenza. Its symptoms and signs do not differ from ordinary appendicitis. He has experimented with Pfeiffer's bacillus, giving it to animals by stomach tube in pure culture; also through a rectal tube. Gastrointestinal inflammations and suppurations were produced. The appendix was often in a state of suppuration.

FLORANY, "Nature and Treatment of Appendicitis," says that not all varieties of appendicitis require surgical interference, and mentions, among others, grippal or influenzal appendicitis. That infectious appendicitis is common, but its manifestations are usually not severe. The majority recover without operation.—Semaine Med., 1899, 110.

FAISANS, in a paper entitled "The True Cause of Appendicitis," formulates the conclusions that grippe is the cause of appendicitis. He also states that the occurrence of the two diseases together is not a coincidence, especially as it is very common. Appendicitis is much commoner since influenza is prevalent, and at each annual epidemic the number of appendicitis cases becomes very common. He believes influenza to be a direct cause of appendicitis, and probably the most common cause.—Bull. et Med. del Soc. des Hop. de Paris, 1899, xvi, p. 335.

SCHULTES, in a paper entitled "Relationship between Influenza and Appendicitis," says during three former influenza epidemics he observed no cases of appendicitis, but during a grave epidemic of the last winter (156 cases) he observed three cases in whom the influenza bacillus had to be considered the causal agent. There were nine cases of appendicitis during the time of this last epidemic which he was able to collect.—Deutsche Med. Woch., 1903, vol. xxix, No. 42.

SONNENBURG says he has seen the cases of appendicitis increase very much during influenza.

From a list of 28 or more cases known to me, the following are a few, briefly stated, representing the types seen:

CASE 1.—Italian girl, 13 years old, had a well-marked attack of influenza, which was followed within four weeks with an acute attack of appendicitis. Operation revealed abscess. Culture showed many bacteria, chiefly the colon bacillus.

CASE 2.—Young lady, 23 years of age, severe attack of influenza, followed within six weeks with an attack of acute appendicitis. Operation during the attack. No culture taken.

CASE 3.—Young man of 26, an attack of influenza, followed within six weeks with acute appendicitis. Case improved; no operation.

CASE 4.—Young man of 22, severe influenza, followed within three weeks with apendicitis. Operation; gangrenous appendix. No culture.

CASE 5.—Dentist, 35 years of age, three attacks of influenza within the past two years, each followed by what is supposed to be a catarrhal attack of appendicitis, two of which attacks, the first and third, occurred during the first week of convalescence, while the second, or other attack, during the influenza.

Before concluding, I wish to introduce the thought, which may or may not be new, that influenza occurs in both acute and chronic forms, clinically speaking. I feel sure I have observed cases of the pulmonary type which have gradually passed from the active stages of the former to the more fixed and stubborn conditions of the latter, but which subsequently underwent changes that led to improvement, and in some, to the entire restoration of health. I have also observed a class of cases, even more chronically inclined, in which tubercular evidences became manifest and death laterally ensued. Whether the results in these may be due to influenza primarily, and tuberculosis secondarily, or vice versa, I am not prepared to state, but reasoning from analogy, since we recognize three types of influenza, viz., cerebral, pulmonary and gastrointestinal, doubtless like conditions will apply to them all. Then if we admit the above, e. g., the existence of chronic pulmonary influenza, is there any good reason why we may not so classify the gastrointestinal inflammatory diseases, which succeed to or immediately follow intestinal influenza? If this be admitted, we are but a short way from the admission that this preparatory, influenzal enteritis (of which we are occasionally beginning to hear, and about which it is being said that so far as influenza is the perverter of function and disturber of vital force, it becomes a causative factor in the production of appendicitis), is no more or less than admitting the existence of chronic intestinal influenza, which may involve alike the appendix and the small and large intestines, but the former being peculiar in anatomic construction, composed largely of lymphoid tissue, poorly supplied with arterial circulation, with a natural tendency to atrophic change, at once becomes more vulnerable to the specific infection and less capable of resisting the toxic invasion; hence in this, as in the other parts of the body, we note changes more disastrous to the structure involved, farther reaching in the consequences entailed, and more fatal in the results that follow.

CONCLUSIONS.

Whether the foregoing suggestions and abstracts will enable us to arrive at a fixed conclusion or not, does not affect the following deductions:

1. That appendicitis has increased in the past five years much more rapidly than in either of the previous five-year periods studied.

2. That the accessory cavities are more frequently attacked, and when diseased, more likely to be aggravated by influenza, than by other diseases.

3. That there is more than a possibility of the existence of chronic intestinal influenza, therefore a probability of its causative relation to appendicitis.

4. That the observations as set forth in the abstracts referred to must be admitted as a measure of proof in favor of the inferences drawn and the conclusion arrived at.

DISCUSSION.

DR. DELANCEY ROCHESTER, Buffalo.—During the last fifteen years the number of cases of appendicitis reported has increased; while this is true to a certain extent we must remember that a large number of cases have not been reported previously because they were not recognized. Of late, cases of appendicitis have been more and more recognized and have been reported because operated on. Formerly they were reported, when reported at all, under the heading of "inflammation of the bowels." This may account for some of the increase of cases of appendicitis. I take issue with the doctor in regard to the great increase in the number of cases of appendicitis, but particularly with the statement made regarding the large number of cases of influenza during the past five years, comparing them with the number of the preceding five years. In my personal experience in influenza it has been vice versa. A great many cases have been called influenza which should not have been so designated.

DR. JAMES J. WALSH, New York—Grippe appeared in this country in 1889, 1890 and 1891, and just after that attention was called to cases of appendicitis and possibly the connection between the two begins there. Whether there have appeared more cases of appendicitis during the last five years than previously must be determined from the statistics taken from hospitals or other reliable sources. It may be that trouble in the appendix may have existed for years, and something was necessary to give the disease a shove and influenza seems to be looked on as the cause.

DR. A. E. RUSSELL, Philadelphia—One point that should be noted is that cases of appendicitis which follow the abdominal type of influenza follow a comparatively uncommon type; the catarrhal type is by far the most frequent and the neurotic type comes next in frequency. It seems to me that now influenza is taking the place that malaria held a few years ago prior to the discovery of Laveran's organism. Years ago every vague case was diagnosed malaria; nowadays malaria is one of the most uncommon diseases in Philadelphia. It is so rare there that I would go quite a distance in order to have a case to demonstrate before my clinic. I believe we have had but little influenza to deal with during the past two or three years. Personally I know of 67 cases reported, with the clinical diagnosis of influenza in which no Pfeiffer bacillus was found in the Philadelphia and Howard hospitals last winter. Pfeiffer's bacillus is easily found.

DR. ROBERT T. MORRIS, New York—Dr. Marvel is in a position to see a great many of these cases, because we send our influenza patients to Atlantic City for recuperation. Does influenza cause appendicitis? Yes. It causes a swelling of the mucosa and lymphoid layers of the appendix. Anything causing a swelling of the mucous and lymphoid layers of the appendix leads to the second stage in the production of appendicitis, namely, a compression anemia of the structures which are unable to swell freely in the tight sheath of muscularis and peritoneum of the appendix. The third stage in progress begins when bacteria attack the tissues that have become anemic by compression and later stages of appendicitis follow, their character depending on the character of the resistance that the patient is able to call out. Some cases of appendicitis appear in evidence early in the attack of influenza, and others as late sequelæ. Chronic appendicitis is apt to show an exacerbation also, when the patient's general cell resistance is lowered by the influence of influenza. On general principles we may be very sure that an epidemic of influenza carries an epidemic of appendicitis in its wake, but particularly in the class of cases in which the bowel mucosa is involved, and in which the swelling of the mucosa and lymphoid layers of the appendix is mechanically obstructed by the inelastic sheath of muscularis and peritoneum.

DR. PHILIP MARVEL. If there were as large a number of cases of appendicitis in the first period of five years considered, as in the second, and in the third and last, not recognized as appendicitis or as peritonitis or any other abdominal disease, then surgery has been of little or no help to us in treating this disease. You will note that only five cases were recognized in the first period referred to, hence to conclude that appendicitis is not met much more frequently laterally than formerly, or that the surgical treatment of this disease has been a detriment and not a help is to take a position opposed to facts and that maintained by the profession in general. If we consider all the cases of inflammatory diseases of the abdomen, reported in the first period mentioned and compare the number with the number of cases of appendicitis operated on in the same hospital any single year, during the past or third period, you will find the number of the former about one-fifth of the latter, or that there were nearly five times as many cases of appendicitis operated on in the Episcopal or Pennsylvania hospitals any year since 1900 to the present, as were recognized and reported, of all inflammatory diseases of the abdomen, including abscesses, peritonitis, etc., during the first period of five years referred to. These figures will bear close studying. Referring to the Pfeiffer bacillus as the causative factor, this I have not questioned where there is a pure culture, but as referred to in the early part of my paper you see only a very few of these cases. They are mostly mixed infections—i. e., complex in origin.

NOTES ON VACCINE.*

CHARLES T. McCLINTOCK, M.D., PH.D.
DETROIT.

Most of the observations recorded in this paper are not new. The literature on vaccine contains such a diversity of statements, in regard to its reactions and limitations, that one is often at a loss to know just what to believe in regard to a given statement.

EXPERIMENTS.

The following experiments were undertaken in order to satisfy myself in regard to the various reactions mentioned:

EXPERIMENTS ON CALVES.

A heifer about three months old was fed per os six ounces of an emulsion of active vaccine. Ten days later there were observed a few large, typical, umbilicated vesicles on the legs in the region of the groin and around the udder.

A heifer was injected intravenously with 5 c.c. of an emulsion of active vaccine. Nine days later a large number of well-developed vesicles were discovered in the region of the injection, on the opposite side of the neck, on the edge of the eyelids, in the groin and especially thick over the udder.

A heifer was fed 5 c.c. of an emulsion of active vaccine in a capsule. The capsule was broken in the mouth of the animal. Nine days later a large number of vesicles had developed on the mucous membrane, especially on the roof of the mouth and the inner aspect of the upper lip.

A female calf, six weeks old, weight 130 pounds, was injected intravenously with 5 c.c. of an emulsion of active vaccine. At the time of inoculation the abdomen was shaved. Five days later numerous papules appeared on the shaved portion of the abdomen. Four days later, or nine days after inoculation, typical umbilicated, well-developed vesicles appeared all over the body, on the under side of the upper lip, the external side of the lips, around the eyes, at the base of the ears, on the inside of the nostrils, around the point of injection, on the legs just above the junction of the hoof and the external genitals.

Two calves, A and B, each weighing 130 pounds, six weeks old, diet milk. Abdomen shaved.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

A received 5 c.c. of an emulsion of active vaccine intravenously.

B received 5 c.c. of an emulsion of active but weak vaccine intravenously.

Five days later A showed a large number of well-developed typical vesicles over the anterior portion of the shaved surface, in the groin, on the leg, and the area around the point of injection. B gave no indication of a reaction. A developed 2 degrees C. more temperature than B.

A heifer was injected intravenously with 5 c.c. of an emulsion of active vaccine. Nine days later two well-developed vesicles appeared near the point of injection. Fifteen days after injection animal was inoculated in the usual manner and found to be immune.

A heifer was sprayed in the nostrils with an aqueous emulsion of active vaccine. Six days later vesicles were observed in the region of the udder.

A heifer, pregnant, was sprayed in the nostrils with an aqueous emulsion of active vaccine. Six days later vesicles were observed along the back and on the legs. Animal gave birth to a calf three weeks after inoculation. The calf at birth reacted to vaccine.

A heifer, pregnant, inoculated with vaccine in the usual way. Animal gave birth to a calf on seventh day after application of vaccine. Vaccine well developed. Calf gave good reaction to application of vaccine.

The vaginal wall of each of three heifers scarified and vaccine applied. In about five days thickened and white patches appeared along the lines of scarification.

The lower bowel of each of two heifers was thoroughly washed out with warm water. Several ounces of an emulsion of active vaccine injected. No reaction.

Two cubic centimeters of an emulsion of active vaccine injected subcutaneously in a heifer. Abdomen shaved and scarified. Gave no reaction.

A heifer was inoculated in the usual manner on the skin with blood drawn from a heifer that had reacted well to vaccine. No reaction followed.

EXPERIMENTS ON RABBITS.

In order to see if rabbits could be used for determining the activity of commercial vaccine, fifteen different samples of vaccine were used on forty-eight rabbits. Of these two died, four gave no reaction, ten gave a redness of the inoculated skin only (this redness is a partial reaction and is not due to the shaving or scarifying of the skin), seventeen gave distinct but poorly-developed vesicles, while fifteen gave the typical vaccine lesions.

In this series of rabbits it was very noticeable that the large, full-grown animals reacted much better than the smaller and younger animals. Since the above was written, many rabbits have been used in this way, and in our experience we find the results are most satisfactory if the back of the animal is used rather than the abdomen, if a small area is shaved, and the vaccine rubbed in without scarification. In judging of the quality of the vaccine, we very much prefer to use the skin of the back of the rabbit rather than the corneal inoculations.

EXPERIMENTS ON GUINEA-PIGS.

Eighteen mature male guinea-pigs, inoculated on the scrotum with nine different samples of active vaccine. At the end of four days all of them had reacted, but the lesions were far from uniform in number or size; they varied from a very slight reaction to typical, well-formed vesicles.

The reaction of vaccine on the scrotum of guinea-pigs was carried through eighteen generations. Since this was written (about a year ago), between 2,000 and 2,500 guinea-pigs have been used in testing vaccine. We find that the guinea-pig is the most satisfactory small animal for testing vaccine and judging of its value. I am of the opinion that with proper technic they will react with as much certainty and uniformity as do children or calves, but it is quite noticeable that the older animal gives the better results.

EXPERIMENTS ON DOGS.

Two dogs were fed a quantity of an emulsion of active vaccine. No eruption.

A dog was injected intravenously with an aqueous emulsion of active vaccine, and gave at the end of eight days a general eruption of modified vesicles.

A dog, shaved over abdomen and injected intravenously with an aqueous emulsion of active vaccine, developed vesicles over shaven area and at point of injection seven days after the operation.

Six dogs, shaved on the back, scarified and inoculated with commercial vaccine, developed modified vesicles at the end of eleven days.

EXPERIMENTS ON VARIOUS ANIMALS.

Several typical, well developed vesicles were collected from a heifer producing commercial vaccine. Two full-grown rabbits were inoculated on the back with this material. Animals developed vesicles and redness; at the end of the fourth day material removed and inoculated onto the skin of a dog. This animal developed vesicles. At the end of the eleventh day material removed and inoculated onto scrotum of two guinea-pigs. Vesicles developed and were removed at the end of three days. Material collected and inoculated onto skin of a heifer. Typical vesicles developed in six days.

Inoculation of vaccine on cornea of rabbits through thirteen generations. Transferred to the skin of a heifer, gave typical vaccine vesicles for that animal.

Vaccine inoculated on the cornea of frogs produced a cloudiness and growth similar to that on cornea of the rabbit. Transferred to the scrotum of guinea-pigs we obtained typical vesicles for that animal.

Six white rats, shaved on abdomen and inoculated with an emulsion of active vaccine. Gave no reaction. Some observers report having obtained good results from white rats.

Six white mice, shaved on abdomen and inoculated with emulsion of active vaccine, gave no reaction.

Two cocks, inoculated on the skin of the breast after removal of feathers, failed to give reaction. Two pigeons treated in a similar manner failed to react.

A spot was shaven on the rump of a donkey, an emulsion of active vaccine was applied, and a raised greasy growth developed and persisted for several days.

A spot was shaven on the abdomen of a horse, active vaccine was applied and an appearance obtained similar to that on the donkey, which persisted for several days.

The abdomen of a young female goat was shaven and active vaccine applied. Small, discrete, non-umbilicated vesicles appeared in six days.

The rump of a mature male goat was shaven and active vaccine applied. Small bleb-like vesicles appeared in six days.

A spot was shaven on the backs of two sheep, active vaccine applied and in six days bleb-like vesicles developed.

The backs of two swine were shaven, active vaccine applied, and a scale formed, but no vesicles.

Some active vaccine was digested in neutral solution at 38 degrees C. with the following enzymes: Pancreatin, caroid, bromolene. At the end of forty-eight hours the different solutions inoculated on the skin of a heifer in as many different spots. Some of the original vaccine inoculated as control. Pancreatin solution, no reaction; caroid solution, no reaction; bromolene solution, a few vesicles; control solution, numerous vesicles.

An emulsion of active vaccine was centrifugated for ten hours, at the end of which time the supernatant liquid was removed and inoculated on the skin of a heifer, together with some of the original emulsion as control. Both spots reacted equally well.

An aqueous emulsion of active vaccine was dried in a current of cold air. One-half was ground to an impalpable powder in an agate mortar. Each lot again emulsified. The

dried unground material developed the usual number of typical vesicles for the area scarified. The ground sample failed to react.

Plain agar at 45 degrees C. inoculated with sterile vaccine, then injected under the skin on the abdomen of a heifer. Agar solidified by placing ice over site of injection. After five days agar removed, examined microscopically and inoculated on skin of normal heifer. No result. Experiment repeated with several animals.

Collodion sacs inoculated with sterile active vaccine and placed in abdomen of rabbits and heifers. Sacs removed at varying intervals of time, and inoculated on skin of normal heifer. No result. Collodion sacs, inoculated with sterile active vaccine introduced into scrotum of male guinea-pigs, after removal of testes, after several days gave no reaction when applied to susceptible animals. The same results were obtained from sacs placed under the skin of heifers.

Eggs inoculated with sterile active vaccine in different ways, i. e., in the albumin, in the yolk, in the whole contents shaken up, in eggs coated with paraffin, placed at room temperature, incubator, and icebox. Microscopic examination and inoculation on the skin of a heifer gave no result.

Some capillary tubes of commercial vaccine (50 per cent. glyc.), were subjected to the following conditions:

1. Three tubes placed in water at 50 C. for 5 min.
2. Three tubes placed in water at 50 C. for 10 min.
3. Three tubes placed in water at 50 C. for 15 min.
4. Three tubes placed in water at 60 C. for 5 min.
5. Three tubes placed in water at 60 C. for 10 min.
6. Three tubes placed in water at 60 C. for 15 min.
7. Three tubes kept for control.

Each tube was then inoculated on the scrotum of a mature male guinea-pig: at the end of the fourth day there were the following results:

1. Good reaction on three pigs.
2. Good reaction on three pigs.
3. Fair reaction on one pig; poor on two.
4. No positive reaction.
5. No positive reaction.
6. No positive reaction.
7. Good reaction on three pigs.

Serum obtained from heifer immune to vaccine used for precipitin reaction, using an aqueous emulsion of active vaccine filtered through paper. No reaction.

A physician of considerable experience reported that he had great difficulty in vaccinating children who had recently had an injection of antitoxin. In order to test the matter, two vaccinated heifers were given daily large doses of diphtheria antitoxin, but there was no apparent delay in the development of the vaccine. Vaccinated heifers were also treated with quinin and methylene blue, with no observable effect on the development of the vaccine.

One set of vaccinated guinea-pigs, that were given per mouth large doses of sulphur, seemed to show marked inhibition in the growth of the vaccine.

An attempt was made to see if we could find some drug or chemical that had a peculiar or selective action on the vaccine organism, such as quinin for malaria or mercury for syphilis. As the results were practically all negative, it is not necessary to give the details of the experiment, which would make this paper too long. The drugs were mixed with fresh calf vaccine, and after certain varying lengths of time, the vaccine was inoculated on scrotum of adult guinea-pigs. The following list of drugs in the per cent. used did not destroy the vaccine:

Borax, boracic acid, sodium sulphite, sodium salicylate, sodium arsenite, arsenous acid, tannic acid, carbolic acid, carbonic acid, ammonia alcohol (3 per cent.), camphor, guiacol carbonate, oil sandal wood, oil eucalyptus, oil peppermint, olive oil, infusion ipecac, hydrogen sulphid, glucose, dextrose, lactose, eosin, methylene blue, methyl violet, quinin hydrochlorate, cocain, caffein, aconitin oleocrudin hydrochlorate, apomorphin hydrochlorate, atropin, morphin sulphate, strychnia sulphate, chloral, chloretone, antipyrin, salicin, salol, phlorogluein, potassium iodid, barium chlorid, calcium chlorid, ammonium chlorid, potassium bromid, potassium bitartrate.

The following list of drugs did either destroy or materially weaken the vaccine, but I do not believe that it was any specific action at all. Most of them, it will be noticed, are protoplasmic poisons:

Potassium carbonate, sodium carbonate, potassium dichromate, potassium alum, copper sulphate, iron sulphate, lead acetate, ferric chlorid, zinc sulphate, chloroform, ether, urotropin, turpentine, kerosene, iethyol, oil cinnamon, mercuric chlorid (1-10 to 20,000), nitric acid, hydrochloric acid, sulphuric acid, phosphoric acid, acetic acid, oxalic acid, citric acid.

(These last seven acids in dilutions of 1-1000 to 1-2000.)

ATTEMPTS TO GROW THE VACCINE ORGANISM.

Fresh active vaccine with the bacteria destroyed, usually by chloretone, sometimes by carbolic acid, were inoculated on or into the media. This was incubated for varying lengths of time, and the material then tested on guinea-pigs. Not infrequently there was a growth of vaccine on the animal, but one experienced in this line can usually tell at a glance as to whether this growth is a transference of a portion of the vaccine inoculated on the media, or whether there had been a multiplication of the vaccine organism. In no case was there proof of the latter.

In addition to the ordinary culture media of the laboratory, the following were tried, all results being negative:

Bouillon from fish and from fish skin; milk whey; bouillon from the skin of frogs, guinea-pigs, cows, rabbits, heifers; fresh blood serum from rabbits, cows, horses; blood serum from same animals plus a small amount of hemoglobin; blood serum from the same animals heated at 60 degrees on each of several days; skin of rabbits, guinea-pigs and heifers partly digested with pepsin, and then made alkaline; skin from rabbits, cows and guinea-pigs sterilized by chloroform or chloretone, which was removed by heat, and then the skin inoculated; infusion made from vesicles of a heifer after sterilization; infusion made from cabbage, carrots, turnips, beets, Irish and sweet potatoes. Reaction alkaline, acid and neutral.

THE VACCINE ORGANISM.

After three years of continuous work, attempting to gain some insight into the form or nature of the organism causing vaccinia, my results are entirely negative. The number and variety of forms to be found in vaccine—forms that may possibly be the specific organism—is surprising. I have been called so often by my assistant to come and see a new organism that it has grown monotonous. The forms described by the several authors who have reported on this subject during the last ten years are all to be seen at times, as well as many others. The ones recently described by Councilman, Caulkins and their co-workers are easily made out, but that these or any of the others so far described have anything to do with causing the phenomena of vaccination, as it appears to me, is without any satisfactory or substantial proof.

CONCLUSIONS.

1. Many of the domestic animals are susceptible to smallpox vaccine.

2. The time of development varies notably, from three days in a guinea-pig to from nine to eleven days in a dog. This variation appears to depend on the resistance of the animal, and apparently does not increase or decrease the virulence of the vaccine. Vaccine grown for seventeen generations on guinea-pigs, where it develops in three to four days, when inoculated on heifers or dogs, takes the usual time for development in those animals.

3. In guinea-pigs and rabbits, full-grown animals are decidedly more susceptible than young ones.

4. Vaccinal immunization in cattle is not to any notable extent transmitted to the fetus.

5. A great many chemicals have a destructive or germicidal action on bacteria, but in the list of chemic-

als thus far tried, none have been found which show any special or specific action against the vaccine organism.

6. The vaccine organism is not killed by glycerin, chloroform, chloretone, potassium cyanid, carbolic acid or quinin, when these chemicals are not used in too great strength. At the same time all the ordinary bacteria, contaminating the vaccine, are destroyed.

7. Contrary to the opinion of many observers, we have not found that the vaccine organism decreases in virulence by repeated inoculation on calves. At one time we carried a strain of vaccine through eighteen generations on calves in eighteen weeks, destroying the bacteria in the vaccine with chloretone before making each inoculation. At the end of the time there was no apparent loss of virulence.

NOTE.—Umeno reports 130 generations on calves with an increase in virulence.

DISCUSSION.

DR. M. J. ROSENAU, Washington, D. C.—Did Dr. McClintock state that the use of glycerin, chloroform, chlorodin, potassium cyanid and carbolic acid killed all the bacteria in vaccine and did not harm the power of the virus so far as its physiologic action is concerned?

DR. D. H. BERGEY, Philadelphia—Some three years ago I took up the study of vaccinia for a brief time and conceived the possibility of the cultivation of vaccine virus in some of the lower animals, the method being probably somewhat less expensive than that at present in use and also less open to danger of extraneous infection. I made my experiments in the peritoneal cavity of the guinea-pig; but my experience coincides with that of Dr. McClintock—that the virus died out or the organism disappeared in a few days, and my results were entirely negative.

DR. A. P. OHLMACHER, Gallipolis.—I should be very much pleased to have a few words of information as to the results of the attempts to grow the vaccine organism.

DR. CHAS. T. MCCLINTOCK—Answering Dr. Rosenau's question, in my opinion all these agents that kill the bacteria in vaccine weaken it, some more than others, doubtless, but I think they all harm it to a certain extent. An apparent contradiction to this will be noticed. Better takes result from vaccine that has been several weeks in glycerin than from the same vaccine when used just after it is removed from the animal. This is doubtless due to the destruction of the bacteria present, and possibly to the dying out of the weak vaccine organisms, so that in the vaccine kept for several weeks only the vigorous resistant organisms are present. None of the agents mentioned will destroy the spores of bacteria should they be present in the vaccine. Answering the question of Dr. Ohlmacher, after trying all ordinary laboratory media, I made a large number of experiments, using the skin of the several animals that are susceptible to vaccinia. I used this skin in every way that I could conceive of. I also used the various organs of the susceptible animals, but in all cases without results.

Another Case of Suture of Wound in Heart.—An interne at a Paris hospital, R. Lemaitre, was summoned to a man who had just been brought in with two stab wounds in the heart, apparently moribund. Lemaitre made a U-shaped incision, the base of the flap outward, the upper line in the second interspace, with disarticulation of the ribs. Passing his hand under the heart, he raised it and closed the wound with his thumb, taking three stitches and thus arresting the hemorrhage. He then replaced the heart in the pericardium, wiped it and freed it from clots. The entire operation was complete in thirteen minutes. The third day thereafter an infectious pleurisy developed to which the patient succumbed. The *Gazette Médicale de Paris* for April 30 reports the case, commenting especially on the prompt decision and intervention of the young surgeon.

PROFESSOR KITASATO'S PRESENT WORK.*

DR. MIAJIMA.

Expert of Lymph Institute, Department of Interior.

TOKIO, JAPAN.

Under the direct supervision of the Minister of Interior, there now exist in Japan three institutes of an allied nature, namely, the Institute for Infectious Diseases, the Serum Institute, and the Lymph Institute, of which the founder and present director is Professor Kitasato, a name so well known to the world associated with that of the famous Professor Koch. The Institute for Infectious Diseases is especially designed for investigating the causes of infectious diseases, and the other two are the factories where are prepared several kinds of remedies for public demands. A brief sketch of these three institutes may perhaps be found interesting to you.

Permit me, before proceeding on this subject, to digress for a moment.

In the Philippine Islands several dangerous diseases are prevalent throughout the year, plague, cholera, dysentery, malaria, etc., from which many thousands of American people have already suffered and died. You know too well that these new dominions of yours are so far from their motherland that governmental aid can not easily reach them, especially from a hygienic point of view. Remedies such as serum and vaccine do not long preserve their curative powers, and their virtues are materially lessened during their long and tedious transit to those islands. For these reasons the serum and vaccine for your Philippine possessions are mostly supplied from our institute. I can not here give you accurate statistics of the serum exported to the Philippines, because it is too extensively sent out through both official and private channels. It is certain, however, that the official orders amount yearly to at least 10,000 bottles of serum. Our institutes are thus working for not only the good of the Japanese, but also for the good of the American people. This fact shows clearly that the results of recent medical researches are a blessing to humanity in general.

In the Chino-Japanese war we know that the loss of lives was mostly caused by diseases—cholera, dysentery, typhus, smallpox, etc. In time of war, therefore, we men of medical science ought to fight these most dangerous of enemies, not only of Japan, but of humanity at large. Here we use not the gun nor the sword, but instead serum and vaccine. Now that the Russo-Japanese war is in progress, Professor Kitasato, the hero of medical science in our country, is very busy with his assistants in taking preventive measures against the outbreak of infectious diseases which are an inevitable consequence of a war.

HISTORY.

Professor Nicholas Senn, one of the most famous surgeons in this country, said: "The crowning point and the pride of medical science in Japan is, and should be, the Imperial Hygienic Institute, which was founded and is directed by Professor Kitasato."

Professor Kitasato, president of our institutes, is a graduate in medicine in the Tokio Imperial University. After his graduation he was sent by the government to Germany to perfect his life-work (bacteriology). For four years and a half he worked in Koch's institute. During his stay in Germany he made many valuable

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

discoveries, one of which has made his name immortal, namely, he succeeded in obtaining a pure culture of the tetanus bacillus. As a consequence of this discovery the emperor of Japan granted him a scholarship by way of encouraging him to continue the investigation of this new branch of medical science. Before he left Koch's institute several foreign universities offered him a professorship. But he declined those honorable offers from his patriotism and desire to establish this new branch of medical science in his own country. After returning to Japan he set to work to found an institution for the investigation of infectious diseases, but at the time the public was not yet prepared to respond to Professor Kitasato's appeal sufficiently to allow of his seeing a speedy fulfillment of his desire. The late Mr. Fukuzawa, a leader of new education in Japan, volunteered to erect a new laboratory and to defray all the expenses needed for its maintenance. When the Hygienic Association of Japan took up the matter, Mr. Fukuzawa granted the association the free use of his newly constructed building and lands appertaining thereto. Thus the institute, with Professor Kitasato as its president, was opened Nov. 30, 1892. Several philanthropic persons, both foreign and Japanese, showed their sympathy and interest in our work by making contributions. The available funds, however, were soon found to be inadequate, and the government granted 20,000 yen for building purposes, and 15,000 yen to cover the running expenses for three years. A new grant was made later to cover a subsequent three years. In April, 1899, it was made a national establishment.

PROFESSOR KITASATO.

In 1894, soon after the establishment of the institute, the plague broke out in Hongkong. Our government commissioned Professor Kitasato and his co-workers to go there to investigate the cause of this disease, of which, up to that time, we had no practical knowledge. A few days after his arrival there he discovered the existence of the microbe, the direct cause of this disease. This discovery made him one of the greatest bacteriologists in the world.

Professor Kitasato is, as Professor Senn said, "an indefatigable worker, and knows nothing but work." His keen eye recognized the necessity of a state serum manufacturing institution where an ample supply of good serum could be procured at lowest possible price. Acting on his advice, the Central Hygienic Society, in 1895, made a representation to the Minister of Interior to establish a government serum institute, and the following year the present Serum Institute was founded by Professor Kitasato and has since that time remained under his control.

The first lymph institution ever established in Japan was founded by the government in 1879. Afterward, however, it was transformed into a private institution, the consequence being that inferior lymph was produced by irresponsible persons; whereon, in 1896, the government established two lymph manufactories, one in Tokio and the other in Osaka, to supply a good lymph at the lowest price. Professor Kitasato was elected president; but in consequence of the improved manufacture of the lymph, the Osaka institute was soon closed, and now only the Tokio institute is producing lymph for the general use of the entire country.

ORGANIZATION.

Institute for Infectious Diseases.—The work of this institute is divided into three departments: 1. To investigate the causes of the infectious diseases, the methods of their prevention, and to furnish sanitary officers with necessary materials and knowledge in dealing with these diseases. 2. The hospital, in which there are about 70 beds which furnish materials for experiments and the opportunity of testing various diseases. 3. A lecture course for those physicians who wish to equip themselves with a thorough knowledge of bacteriology. The average number in a class is eighty. Each course extends over three months, and the tuition fee is small. Already about 2,000 physicians have finished their course and are distributed all over the country. This department is also devoted to the investigation of the materials to be used for medical purposes and examination of those things brought in by the public for investigation and inspection.

For the purpose of carrying on the above-described work three chief instructors are appointed, namely, Dr. T. Kitashima, G. Shibayama and Prof. N. Asakawa, who have under their direction a total of twenty-five assistants.

Many sanitary officers of different prefectures, as well as military and naval surgeons, are taking special studies in this institute.

Foreign physicians, too, are often found among our laboratory students.

The Serum Institute.—Dr. S. Hada, Dr. Teruuchi and Dr. Kitashima, with seven assistants, superintend the production of blood serum and vaccine.

The Lymph Institute.—The lymph manufacturing department is under the direction of Profesor Kitasato; Veterinary Surgeon Mr. Umeno and myself are superintending the work, with ten assistants. The yearly appropriation for our three institutes is about 18,000 yen.

WORKS.

The aim of our institute is, as stated above, on one hand to investigate the causes of diseases and ascertain prophylactic and curative methods for the same, and on the other hand to supply the most effective remedies against each kind of disease. Our work, therefore, is many-sided. In the following I will describe the result already obtained by our experiments, and at the same time explain the nature of the serum and vaccine which are manufactured in our institutes.

DIPHTHERIA.

Diphtheria is a most prevalent disease, of which serum treatment was discovered conjointly by Professors Kitasato and Behring in 1892. For the first time the serum prepared in our institutes was applied to patients in November, 1894. From that time until August, 1903, it was tried on 4,556 persons, out of whom only 480 died; that is, the rate of mortality is 10.5 per cent. Thus the favorable result shown in the statistics of the world is also confirmed by the experiments of our institute. Since the opening of the institute, August, 1896, a large quantity of diphtheria serum has been supplied.

Previous to the sale of serum the death rate of diphtheria patients was 50 per cent.; but it has since gradually decreased to 38 per cent. in 1894, 36 per cent. in 1897, and finally to as low as 28 per cent. in 1902. What a great blessing is the serum treatment to the human race! In the earlier stages of making serum it contained only 100 u. in 1 c.c., but gradually a more powerful serum was produced. This is largely because a stronger toxin has been obtained and the method of immunization has been improved. The serum sold at present contains 500 u. in 1 c.c. Last year the sale of solidified serum was begun, as it may be kept in that form for a longer period. The kinds and prices are as follows:

	Units.	Quantity.	Price.
Bottle No. 1, liquid	600	1¼ c.c.	$ 60
Bottle No. 2, liquid	1,000	2 c.c.	1.00
Bottle No. 3, liquid	1,500	3 c.c.	1.50
Bottle No. 4, solid	5,000	10 gr.	5.00

PLAGUE.

Since the discovery of plague bacillus in Hongkong in 1894, Professor Kitasato has realized after long experiments the advantage of serum therapeutics and prophylactic injection. Fortunately, the result of his researches has been of great benefit to our country. In November, 1899, the plague broke out in Kobe and Osaka, and about sixty persons contracted the disease. It seemed to have been exterminated by January of the following year, but it broke out again in April, indicating signs of further spread.

In countries that are situated as is Japan, and that carry on direct communications with the seaports of India and China, it is necessary to be always on guard against the introduction of this malignant contagion. Consequently, the pest laboratory was built in accordance with the dictates of past experiences and latest scientific theories, because much greater caution and a more complete equipment with the bacillus of this most dangerous disease is needed than with the bacillus of other diseases. Under the supervision of Dr. Hada this laboratory in 1901 began to make the blood serum and vaccine. In the same year the pest serum was tested in the Tainan Isolating Hospital, adopting the so-called alternative method, i. e., the odd numbers of cases were injected with serum only, the even numbers receiving no injections, but early extirpation of infected glands and general systemic treatment. The results of these tests were as follows:

	No. of cases serum treatment.	No. of cases non-serum treatment.
Cured	37 (66 per cent.)	21 (37.5 per cent.)
Died	19 (9 per cent.)	35 (62.5 per cent.)
	56	56

The death rate of non-serum treatment of plague in the same hospital from 1868 was 54.06 per cent.—60.68 per cent.

By serum treatment the death rate is rendered very low, showing a great improvement over any other method of treatment. From 1900 to 1903 the amount of serum, both sold and distributed free, was 3,777 bottles.

The pest vaccine is also prepared for prophylactic purposes. The quantity of vaccine to be used differs with age. In first instances of inoculation from 5 to 10 and in the second 10 to 30 c.c. is injected under the skin. The number of persons who received this treatment in Formosa and Osaka is no less than 200,000. It was very rare for persons who received this treatment to contract the disease. It should, therefore, be reckoned as a preventative method as good against this contagion as the destruction of rats. The total quantity of vaccine used amounted to 14,580 bottles during four years (1900-1903).

TETANUS.

After Professor Kitasato's discovery of the pure culture of tetanus bacillus, the serum treatment was also applied to the patients suffering from this terrible infection. The number of patients treated in the institute from 1897 to 1903 was 74, out of which 41 died, making the death rate 55.4 per cent. In the Serum Institute two kinds of this serum are produced, liquid and solidified, the former containing 10 units in 1 c.c., the latter from 80 to 100 units in 1 gr. A quantity of serum containing 100 units is used for prophylactic treatment, either when wounds show signs of tetanus, or when a surgical operation has been performed. For curing one patient 40 c.c. (400 units) of this serum are to be used. One bottle for prophylactic use costs 60 cents; the same for curative use, $2.50, while solidified serum, containing 1,000 units, $6.50. This serum can be used successfully not only for human beings, but also for animals; hence it is now widely used for wounds of horses.

CHOLERA.

When cholera broke out in our country in 1895, in consequence of the Chino-Japanese war, Professor Kitasato undertook the care of the special hospital, and first tried the inoculation of serum. Out of 193 patients, 63 died, the death rate being 33.1 per cent. Compared with the death rate of 70 per cent. in ordinary cases of treatment, this new method is a decided improvement over the old one.

A large number of bottles of the serum were made in the Serum Institute for curative purposes when cholera prevailed in 1902. At that time a large amount of the cholera vaccine for prophylactic purposes was prepared. One bottle of this vaccine is to be used for one person, just once. The patients who receive this treatment feel no serious pain, excepting only a slight fever and a little weariness. So many persons have been inoculated that it would be impossible to collect the exact statistics. But this treatment has undoubtedly lessened the number of otherwise possible victims of the disease.

HYDROPHOBIA.

We make prophylactic inoculations in accordance with

Pasteur's methods. Our former assistant, Dr. Oshida, improved the method of injecting the virus into a rabbit. The injection is made through the optic foramen beneath the dura mater. He also simplified the method of extracting the spinal cord, by opening the spinal canal in two places, back of the neck and over the loin. The cord extractor, a long metal rod, furnished at the distal end with an olive point, is inserted through the lumbar opening, and the severed portion of the spinal cord is pushed out through the cervical opening. Four hundred and twenty-eight persons came to receive our treatment during the last seven years. Of these only two had a relapse after inoculation. One was sent to the institute eight days after the accident, and on the eleventh day after the completion of the treatment he had a relapse and died seven days afterward. Another had a relapse during the process of inoculation, and died. Strictly speaking, therefore, there has been only one case in which the patient really had a relapse, for the second case mentioned died before the completion of the treatment. Hence the percentage of death is 0.24.

DYSENTERY.

Dysentery prevailing in Japan proper and other countries of the temperate region is different from the amebic dysentery of the tropics. Its bacillus was discovered in 1897 by Shiga, one of our former departmental chiefs, who is now studying in the laboratory of Professor Ehrlich in Germany, and it is generally accepted throughout the world to be the cause of the disease. It is a bacillus resembling that of typhoid fever. Antitoxic serum made from this bacillus is exceedingly effective for remedial purposes. According to the result obtained in 1898-1899, there were only 15 deaths out of 165 patients. The rate of mortality was, therefore, 9.1 per cent. At the city hospital the number of deaths being 11 out of 88 patients, the death rate is 2.5 per per cent. against 30 to 40 per cent. of the ordinary treatment. Not only is the merit of this method so apparent in our own institute; it was also tried in different parts of the country with very satisfactory results. Prophylactic inoculation of the vaccine against this disease shows also hopeful signs. We use the vaccine, as in the case of cholera, and inoculate twice, its effect on the patient being more violent than in cholera. We inoculate according to Dr. Shiga's method, vaccine and antitoxic serum at the rate of 50 per cent. in the first instance, and in the second at the rate of 80 per cent. and 20 per cent. By so doing the patient can stand the treatment without sustaining a violent effect. We have already tried prophylactic inoculation on 50,000 persons, and the results have been very favorable. In 1900, for example, dysentery broke out in a little village in Kanagwa, and 28 persons fell sick in the course of a month. All persons in the village above four years of age were required to be inoculated; the result was almost miraculous. With the exception of two persons who contracted this disease on the day after the first inoculation all escaped the grasp of the dreadful contagion. The above remedies are given to patients without charge.

TYPHOID FEVER.

In this case an accurate early diagnosis is very important. For that purpose the pustule serum of the patient under treatment is to be tested for Widal's reaction. Most practitioners in the country can not always obtain the culture of typhoid bacillus. For their convenience, Dr. Asakawa, one of our department chiefs, prepared a diagnostic fluid for typhoid fever, which now in Japan is a great benefit to many of them. For curative and prophylactic purposes the serum and vaccine are also to be used. According to our recent experiment, the serum treatment has been found to be a decided improvement. Only 36 persons died out of 230 patients in our hospital, the death rate being 17.7 per cent. When typhoid fever prevailed in various districts, complete success was obtained in checking by means of prophylactic inoculation of the vaccine.

TUBERCULOSIS.

The cure and prevention of this disease is one of the principal subjects which we are earnestly investigating. It is, however, a source of great mortification that in spite of our efforts in experimenting with Koch's original tuberculin, with new and newest tuberculin which we manufacture ourselves, we have not yet met with complete success. Besides Koch's original tuberculin, Dr. Kitashima prepared a new diagnostic fluid for tuberculosis after long experiment. Other topics for our careful investigation at present are the difference between bovine and human tuberculosis, the merit and demerit of antoxic serum and the effect of prophylactic inoculation.

LEPROSY.

This disease not being rare in our country, demands our most careful study. There is a Christian charity hospital in the suburb of Tokio, with thirty to forty inmates, and its medical direction is entrusted to our care. The cause of this disease has already been discovered by Dr. Armauer Hansen, but no satisfactory method has yet been found for its culture, nor have animal experiments proved successful. Our president, Professor Kitasato, is studying this dreadful disease with merited attention.

His various experiments for prevention and cure of leprosy are progressing favorably. When his work on this obstinate disease is completed, he will make it known to the general public in his usual unselfish way.

MALARIA.

Since R. Ross discovered that malaria is disseminated by a certain kind of mosquito, great advances in this new theory have been made by Grassi, Koch and others. There are many infectious but not contagious diseases which are caused not by the bacilli, but by protozoa, as malaria. For example, surra and trypanosomiasis in Africa are diseases caused by the invasion of blood parasites, called trypanosoma. The former is a disease of the horses, the latter of human beings. Texas fever of cattle and tick fever of men are also diseases of protozoan origin. The cause of the former was discovered by Smith and Kilborn in this country, before the discovery of malaria mosquito theory. The latter was recently reported by M. Downing and L. B. Wilson. Both diseases are caused by pyrosoma, a peculiar parasite of blood corpuscle, and carried over by a small tick.

Those diseases caused by trypanosoma or pyrosoma have a great similarity to malaria in the nature of their germs and in the mode of propagation, while they are widely different from those of bacterial origin. Therefore, such diseases should be investigated in different ways.

Thus the investigation of malaria is a fundamental study in this new branch of bacteriology which is arising at present.

In our country malaria is one of the most common diseases, of which much valuable information has been already published. I have myself devoted four years

to the study of malaria in Japan. According to our own investigation, only one kind of malaria and anopheles seem to exist in Japan proper, while in Formosa three well-defined kinds of malaria and at least six distinct species of anopheles are found. In a recent research I demonstrated the fact that certain kinds of malaria are propagated by certain species of anopheles. This means that all species of anopheles is not a carrier of all kinds of malaria. Our experiments proved that anopheles sinensis is the host of tertian malaria parasite, plasmodium vivax, but not of the malignant malaria parasite, pl. precix.

This fact shows, at least, that the malignant malaria is restricted only to Formosa, notwithstanding anopheles sinensis is most abundant in Japan proper.

KAKKE BERRI-BERRI.

This is a common disease of our people, and many lose their lives from it. We have made and are making most careful studies on this most important subject. We keep about thirty patients annually in our hospital for investigation. We are not as yet sure of the mode of propagation of this disease, but it is now beyond question infectious, because in every instance where a sporadic case is discovered it quickly becomes an epidemic.

Poisonous Snakes.—In Japan many species of poisonous snakes have been found. Among them two species are most common, namely, *Trigonocephalus blomhoffi* in the central part of Japan, and *Trimeresurus rinkinanus* in the southern islands. The latter is more poisonous than the former. This snake (Hahn) is very abundant in Rinkin and Oshima, where no less than 300 persons are bitten every year, and one-seventh of this number usually die. On account of this condition of affairs a laboratory was established at Oshima in 1902 for collecting venom. This venom is a thin beautiful flake of yellow color, when dried, and of extraordinay power, as 0.1 gr. kills a horse. The immunization of animals with this venom has enabled us to produce a serum for these snake bites. Therefore, it may soon be offered for public use by the serum institute.

SMALLPOX.

Vaccination is the only prophylactic method against this dreadful disease. The animal lymph is in common use in all civilized nations. It is a well-known fact, however, that the humanized lymph, though it is very powerful, is liable to become the medium of conveying germs of other diseases. On the other hand, the retrovaccine is weak in effective power, though the danger of its transmitting other diseases is much less. It is very important to produce an ideal lymph which, while minimizing the defects of the other two, combines the merits of both. Therefore, the production of lymph without the medium of the human body has long been attempted. The greatest obstacle lay in the fact that, if vaccination was continued from calf to calf, its effective power would become so weakened that it would finally become non-effective. The physicians used to attribute this to two reasons, namely: 1, That the calf's body weakens the effective power of lymph; 2, and that the animal lymph contains a very small quantity of virus or germs. According to our experiments the result is just the other way. We found the cause in the wrong method of inoculation. The main points of our opinion are as follows: The quantity of virus in animal lymph is much greater than in humanized lymph, unless, therefore, it is diluted before inoculation; the very existence of superabundant virus will hinder its growth; the portion of the calf's body inoculated should be small and the vaccine must be carefully nourished. This idea was confirmed by practical experiment; at least, we succeeded in producing lymph without passing through a human body. This non-humanized lymph, therefore, is obtained by inoculating the sufficiently diluted lymph into the belly of a calf over a small surface. It is now nearly four years since the introduction of this method in the lymph institute, and the lymph does not deteriorate or lose its power after passing through 150 calves; rather its effective power has increased. Not only is the lymph of our institute superior to any other kind, but the expense of producing it has been greatly reduced, the price of one lymph tube for five vaccinations being only 5 cents. The total amount of lymph sold during the last five years is 2,742,164 tubes. At present this institute is easily supplying the great amount necessary for the vaccinating of soldiers sent to the battle field. It would be impossible to produce a large amount of lymph for a sudden order if the institute had not discovered the above-mentioned new method of producing the lymph.

DISCUSSION.

DR. W. H. WELCH, Baltimore—May I, in behalf of the President of the Association and all of the members, reciprocate very kindly the expression of feeling which Dr. Miajima uttered at the beginning—what pleasure it gives to us and all of his colleagues in this country to have him here, and how much we appreciate and admire the work of his chief and associates and others in Japan.

His observation is one of extreme interest—a very valuable contribution, it seems to me, to our knowledge of malaria; nothing less than a demonstration of the fact that there are certain species of mosquito capable of conveying only one of the many varieties of malarial parasite. May it not be that these differences in the types of malaria depend on the intermediate host—on the particular mosquito which conveys the parasite? There may be properties, biologic characters, implanted on the parasite through the host and the only reason that the estival or autumnal parasite in this latitude does not produce, or only exceptionally produces malicious forms of malaria is because the mosquito conveying it in this latitude is not the same as the mosquito conveying it in tropical countries. It strikes me as so important and interesting an observation that the Association is also to be congratulated as the medium through which Dr. Miajima has made the communication.

THE LOCAL USE OF QUININ IN HAY FEVER.

HENRY D. FULTON, M.D.

PITTSBURG, PA.

So many remedies have from time to time been proposed for the relief of hay fever that doubt has arisen as to the value of any of them, and very naturally so, for they all have one serious drawback—the uncertainty of their action.

A method of using quinin locally in typical cases of hay fever has proved remarkably successful in my hands. The treatment consists of the employment of a saturated solution of the quinin sulphate, in sterilized water, as a nasal spray, and the application to the mucous membrane of the nares of an ointment consisting of quinin and vaselin in the proportion of 30 grains to the ounce, the applications being made every four or six hours. After trying various unguents and combinations, simple vaselin has been found to be the best base. The white vaselin is not suitable, nor is the liquid albolene. Lanolin is an ideal base, but is too offensive to the sense of smell.

The use of the spray alone will not suffice, but should be used as an adjunct to the ointment. Spraying the nares will at once stop all symptoms of coryza, but the effect will soon disappear unless followed by the thorough application of the ointment. This may account for the failure of this treatment as first suggested by Helmholtz, who employed only the spray. The application of the ointment should be made at least every six hours, and it may be necessary to repeat it every four hours. An application at bedtime, and at 2 or 3 o'clock in the morning, will prevent all symptoms through the night. Two or three applications of the spray should be made in the twenty-four hours, at the times when the patient has found the irritation to be at the maximum degree of intensity. In respect to the mode of using the ointment, the little finger is the most convenient applicator. In most persons the slightly bitter taste in the throat from the quinin is not objectionable, but where this proves to be a drawback to its use, enquinin, a synthetical product which is wholly devoid of any unpleasant taste, can be substituted, and will be found equally efficacious.

So far as the effects of this simple remedy have been observed, the results are as follows: used according to the foregoing suggestions, the symptoms of coryza are immediately removed, nor will they return so long as the treatment is continued. The usual accompanying irritation of the conjunctivæ of the eustachian tubes and palate quickly subsides. I have had no opportunities as yet to test this treatment in irregular types of the disease, or to estimate how far these results may be modified by individual peculiarities, but, so far as its effects have been noted, it seems fair to conclude that this will be found a remedy of actual value in the treatment of hay fever, and that it will promptly and completely relieve a large proportion of these cases.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART I.—A HISTORICAL SKETCH.

(A) FROM ESTABLISHMENT IN 1796 TO REORGANIZATION IN 1871.

The Marine-Hospital Service was established by law in 1798. The necessity for its establishment was mainly economic, though other contributary causes existed.

The proper care of the merchant sailor, when sick or disabled, is essential to the maintenance of an efficient merchant marine, and the economic value of an efficient merchant marine can scarcely be overestimated.

Marine hospitals had existed prior to the act of 1798, establishing the Marine-Hospital Service. In colonial times marine hospitals were maintained at a few places under charter from King George, and several institutions of this character were operated after the Revolution by states or municipalities. The prosperity of the young republic depended in a great measure on men who "went down to the sea in ships," just as in later years the whole internal commerce of the great middle west depended on the boatmen and sailors of the Mississippi, the Ohio and the Great Lakes. The merchant marine is the nursery for naval seamen and the natural recruiting field for the Navy in time of war, and the military value of the capable merchant sailor is scarcely less than his economic value.

EDITOR'S NOTE: This is the first article in a series. A similar treatise on the Army Medical Department appeared May 7, 14, 21, 28 and June 4.

After the independence of the United States was achieved a grateful people felt that they owed much to the merchant sailors who without hesitancy gave up the peaceful schooner for the man-of-war and fought in their country's defense with Paul Jones, Lawrence and Barry. While able to work, these merchant sailors were never dependent on any one, but owing to improvident habits they were prone, when sick or disabled, to become a charge on municipalities or individuals.

A strong sentiment developed favoring some provision by which the Federal Government should care for sick or disabled seamen. This sentiment, which ultimately resulted in the Act of July 16, 1798, establishing the Marine-Hospital Service, was forcibly expressed by the Boston Marine Society as early as 1791, and in the House of Representatives, Nov. 19, 1792, in his speech on the improvement of commerce, the Hon. Mr. Williamson said:

> Wherever it is probable that sailors may be sick, there I would make provision for their support and comfort. Hospitals should be erected, or lodgings hired, as the case may be, at every port of entry in the United States for sick and infirm seamen, where they may be properly attended during their indispositions. The money to be collected at the several ports as hospital money should be expended at such port and no other place, under the care of such person as may be designated for that purpose. Let a small deduction be made from the wages of every seaman, to be paid at the several ports of entry for their use. I have mentioned a deduction from their wages because this mode of raising money would probably be more acceptable, and because it is the most equitable tax that can be levied.

The act establishing the service in 1798 imposed a tax of 20 cents per month on seamen employed on American vessels engaged in the foreign and coasting trades. This tax was to be collected by the several collectors of customs, and was to constitute a fund out of which the President of the United States was authorized to provide for the temporary relief and maintenance of sick and disabled seamen in hospitals, or in such other manner as he should direct. The money collected could only be employed in the district in which it was collected, and if any surplus accrued it was to be used in erecting hospitals.

The President was also authorized to appoint directors of marine hospitals, whose duty should be to provide for the accommodation of sick and disabled seamen and to direct the expenditure of the fund. No provision was made for paying salaries to these directors, and, as might be expected, no appointments were made.

In 1799 the law was extended so as to include as beneficiaries, under the same conditions, officers and seamen of the Navy. The Navy received the benefits of the fund until Feb. 26, 1811, when a separate fund for the care of sick seamen of the Navy was established.

The first marine hospital established under the Act of 1798 was located at Washington Point, Norfolk, Va., and was purchased in the year 1800. According to a report of the Secretary of the Treasury, made to Congress Feb. 16, 1802, marine hospitals had been established and supported solely out of the marine-hospital fund at Norfolk, Boston, Newport and Charleston. While for nearly forty years the entire expense of maintaining the Marine-Hospital Service was borne out of the fund, it was necessary, in order to keep within the limits of the fund, to restrict the classes of cases eligible for treatment, and also to restrict the length of time treatment could be continued. No chronic or incurable cases could be admitted, and no case could be maintained in hospital for a period exceeding four months.

During this period the collectors of customs were continually enjoined by the department to keep the expenditures down to the lowest possible rate, and under this system the compensation of contract hospitals was so meager that only the poorest fare and accommodations could be furnished. In places where there were no local or public hospitals, and where more advantageous terms could not be made, medical charges were restricted to 20 cents per diem, with $2.50 per week for boarding, lodging, nursing and washing. In places south of the Potomac an addition of 20 per cent. to these amounts was permitted.

The inadequacy of the fund had other consequences. It became necessary to consider the fund as an auxiliary to municipal charity, rather than a complete provision for the care of sick seamen. This principle was bad enough in the largest seaports of the east, where local hospitals existed, but infinitely worse in the new towns and cities springing up on the banks of western lakes and rivers, where charitable institutions or provision for the care of sick strangers were infrequent or entirely absent.

The long voyages from the upper waters of the Mississipi and its tributaries to their market at New Orleans entailed great hardship should the boatmen become sick during the trip. Supervising Surgeon Woodworth, in his first annual report (1872), says:

Nothing was more common than for two out of the five hands who generally managed these boats to die; and it sometimes happened that the whole crew perished from disease, and the boat with its cargo was left deserted.

Continuing, Dr. Woodworth says:

The cholera epidemic of 1832 and 1834 added greatly to the catalogue of ills. Moved by a feeling of common humanity for the large class of our young men who had surrendered the endearments of a life spent at home, and united their fortunes with strangers by embarking in the more daring, precarious and toilsome interests of commerce—a pursuit, more than most others, beset with temptations to risk of health and life, to recklessness of character and insensibility to future wants—sensible also of the suffering attendant on such an improvident life, whole communities, both on the seaboard and in the interior districts, petitioned Congress for additional appropriations and the enactment of laws providing increased facilities for the relief of this unfortunate class. From one port it was reported that no better place could be offered sick seamen than the warehouses and deserted tenements along the wharf; from another, that they had to be sent to the City Almshouse, which was also connected with a penitentiary for common vagrants and petty convicts; and from another the sad story was told that seamen, sick with various diseases—cholera, smallpox, etc.—were often forced promiscuously into the same chamber, where the dying and the dead were alike neglected.

In response to these petitions, Congress (Act of March 3, 1837) appropriated $75,000 for the erection of a marine hospital at New Orleans and for the purchase of a suitable site for such hospital. The President was also authorized to select and cause to be purchased, for the benefit and use of sick seamen, boatmen, and all other navigators on western rivers and lakes, suitable sites for marine hospitals, provided that the number thereof shall not exceed, for the Mississippi River, three; for the Ohio River, three, and for Lake Erie, one. By this same act the collection of hospital tax was suspended for one year, and, instead of said tax, the sum of $150,000 was appropriated. A board of Army officers was appointed to select the sites. This board, consisting of Surgeon B. F. Harvey and Assistant Surgeons H. L. Heiskell and J. M. Cuyler, selected sites ranging in extent from eight to eighteen acres, at Natchez, Miss.; Napoleon, Ark.; St. Louis, Mo.; Paducah and Louisville, Ky.; Wheeling, Va., and Cleveland, Ohio. Marine hospitals were subsequently built (1845-1851) at all the ports named except Wheeling. Pittsburg claimed, and finally obtained, a hospital at that port instead of Wheeling.

The marine hospital at Detroit, Mich., was authorized by Act of Congress, Aug. 4, 1854. The same act made appropriation for the construction of marine hospitals at Burlington, Iowa; Pensacola, Fla., and for the second hospital at New Orleans.

The Marine-Hospital Service on the Pacific coast was first established at San Francisco in 1851 (the contract system), and a United States marine hospital was in operation at that port in 1854, but was injured by an earthquake in 1868, when the contract system was resumed and continued until the completion of the present hospital.

Beside the places already named, marine hospitals were located, before the reorganization of the service in 1871, at Mobile, Ala.; Charleston, S. C.; Portland, Me.; Ocracoke, N. C.; Evansville, Ind.; Vicksburg, Miss.; St. Marks, Fla.; Burlington, Vt.; Wilmington, N. C.; Galena, Ill., and Port Angeles, Wash.

Most of these buildings were large, substantial structures, erected at great expense, and some of them were sold afterward at a great reduction, especially those built at places where they were not needed at all, as, for example, at Paducah, Ky.; Burlington, Iowa; Galena, Ill., and Burlington, Vt. During the War of the Rebellion many of the marine hospitals, north and south, were used as military hospitals, and the hospitals at Norfolk and Boston were in similar use during the War of 1812.

The necessity of a supervising medical officer, who would not be subject to local influence or prejudices, and who would have control of the entire service, finally became apparent to everyone. In justice to the medical officers of this early period, it must be said that their duties were exclusively professional, and that their authority did not extend beyond the care of the sick. They were not responsible for the care or preservation of the hospital buildings or for the proper disbursement of the fund. The collectors of customs in their respective districts were supposed to supervise the expenditure of the fund and to act as custodian of buildings and property.

By the appointment of a supervising officer versed in sanitary science and hospital management, it was hoped many of these abuses which had crept in under the old system could be corrected, and the inauguration of the new system proved the wisdom of this view. The reorganization of the service for the last fiscal year before (1871) and the first fiscal year after (1872) shows a difference in favor of the last-named year of $56,819.31, or a diminished expenditure of 12⅝ per cent. This reduction of expenses after reorganization was effected notwithstanding the fact that the facilities for affording relief were increased, relief having been furnished in 72 customs districts in 1871 and 81 customs districts in 1872.

The reduction was due to more systematic business methods and the establishment of a system of outdoor relief for patients not ill enough to require hospital treatment. Subsistence supplies and medicines were from this time purchased only after obtaining bids, and the commission of 1 per cent. allowed to collectors of customs since 1798 was abolished.

The Act of Congress approved June 29, 1870, in pursuance of which the service was reorganized the follow-

ing year, enacted that the tax on seamen should be increased from 20 to 40 cents per month. It also required that "all moneys received or collected by virtue of this act shall be paid into the Treasury like other public moneys, without abatement or reduction," and appropriated all money so received for the expenses of the Marine-Hospital Service and to the credit of the Marine-Hospital Fund. It enacted, futher, "that the Secretary of the Treasury is hereby authorized to appoint a surgeon to act as supervising surgeon of Marine-Hospital Service, whose duty it shall be, under the direction of the Secretary, to supervise all matters connected with the Marine-Hospital Service, and with the disbursement of the fund provided by the act"

Dr. John M. Woodworth of Illinois was appointed in April, 1871, as the first supervising surgeon, and under his vigorous administration the work of reorganization was pushed rapidly. The Service became self-sustaining, and, except for new hospital buildings, no appropriations were necessary for maintenance of the mariñe hospitals after 1873, whereas prior to that year annual appropriations varying from $1,000 to $275,000, and aggregating $4,830,994.34, had been made by Congress.

(To be continued.)

TRAVEL NOTES.

II.*

IS A TRIP TO EUROPE WORTH ITS COST TO THE MEDICAL MAN?

LEWELLYS F. BARKER, M.D.
CHICAGO.

BERLIN, June 25, 1904.

On beginning a medical letter the mind is beset with all sorts of doubts. Impressions in anticipation easily fill entertaining and instructive volumes; impressions in retrospect are prone to dwindle especially when they are submitted to that conscientious winnowing which the busy readers of a modern periodical have a right to demand of the writer who ventures to address them.

In the first place, are there not many who consider a medical trip abroad no longer justifiable, since medicine has reached so high a development at home? In the second place: in view of the electric promptness with which events medical in the old world are chronicled in the new, can an ordinary medical traveler without especial literary training hope nowadays to write anything to his colleagues at home which can either interest by its novelty or please by its form?

No matter how great the development of practical and scientific medicine in America has become and may become, notwithstanding the fact that America has produced the most skillful surgeons the world has yet seen, and in spite of the truth that many of the American scientific laboratories and their leaders are now comparable with the best in the old country, there is and must always be some advantage to be derived from medical travel. This advantage varies much with varying conditions it is true. The harvest to be gleaned by the American physician in Europe at the beginning of the twentieth century is a very different one from that reaped by the pioneers of our profession who went to Louis in Paris early in the last century, or those who went later to Virchow and to von Recklinghausen in Germany, or even later still to Pasteur and to Koch. There are now great clinics and celebrated clinicians in America; autopsies are as well performed—often better—in the large cities of the western continent than they are in the European pathologic laboratories; bacteriology numbers among its American representatives men whose researches have given them a fame which will endure; and physiology, anatomy, physiologic chemistry and pharmacology in the United States and Canada are rapidly entering a veritable "blooming-period." Formerly the young medical man who wished to develop himself medically beyond the point to which the undergraduate training brought him was almost forced to seek a foreign laboratory, a foreign clinic, a foreign master. To-day in our great universities and in some of our post-graduate schools the young graduate can find not only adequate, but almost luxurious laboratory facilities; in almost any branch a master is at his disposal able and willing to lead him into the higher regions of the subject he represents, ready to make the journey with him to the outermost limits of our present knowledge in a given field, and even to thrust him out into unknown territory where, if he have enthusiasm, talent and industry, and especially that much rarer gift, originality, he may by himself make new observations, construct heuristic hypotheses and perform fruitful experiments leading to the advancement of our science.

Why then, with all these advantages at home, should the American physician think of going abroad? Certainly not to obtain a medical degree through the ordinary undergraduate training. In Canada, still, among the more conservative descendants of Scotch and English settlers, it may be of advantage in practice to have the letters M.R.C.S. and L.R.C.P.—formerly so full of magic—appended to one's name and to have the comment current that Dr. So and So has "walked the London hospitals"; in some intensely German-American settlements in the United States the possession of a German doctorate is said even yet to hasten the progress of the aspirant to family practice toward the goal he seeks, but among the great mass of American and Canadian people, it is safe to say that a degree from the better home schools is valued fully as highly, if it be not preferred to one made in Germany, in Great Britain or in France.

The general advantages of foreign travel—the widening of one's experience, the increase in knowledge of the world, of men and of manners, the visiting of great collections of the best products in art, science and letters, the contact with older civilizations, the illumination of history and geography, the acquisition of modern languages in the countries in which they are actually used, to mention only some of them—are these enough, in themselves, to make a European trip desirable for an American physician? Were they the only advantages to be gained, would they compensate for the time and expense involved? I think it is a question for each individual to decide for himself. Where taste inclines and personal and financial relations permit, I imagine that, even in the absence of distinctly medical profit, such a trip would be worth while. It is unfortunate that, too often, where the desire is greatest and the capacity for enjoyment and profit of the highest, there are insuperable hindrances in the way. It would seem a pity, on the other hand, that, sometimes, men, little fitted by nature or education to share the good or enjoy the beautiful, have the opportunity to go to Europe, where, swaggering through, they leave behind them an impression by no means favorable to the country of their origin (or adoption) or to the profession which they fail to honor; happily these are rare and are growing ever less in evidence.

But aside from the general cultural effects of intelligent travel, there are certain specifically medical advantages that every physician may derive from a well ordered journey in Europe. Above all else, perhaps, may be counted the widening of his horizon and the development of his critical powers, regarding matters medical, through comparison. This comes from travel proper, through several medical centers, and the observation of many workers in the branch in which the traveler is interested, rather than through a prolonged residence in one place, though the latter yields benefits which the former can not give. The sharpening of the critical faculty by comparison is all the more desirable for the American physician in that in his undergraduate days he rarely has the opportunity, as the German student does, of wandering from university to university, from one laboratory or clinic to another. The wandering physician has, however, this advantage over the wandering student, that it is only after graduation that one really has a foundation broad enough to become intelligently critical. To watch the routine of a number of equally famed professors of

* The first article in this series was by Dr. Nicholas Senn, in THE JOURNAL, July 23, 1904, p. 261.

internal medicine, for example, has a most broadening tendency on the developing internist; while one man's interest and emphasis lie in a certain direction, another may overlook the importance of this and exert his energies toward an entirely different quarter; the traveling physician, staying long enough in each place to become acquainted with the methods and ideals of each worker, may appropriate to his use the excellences, and will have impressed on him the deficiencies, of the various men whom he meets.

Nothing contributes more to liberal-mindedness, to broad medical cosmopolitanism, to the dissipation of a narrow Chauvinism than a first-hand acquaintance with the methods and results of medical workers in different lands and in different places in the same land. I am reminded of the assertion of Peer Gynt, that, though born in Norway he had become a citizen of the world, getting his luck from America, his well-filled bookshelves from Germany, his clothing, wit, esprit and cynicism from France, his powers of work and thought and some egotism from England, his patience from the Jews, a little *dolce far niente* from Italy, and his courage from the Swedish steel in his blood. To become a medical *Weltbürger*, one must learn to appreciate the virtues of his fellow-craftsmen of all nations. If a man really becomes, like Ulysses, a part of all that he has met, it surely behooves him to meet with and assimilate as much of what is great in the world as he can.

Again it is a signal advantage to a physician to learn personally to know the men of whose work he has heard and whose writings he has read. The student's whole perspective of the medical world is altered by the extension of personal acquaintance. Past judgments of medical work are modified and future criticism is in large measure controlled through impressions formed in the face-to-face encounter. A paper which might have pleased by its plausibility is sometimes robbed of import by the palpable weakness of a physiognomy. And, though less often, perhaps, we learn to place confidence in the contributions of a man whose countenance and character force conviction where his writings, in themselves, might have left us in doubt.

The period of development in which a medical trip abroad is taken should influence greatly the ordering of the journey. The needs and possibilities of the recent graduate are very different from those of the older practitioner or of the experienced investigator; there are advantages and disadvantages inherent in travel at each stage. Perhaps the majority of men who go abroad do so soon after graduation and after a year or more of experience as hospital interne or as assistant in private practice. And this is the time, I think, when foreign travel does most good. The traveler has all the advantages of youth and unimpaired enthusiasm; he is keen, earnest, impressionable; his ideals are still in a state of flux; his virginity of sense more than compensates for his lack of experience, ignorance of his powers, indecision as to his course, and poverty of purse.

The older and more experienced physician, on the other hand, knows more accurately what he wants and may set about getting it in a direct way; he has found out what he can do and what he can not do; the knowledge of his limitations permits of concentration in his special field and prevents unprofitable excursions outside its boundaries. Moreover, the older medical traveler, while perhaps never profuse of money, is more often in the fortunate position where he is able financially to avail himself of the best opportunities for work, a condition not to be too lightly considered in planning a medical trip in Europe. For while traveling and living in most European countries is from one-third to one-half cheaper than in America, still if one is to benefit fully by his trip abroad, he should not have to ponder too seriously the expenditure of an extra mark or lire. It has seemed to me sometimes that men have gained less from a whole year of straitened living in Europe than they could have acquired in a few months with the same total money outlay. The possibility of being "penny wise and pound foolish" ought ever to be borne in mind by the economically inclined, and that a large number of American medical men in Europe are, perforce, economically inclined, notwithstanding the prevalent opinion among Europeans to the contrary, one can easily convince himself by living and working among them.

A medical year abroad may often come as a boon to a busy American professor, or an overworked American practitioner. The Sabbatical year, adopted by some of our universities, or an equivalent thereof, is an institution which should be generally encouraged. Even in private practice, the possibilities of the Sabbatical year should not remain unconsidered. Such a year not unfrequently gives a new lease of life to him who is lucky enough to get it. The Israelites murmured at their manna; the sameness of the daily grind too often gradually undermines the nerves. An entire change of work and environment does wonders for a man's physical and mental well-being. If the year be spent in intelligent medical work away from home, away from one's own university, or one's own practice, the sense of leisure felt and the freedom from responsibility gained go far to make the period one of the happiest and most profitable in a life's experience. I assume, of course, that the desire for medical travel and for medical work exist, for in its absence, a year so spent might be a waste of time as well as reach the "tragic bitterness of boredom."

I assume also that the "impediment of tongues" for the prospective traveler is not insuperable; it is essential for a satisfactory trip that one be able to understand the spoken word (not simply the written page) and to speak, himself, passably the language of the country in which he makes his longest stay, and it is desirable to be able at least to smatter the languages of all the countries through which he travels, even if he do not speak them with elegance. The difficulties of smattering a number of foreign languages are frequently overestimated; on the other hand, the difficulties of getting a tolerably firm control of even one modern language other than one's own tongue are usually, I think, underrated. How many an American physician has returned from Germany or France uninterested in the work seen and in the men met, severely critical of everything German and French chiefly because of the barrier of speech! Not everything German is worthy of imitation; there are hosts of things medical and surgical in which Germany would do well to imitate America, but it is really only fair to make sure that one understands before he wholesalely condemns. The French physicians have their own peculiar skill and acumen, their own clear methods of presentation, their own ingenuity of experiment. It is a pity that these uniquely French characteristics should be missed simply on account of difficulties with the language.

(To be continued.)

Effects of Lightning.—The *St. Petersburger med. Wochft.* of Jan. 23, 1904, contains a report by E. Rippe of a catastrophe in which 22 members of a troop were more or less injured by lightning which struck the stable in which they were engaged. All were rendered unconscious but most of them recovered consciousness in fifteen minutes. None of them saw the lightning nor heard the thunder. Fifteen were able to resume work after a few minutes, but 7 were seriously injured. One man exhibited convulsions and another delirium persisting for two days. Nearly all complained of dull headache and sound in the ears—all evidently symptoms of a concussion and hyperemia of the brain. The spinal cord was likewise affected in one case, as disturbances in urination were observed. The effect of the lightning on the peripheral nervous system was manifested in a paretic condition of one or more limbs, usually the legs. In some cases there was cutaneous anesthesia or hyperesthesia. The peripheral symptoms had all subsided by the end of a few days. One of the men presented transient symptoms in the lungs indicating hyperemia with hemorrhages, but these symptoms soon disappeared. He gives illustrations of some of the ramifying burns on the skin—the "lightning pictures," and remarks that the anatomic findings in the men and horses killed were strikingly similar, testifying to hyperemia and hemorrhage in the brain substance and also in lungs, liver and kidney. The right heart was empty and the spleen did not seem to be affected.

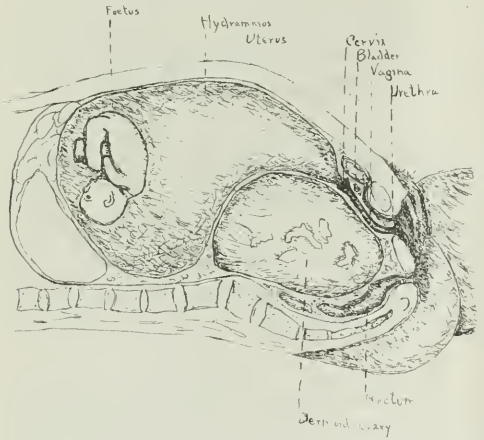
Clinical Reports.

A CASE OF PREGNANCY, HYDRAMNIOS AND LARGE OVARIAN DERMOID.

F. F. LAWRENCE, M.D., D.Sc., LL.D.
Surgeon to Lawrence Hospital, and Clinical Lecturer on Abdominal Surgery and Diseases of Women, Starling Medical College.
COLUMBUS, OHIO.

The occurrence of pregnancy complicated by an ovarian tumor while not unique is not of very frequent occurrence. A pregnancy with hydramnios is probably of slightly greater frequency but a pregnancy with hydramnios and a large dermoid cyst of the ovary developing downward so as to completely fill the true pelvis and lift the pregnant uterus entirely above the pelvic brim is, so far as I have been able to learn, unique. In all the literature at my disposal I can find no such case recorded.

History.—The patient, M. S., was seen with Drs. Ranchous and Fitch early in December, 1903. She was small, anemic, highly nervous, and her abdomen was enlarged to the size of pregnancy near term. She had not menstruated since July, 1903. Menstruated normally in June and just a "slight show" the first week in July. She had suffered little pain, but lately had had severe pressure symptoms, irregular pulse, dyspnea and great general depression.



Examination.—The abdomen was symmetrically enlarged, with distinct fluctuation and a dull percussion note.

The vagina was almost completely blocked by an irregularly hard and cystic tumor which occupied entire pelvis. Cervix carried up entirely above symphysis and pointing toward vagina. Body of uterus could not be made out, but where it should have been was a fluctuating cystic mass which extended in front of the pelvic tumor and up to the diaphragm. Cervix felt like an early pregnancy, but as body of uterus could not be made out and as breast symptoms were negative, the diagnosis was not clear. No fetal heart sounds and no placental bruit. The diagnosis between uterine pregnancy with hydramnios and a dermoid in the pelvis, and an old extrauterine pregnancy and a cyst of the ovary, could not be made.

A few days later she was admitted to the Lawrence Hospital and Dr. D. N. Kinsman saw her in consultation. He recognied the dermoid tumor and expressed doubt as to a pregnancy. At this time the pressure was so marked that a very slight movement, such as changing position in bed, would cause pulse to become very rapid, 130 to 140; when quiet it was 80.

Operation.—December 18. Abdominal walls thin and anemic; on opening peritoneum a tumor with very thin walls showing no muscular fibers, presented. This proved to be the hydramniotic pregnant uterus, with the fetus at upper part. As I could not get behind the uterus to bring up the pelvic tumor which could be plainly felt through broad ligament, I drew off over a half gallon of clear straw-colored fluid with a Tait's blunt trochar, and then delivered the uterus outside the wound. Not until this procedure had been completed could we determine that it was the uterus.

I could not even then bring up the pelvic tumor until I clamped and cut off the right broad ligament. The dermoid was then delivered and a rope clamp thrown around the entire pedicle to include the broad ligaments and the cervix. The operation was completed by a supra-vaginal hysterectomy and removal of the ovarian dermoid. Stump covered over and dropped as in an ordinary hysterectomy.

An uninterrupted recovery followed. The drawing shows the relation of uterus and dermoid. The pregnancy was approximately five and a half months.

A CASE TO THE DISCREDIT OF ETHER.

EVAN O'NEIL KANE, M.D.
KANE, PA.

B. J., age 18, slender and delicate; kidneys, heart and lungs apparently sound. A month previously two trifling operations were performed under cocain anesthesia for removal of hypertrophies of the turbinated bones. For the present operation, tonsillectomy, ether was used. The patient showed neither nervousness nor anxiety and appeared to take the anesthetic nicely, falling into a quiet sleep. Anesthesia had proceeded for about five minutes when the respirations apparently ceased and cyanosis rapidly supervened. The mouth was opened and the tongue drawn forward; but this made no difference, the difficulty appearing to be due to paralysis of respiration; pulse could still be felt at the wrist. Inversion, artificial respiration, oxygen and other ordinary methods of restoration were resorted to without avail, the cyanosis deepening rapidly. Forcible dilatation of the anal sphincter was then resorted to and whether on this account or not a feeble attempt at respiration followed, after which, by the aid of artificial respiration, etc., complete restoration was gradually effected and the operation was thereafter performed without anesthesia.

In this case the patient, though delicate, appeared entirely sound. The accident occurred before anesthesia was complete; there was no stage of excitement, no spasm nor other disturbance; the patient merely stopped breathing, as in an ugly case of chloroform narcosis, except that the heart's action was not primarily affected. Squibbs' ether was employed through an Ellis inhaler.

This is another example, teaching that patients are never safe during anesthesia, even by the safest anesthetic.

New Instrument.

A NEW TREATMENT CASE AND STERILIZER.

MARK D. STEVENSON, M.D.
Oculist to the City Hospital.
AKRON, OHIO.

I have devised a case which will particularly appeal to the eye, ear, nose and throat specialist.

The following claims are made for it:

First—When closed it is small and looks well, much like any physician's case.

Second—There is no waste space in it, even the lid being utilized.

Third—As originally designed and as illustrated below, its contents are as follows: 4 glass stoppered half-ounce tincture bottles, 7 glass stoppered half-ounce salt mouth bottles, 4 screw cap quarter-ounce ointment jars, 5 dropping bottles of half-ounce capacity, with bulbs of cellulose, a material that is not affected by medicaments, and therefore to be preferred to the old soft rubber which must frequently be renewed; 4 drop-

ping vials, each of 2 dram capacity, for the storing of small quantities of medicine, also provided with cellulose bulbs. The compartments for these bottles and jars are all of the same dimensions, allowing an assortment to suit individual requirements. The ear, nose and throat man would prefer chiefly salt mouth bottles, the oculist a larger number of dropping bottles, and the one who practices in all four departments would prefer a number of each.

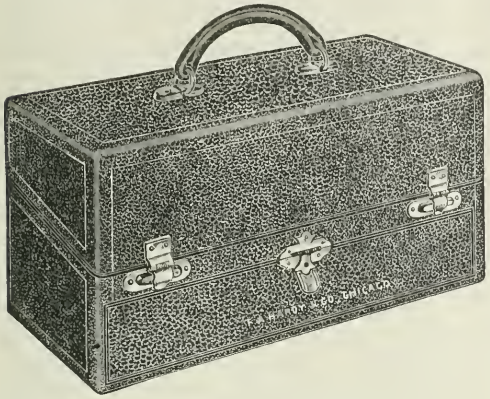


Fig. 1.—14¼x7¼x6 inches wide.

Fourth—There is plenty of room in the front part of the tray to carry ointment tubes and any long instruments without taking them apart, e. g., ophthalmoscope and probes, applicators, etc.

Fifth—A large cotton holder in lid in which a whole of any of the smaller packages of cotton may be readily placed.

Sixth—A compartment in lid 2¼x2¾x7½ inches to hold prescription blanks, bandages, small tongue towels, etc. The

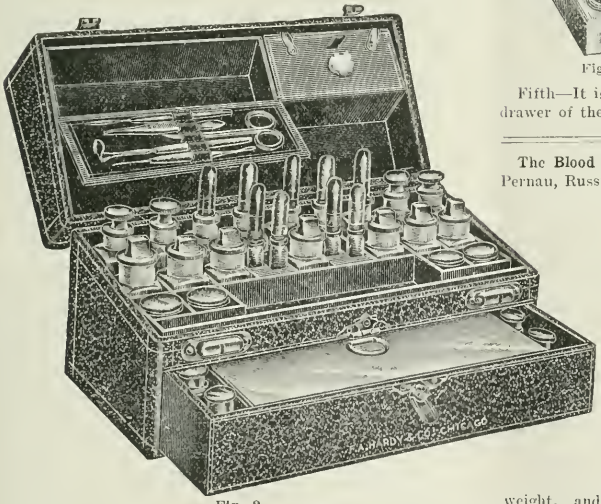


Fig. 2.

inside of the lid of this compartment is provided with loops in which ordinary instruments may be carried, e. g., foreign body spud, scissors, fixation forceps, scalpel, etc.

Seventh—A lower drawer 5¼x13x2 inches, in which instruments may also be placed without being taken apart. My portable sterilizer is large enough to hold and carry the usual eye, ear, nose and throat instruments. Thus one can carry everything that is necessary for treatment or operation in this case.

Eighth—The lid is supported by the handle when turned back, so that no strain comes on the back of the box. When the lid is open the case is useful as an office treatment case, with cotton holder, etc. To make it portable the lid is closed and clamped.

The following claims are made for the sterilizer: First—It is large enough to hold not only eye, but also any ear, nose and throat instrument—tonsillotomes, adenoid forceps, etc.

Second—It is small, light and durable, without anything to get out of order.

Third—The two alcohol lamps are attached to the body of the intrument, serving as a support while in use, and when not, being carefully folded into small space at its ends. The supply of alcohol is larger in two lamps than in one, and these lamps can not be forgotten, as will sometimes happen to those unattached.

Fourth—It is tinned inside and does not corrode and injure instruments so quickly as will a bare or nickel-plated sterilizer, owing to the fact that no oxidation takes place.

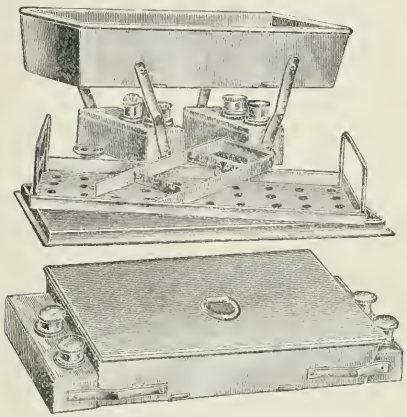


Fig. 3.—The sterilizer, open and closed.

Fifth—It is of such size that it can be carried in the lower drawer of the treatment case.

The Blood Pressure in Balneological Practice.—Stillmark of Pernau, Russia, reviews the history of blood pressure measurements and their application in hydrotherapy. In his article in the *St. Petersburger med. Woehft.* of Sept. 26, 1903, he discusses the effect of carbonated baths in particular, and warns that when the normal increase in blood pressure is not observed in a carbonated bath, there is something wrong with the circulation and this kind of bath is distinctly contraindicated. In order to detect these subjects in time he has devised an apparatus for graduated, very light muscular exertion as a standard for comparison. The patient is seated and with his right hand lifts and lowers an iron rod which hangs suspended from a point at about one-fourth from one end. This end carries a weight, and a sliding weight is also carried on the longer end, which can be adjusted to render the muscular exertion greater or less. The subject's left arm, to which the Riva-Rocci blood measuring apparatus is attached, rests quietly on a table. The effect of the muscular exertion on the blood pressure can thus be read from the resting arm. Under normal conditions the pressure rises during this light exercise, and when it does not rise or drops instead, carbonated baths will surely prove injurious.

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THE ETIOLOGY OF TROPICAL SPLENOMEGALY.

The etiology of a group of diseases in which considerable enlargement of the spleen—splenomegaly—is the most noticeable anatomical feature has baffled many attempts at solution. Belonging to this class of diseases are primarily splenomegaly, or splenic anemia; splenomegaly with cirrhosis of the liver, or Banti's disease, and tropical splenomegaly, known also under a variety of names, such as kala-azer, dum-dum fever, etc. However, a good deal of light has now been shed on the etiology of the latter. Leishman[1] was the first investigator of tropical splenomegaly, who, in 1903, in a case of this kind in a spleen weighing two pounds and seven ounces, found innumerable parasitic bodies which he considered to be a peculiar form of trypanosoma. These bodies were more thoroughly investigated by Donovan,[2] and since then by several other observers, including Laveran, the discoverer of the hemamœba malariæ, who classified them as a species of piroplasma. To this classification Patrick Manson and Low strongly object, claiming that their observations completely disprove Laveran's contention that the bodies are parasites of the red blood corpuscles. Marchand and Ledingham,[3] who studied a case of this kind in Germany in the person of a soldier returned from China, incline more toward Leishman's original view of the trypanosoma nature of these bodies.

The morbid condition in which the Leishman-Donovan bodies are found is by no means a rare disease, but, on the contrary, one of extensive prevalence in some parts of the tropics, particularly in India. In the latter country it is of such economic importance that it has several times been the object of official investigation by medical government commissions.

The most complete report on the newly-discovered parasite has now been furnished by Christophers,[4] who had been detailed by the Indian government to study cases of tropical splenomegaly in Madras. Christophers gives the credit of first having seen the parasitic bodies in tropical splenomegaly to Cunningham, whose observations, reported in 1885, had, however, not attracted general attention, and had, in fact, been entirely forgotten. Christophers, in order not to increase the confusion, accepts for the time being for the parasite the name proposed by Laveran, *Piroplasma donovani*. The disease in which it is found, no matter what its early manifestations are, always presents the final picture of great enlargement of the spleen, anemia, emaciation, irregular pyrexia, abdominal symptoms. Quinin has no influence over the disease; malarial parasites are not found in the peripheral blood, nor in the juice obtained by splenic puncture. The enlargement of the spleen is usually much greater than in malaria and diarrhea, and a dysenteric condition, with blood and mucus in the stools, are constant factors in advanced cases. The parasites when present are never found in the peripheral blood, but in the spleen, the liver, the bone marrow and in granulating dysenteric ulcers of the intestines. During life they can be best demonstrated by splenic puncture. They can be seen unstained, but they are much better demonstrated in cover glass preparations stained by Romanowsky's method. In specimens so treated they exhibit a remarkable uniformity in size, about 2.5 μ in diameter; they are either round or have the shape of a cockle-shell. Their outlines are very sharp, and they seem to possess a cuticle. They include two chromatin masses—a larger one, staining lightly, and a smaller one, staining intensely. The two chromatin masses are usually situated opposite to each other in the shorter axis of the parasite. The small chromatin mass is usually rod-shaped, but may appear as a dot only. The bodies are seen free, included in polynuclear leucocytes, and particularly in macrophages. They can be easily demonstrated in sections of the spleen, the liver, the bone marrow and in the intestinal dysenteric ulcerations, in which the ameba coli is not found. These intestinal ulcerations appear to be closely analogous in their histology and parasitology with what has recently been found by Wright[5] in a case of tropical ulcer of the skin.

Christophers does not think that the parasites found in tropical splenomegaly belong to the genus piroplasma, but he inclines to the view that they are to be classed among the microsporidia.

1. British Med. Jour., May 30, 1903, p. 1253.
2. Ibid., Nov. 28, 1903, p. 1401.
3. Centralblatt f. Bakteriologie, vol. xxxv, p. 594.
4. A preliminary report on a parasite found in persons suffering from enlargement of the spleen in India. Calcutta Government Printing, 1904.

IMMUNIZATION AGAINST SURGICAL INFECTION.

Despite the most rigorous precautions and the utmost refinement in technic, infection of surgical wounds can not always be prevented. Thus, in operations on the stomach and intestines, it is often impossible to avoid the development of peritonitis as a result of the escape of the contents of these viscera. Attempts have been made to increase the resistance of the peritoneum by the induction of artificial hyperleucocytosis. For this purpose subcutaneous or intravenous injections of albumoses and intraperitoneal injections of normal saline solution, bouillon, nucleic acid and tuberculin have been employed experimentally, and in some instances normal saline solution has been injected into the human peritoneum in advance of abdominal operations as a prophylactic measure. In pursuance of this line of investiga-

5. Journal of Med. Research, vol. x, 1903, p. 472.

tion, Professor Mikulicz-Radecki[1] undertook the immunization of guinea-pigs to *Bacillus coli* by intraperitoneal injections of virulent cultures of that organism, but deeming this method inapplicable to man, he proceeded to increase the general resistance to infection by the development of hyperleucocytosis. To this end injections of 0.85 per cent. sodium chlorid solution, 2 per cent. neutral bouillon, starch in physiologic salt solution, 2 per cent. aleuronat-mucilage, and 2 per cent. nucleic acid were made into the peritoneum and of 5 per cent. nucleic acid beneath the skin.

The most pronounced results were obtained with nucleic acid, the increase in the number of leucocytes being preceded by a diminution, while the temperature rose above normal, and the resistance of the peritoneum was increased from sixteen- to twentyfold. The effects were heightened by repeated injection, either into the peritoneum or beneath the skin. Further, recovery occurred in animals protected by preparatory treatment, when the contents of the stomach or the intestines were forced into the abdomen through an opening made artificially, while control animals perished, and some animals thus infected were saved when treated within a short time subsequently. The phagocytic activity of the elements of the peritoneal exudate was early quite marked under these circumstances. The injections were found to be entirely innocuous. Observations were now made on human beings, 50 c.cm. of a 2 per cent. solution of nucleic acid being introduced beneath the skin. Fifty-eight cases were thus treated, operations on stomach, intestines or other abdominal viscera being performed in fifty-five at varying intervals after the injection. It was observed under these conditions that, as in animals, hyperleucocytosis followed, though almost always preceded for an hour or so by hypoleucocytosis. Twelve hours was thought to be the interval between injection and operation yielding the best results. The injection was attended with local redness and tenderness and slight swelling for a day, and with moderate rise in temperature. At times there was a slight rigor and also vertigo.

While it is difficult to gauge the effects of the preparatory treatment, particularly in view of the comparatively small number of cases and of the observance of the usual aseptic and antiseptic precautions, the impression was gained that the results were better with respect both to the number of recoveries and to the progress of the individual cases than under ordinary circumstances. Thus of forty-five cases in which the abdominal cavity was opened and was exposed to infection by the contents of the stomach or intestine or other infectious material, recovery ensued in thirty-eight, while in none of the remaining seven was death due to peritonitis. The object of the injections is to induce hyperleucocytosis, and this end can be readily attained by intraperitoneal infusion of normal saline solution, and Mikulicz relates that he has for two years practiced free irrigation of the peritoneal cavity with warm normal saline solution in all cases of abdominal operation in which the peritoneum is exposed to the risk of infection. The procedure is so simple and so entirely free from danger and the results to be anticipated are so promising that it would seem a mistake not to adopt the measure whenever it appears to be indicated. The application of the same principle to cases in which perforation or rupture of abdominal viscera is threatened or has recently taken place also suggests itself in this connection.

1. Lancet, July 2, 1904, p. 1.

THE INCREASE OF SUICIDE.

The increase of suicide has come to be such a marked feature of social statistics in this country that physicians must be made to realize the possibilities there may be of bringing about a decrease in this unfortunate matter by more care and prevision. Suicides are somewhat more than twice as frequent now as they were ten years ago. During the last ten years poison has replaced shooting as the most frequent method of taking life. The poison most frequently used is carbolic acid, which almost anyone under any circumstances can procure without let or hindrance. About five out of every six cases of suicide by poison are accomplished by carbolic acid. It seems very probable that if physicians would bear in mind the increasing tendency to suicide and would suggest the taking of precautions against it more frequently by attendants and friends, and would lend their influence to have legislatures prevent the free retailing of carbolic acid as at the present time, there would be a decrease in the mortality from suicide.

Carefully collected statistics show that there was a constant increase from 3,531 suicides in 1891 to 6,600 in 1897, then a drop in 1898 to 5,920, and in 1899 to 5,340. In 1900 there were 6,755 suicides, an increase of over 150 above the figures for 1897, the highest previous number, and there has been a constant increase since, in 1903 the number of suicides being very close to 8,600. During the last thirteen years—that is, since 1891, there have been altogether 77,617 cases of suicide reported in the newspapers of this country.

The decrease in the number of suicides during 1898 and 1899 is not surprising, if we remember the conditions that prevailed in the commercial world at that time. After a period of hard times there was the wave of prosperity and a decided reaction in men's feelings that made the future look bright enough for everyone. Curiously enough, the statistics, however, do not show that city life is so much harder on the people than country life. During the last ten years the suicide rate in fifty cities of this country has about doubled. This is, however, only in proportion to the suicide rate throughout all the rest of the country and does not especially condemn the high pressure of large city life as a disturbing factor of mentality. The most serious thing about the statistics is the fact that, though suicides are more common among men than women in all countries,

the difference is gradually growing less, and in recent years this has been quite marked. At the present time, between the ages of 10 and 25, suicides of women are more numerous than those of men between the same ages. Half a century ago five times as many men committed suicide as women. A quarter of a century ago the proportion was three men to one woman. As the occupation of women in wage earning has become more widespread, the opportunities for the intense discouragement which precedes attempts at suicide have increased. During the last three years the ratio of suicides among men to those among women has been only two and one-half to one.

An interesting feature of the suicide statistics for physicians is the very large number of the medical profession who kill themselves each year as compared with the members of other professions who find life unbearable. In the last thirteen years 535 physicians in the United States have committed suicide, while only 98 clergymen and 61 lawyers have done away with themselves. There seems to be no doubt that overcrowding in the profession and the consequent difficulty of achieving anything like success has been the main factor in this. As is pointed out by physicians themselves, however, it seems not improbable that drug addictions of various kinds, to which they are so much more liable than the other professional classes, are responsible for not a little of this disproportionate tendency to suicide. Not infrequently, of course, too, physicians afflicted with ailments which they better than others know to be incurable save themselves long suffering by this means. In most of these cases, however, there is a lack of will power to begin with, for physicians better than others know well how manfully brother physicians bear up under the strain of prolonged illness in many cases and courageously face pain and suffering to their appointed end.

TROPICAL ANEMIA (ANKYLOSTOMIASIS) IN PORTO RICO.

A very creditable and gratifying feature of our recent colonial expansion has been the beneficent work in preventive medicine in Cuba, Porto Rico and the Philippines. As the government of these possessions has been for the most part under the control of the War Department, this work has been naturally done chiefly by medical officers of the Army, and our readers are fairly familiar with the main features of the banishment of yellow fever from Cuba, and with the less brilliant and successful but far more arduous fight which has been waged in the Philippines against plague, cholera and epidemic dysentery.

Sanitary affairs in Porto Rico have excited little interest since the prompt extinction of the smallpox epidemic in the island five years ago by the admirable sanitary campaign of Hoff—the "vaccination of a nation." The work now being done there by Ashford and King under the authority of the governor, to control the ravages of ankylostoma among the rural population is of great interest and importance. On the military occupation of Cuba and Porto Rico the attention of medical officers was at once drawn to the widespread occurrence of the so-called tropical anemia among the native population. This was generally attributed, especially in Cuba, to starvation or to a deficient diet, in which a due proportion of proteids especially was lacking. In 1899, Assistant-Surgeon Bailey K. Ashford, U. S. Army, reported the endemic prevalence of ankylostoma in Porto Rico, this being the first recognition of its occurrence except sporadically in the West Indies. He also recognized and reported its causal relation to the prevalent tropical anemia. Since that time he has treated successfully a large number of cases and has been active in calling the attention of the medical practitioners and the authorities to its ravages.

A few months ago the governor of Porto Rico appointed a commission consisting of Dr. B. K. Ashford of the Army, and Dr. W. W. King of the Public Health and Marine-Hospital Service, for the study and treatment of anemia in Porto Rico. This commission is now traveling about from district to district with a camp hospital for the treatment of the severer cases and an out patient dispensary for those able to walk. The condition which they find is described as follows:

In valley, mountain and coast alike is found a ghastly population dragging out a miserable existence, and with a death rate which has shocked all who have occasion to learn it. The number of children who have lost parents and most of their relatives is very large, and these pick up a living as they can. Men who should be supporting their families are chronic invalids and the families, also infected by the disease, are in a condition of misery beyond description. On the arrival of the hospital camp they come in scores and hundreds, on foot or horseback, or borne along on hammocks. They are cured, taught how to prevent reinfection, and return home well and happy to spread the good news. The visit of the commission to the district of Bayamon resulted in 931 cures and a diminution of the death rate in the district of 20 per cent. In the mountain coffee-growing district of Utuado, where the commission now is, 1,500 cases have been cured in six weeks, and new patients are still pouring in. All of this good work has been done on an appropriation of $5,000, which is not yet exhausted.

Such beneficent work illustrates the highest field of the physician's labor. The investigation of ankylostomiasis has marked an epoch and disclosed a new avenue for the exercise of prophylaxis in medical science.

TRANSACTIONS OF THE SECTIONS.

The bound volumes of section transactions are highly prized by many members of the Association. There may be some who are unfamiliar with these publications, and we call attention (under the head of Association News on page 343 of this issue) to the need of subscribing in advance. The papers and discussions appear

in THE JOURNAL, but the cloth-bound books of the various sections make permanent and individual records that are available for any who wish to possess them.

SNAKE VENOM A PRODUCT OF DIGESTION.

Experiments with the production of poison by vipers have indicated that the secretion of the poison is closely connected with the process of digestion. Dr. G. de Christini[1] states that from his experiments he concludes that the poison glands of the snake take the place of the salivary glands in the higher vertebrates and are designed to free the organism from poison products. Extirpation of the glands caused death, as did also prevention of the excretion of the poison. The poison is secreted under the influence of digestive stimuli and when milk, as an example of easily digested food, was given to snakes the poison became less intense. Dr. de Christini concludes that the secretion of the poison glands has the same function as that of the kidneys, that is, to free the body from the poisonous substances in the blood, from which the venom is formed.

A MORE ACCURATE WAY TO TAKE TEMPERATURE.

The advantages of a means of taking temperature at frequent intervals without disturbing the patient for the purpose are obvious. Mantoux[2] of Paris accomplishes this by having the patient micturate on the upper part of the bulb of a thermometer slanted in such a way in the vessel that the stream of urine flows along and over the bulb. The mercury rises much faster than when the thermometer is placed in the mouth or rectum. This is not a new method, but it has not been considered accurate. Mantoux, however, has made 319 comparative tests of the temperature thus ascertained, and the temperature found in the mouth, axilla or rectum. The difference between the urine temperature and the rectal temperature averaged .02 to .34 of a degree Centigrade, and never amounted to more than half a degree except in one instance. The findings constantly paralleled those of the rectal temperature, except that the maximum in the urine was just a trifle below the rectal temperature. The harmony between them was far more pronounced than between the mouth, axilla and rectum temperature. He thinks this mode of temperature taking will be found especially useful in treatment of tuberculosis on account of its convenience, comparative precision and the absence of emotional fluctuations.

THE TRAVELING ADVERTISING DOCTOR TURNED DOWN.

As a usual thing the traveling quack finds no trouble in securing space in the country newspaper in which to proclaim his marvelous power and success in the curing of every disease. Once in a while, however, he comes against a newspaper whose editor has a few ideas on the propriety of matters and he receives a shock. The Charleston (Ill.) *Daily Courier*, published by C. L. Lee, recently commented on the fact that a man representing himself to be a physician, who wanted to advertise, but whose business was declined, made considerable remark concerning the refusal. A part of the editorial comment was as follows:

> Now we haven't much to say, publicly, about this affair, except to advise all people who need the services of a physician to consult some one of our reputable home doctors. If men like the one in question were all they claimed to be, there would be little need of them running about the country as they do. Again let us advise our readers to consult your home physician; you know him and can depend on him, for he is here to-day, and will be here to-morrow, if you need him; whereas, men such as we have referred to are here to-day and gone to-morrow; they care nothing for you personally, except to get your money.

The grasp of the subject by Mr. Lee evidenced in this pointed comment seems exceedingly satisfactory. This newspaper proprietor has considerable regard for what he puts in his advertising pages. We have not seen his paper, but we certainly wish it success, and hope that he is as well informed and level-headed on other subjects as he appears to be on the subject of the traveling advertising quack versus the responsible home physician.

THE TUBERCULIN TEST.

An early positive diagnosis of tuberculosis is of paramount importance, for well-known reasons, but it is hard to make in many instances. Often the most thorough physical examination will not be sufficient to detect tuberculosis, and in many of the obscure cases, especially of surgical tuberculosis, diagnosis by ordinary means is impossible. Consequently the tuberculin test, when it was announced by Koch in 1890, was heralded by many as one of the great discoveries in medical science. Tinker[1] gives the results obtained from the application of the test in 400 cases at the Johns Hopkins Hospital, where it is used in doubtful or suspected cases of tuberculosis. Used in the small doses needed and under proper conditions, he concludes that the test is not harmful and does not give rise to distressing symptoms. A fact to be kept in mind is that every individual will react with high temperature, often nausea, vomiting, chills, headache, etc., if the dose is large enough. It is usual to begin with from 1 to 3 milligrams of Koch's old tuberculin, and, if no reaction occurs, the dose is increased to a maximum of 9 milligrams. A reaction to 6 milligrams is considered certainly tuberculous; a reaction to 9 milligrams is strongly presumptive, but not positive. However, occasionally a non-tuberculous reacts under these conditions, and sometimes a tuberculous fails to react; but such cases are rare. It may, therefore, be compared to the Widal test in typhoid in not being absolutely reliable, but nevertheless of great value. A proper temperature chart preliminary to the injection is of great importance. The temperature should be taken every two hours for at least eighteen hours. The application of the test in cases where the temperature is not down approximately to normal for about twenty-four hours probably explains its unreliability in some hands. It is best to make the injection deep into some muscle, such as the deltoid, using, of course, antiseptic precautions. Patients with healed lesions even for years react to the test.

1. Annali d'Igiene Sperimentali, Rome, quoted by Public Opinion, 1904.
2. Bulletin de la Société Méd. des Hôpitaux, xxi, No. 24, July 10, July 14.

1. Johns Hopkins Hospital Reports, 1903.

The location of the lesion probably has no effect on the reaction. The test has been of service at Johns Hopkins Hospital in the diagnosis, especially of tuberculous joint lesions. Tuberculosis of the kidney, when no tubercle bacilli were found in the urine, was diagnosed in several cases by tuberculin and the diagnosis confirmed by subsequent operation. None of nine cases of Hodgkin's disease reacted to the test. On the whole, the analysis of the results obtained seems to be favorable to the test both as regards its harmlessness and its reliability.

THE LAW DEMANDS SINCERITY.

A recent Circuit Court decision in Iowa is of interest. The suit was one for infringement of patent, and the parties were the owners of the apparatus known, respectively, as "oxydonor" and "oxygenor," to whose troubles we have before referred. The court stated that these and similar fakes can not have the indorsement of the courts when the pretended inventor can not make or refuses to make an explanation. The court admitted that reputable witnesses testified that when sick they used some of these devices, and that they were restored to health; but the court goes on to say that there is nothing to prove that this sequence of events is in the nature of cause and effect. He remarks: "It would be just as reasonable for an Iowa farmer to say that his barn was not destroyed by the last thunderstorm because there was a lightning rod on Mount Pisgah, as for a man to say that his restoration to health was brought about by the use of an oxydonor or an oxygenor." The decision is similar to the hard-fought fig-syrup suit in California. In the latter cause no redress was given to the company which sued another firm for damages because of imitation of label and package, and the ground of the refusal given by the court, our readers will remember, was that since the fig-syrup company was operating a business based on fraud, it could not come into court and claim protection. This is the ruling that was desired and finally secured in the famous Weltmer case in Nevada, Mo., where it was a physical impossibility for the alleged healer to carry out the promises that he made. This principle of law is certainly a just one, and should find application in many other cases.

THE RELATION OF ALCOHOLISM TO THE NATURAL PROCESSES OF RESISTANCE.

With many physicians alcohol has always been a standby in septic conditions. Patients with septicemia are filled with whisky, despite the depressant effects of large doses of alcohol, as if the alcohol were expected either to kill the bacteria in the circulation or at least to neutralize their toxins. Yet there are many facts that do not harmonize with this procedure, and a large number of physicians assume either a sceptical or a strongly antagonistic attitude toward the beneficial results claimed for alcohol in septicemia. No one will question the greater mortality of pneumonia in alcoholics as compared with that in normal individuals, and pus infections usually progress with excessive virulence in patients with delirium tremens; in general, chronic alcoholism seems to lower decidedly resistance to infectious diseases. It is, therefore, quite reasonable to question the idea that acute alcoholic intoxication will protect against these same infections. As far as clinical experience goes, testimony can be readily adduced for both sides. Experimental work with animals has generally indicated that all forms of narcotics make them more easily overcome by bacterial infections. Rubin[1] has just reported an interesting study along these lines, with important clinical bearings. The resistance of rabbits to cultures of pneumococcus and streptococcus was used as an index, and it was found to be decidedly reduced by injections of alcohol, ether, or chloroform. During the course of the infection watch was kept on the leucocytes, and it was generally found that the number was much less in the narcotized rabbits than in the controls, and it was also found that as soon as the leucocytes in the circulation of an infected animal begin to decrease the number of bacteria increases. Occasionally it was found that narcotized rabbits died despite a fair degree of leucocytosis, which suggested that there may also be a reduction of their activity under these conditions. Therefore, the power of the leucocytes to pick up particles of carmine injected into the peritoneal cavity was examined, and it was found that in the narcotized rabbits not nearly as large a proportion of the leucocytes contained carmine granules as was the case in normal rabbits. Alcohol was also found to exert a negative chemotaxis. From these experiments it would seem that it is chiefly through a detrimental influence on the leucocytes that alcohol and similar substances reduce resistance to infection. In order to follow up these results, leucocyte counts were made on sixty of the inmates of an inebriate hospital, and the average number of leucocytes was found to be 5,300, the counts being made at 11 a. m. According to the best authorities, the average number of leucocytes is 7,500, or 2,300 more than was found in these inebriates. In the steady drinkers the average count was 5,000, while in the periodic alcoholics the counts averaged 6,500. Differential counts showed no change in the ratio of the different forms of leucocytes. It would seem, therefore, that alcoholics have a smaller number of leucocytes in their blood than is normal, and, in view of the frequent failure of leucocytosis to develop in alcoholic pneumonia, it may be that the structures that form leucocytes are impaired by alcoholism.

1. Journal of Infectious Diseases, May 30, 1904, p. 425.

Medical News.

GEORGIA.

Off for Europe.—Dr. Floyd W. McRae, Atlanta, has sailed for Liverpool on the *Cymric*.

Convicted.—Dr. George W. Barrow, Americus, has been convicted of assault with intent to commit murder, in a criminal operation, and has been sentenced to imprisonment for four years in the penitentiary.

Medical Scholarships Awarded.—The governor has appointed 26 young men to the beneficiary scholarships in the Medical College of Georgia, Augusta, a branch of the state university, 4 at large, and 2 from each congressional district.

The Hospital Graduates Club has just been organized in Atlanta. The membership is limited to those men who, in addition to thorough collegiate training, have served as interne or resident for at least one year in a hospital. The following

are the charter members: Marion McH. Hull, Stephen T. Barnett, Frank K. Boland, W. Troy Bivings, Willis B. Jones and Fred G. Hodgson.

Closer Union with University.—At the recent session of the University of Georgia trustees plans were made for the closer union of the university and the medical college at Augusta. All students of the medical college will hereafter be registered as regular students of the university, and the professors at Augusta will accept the marks given university students who may afterward enter the medical college as taking the place of examinations there.

ILLINOIS.

Personal.—Dr. George N. Kreider, Springfield, has been re-elected editor of the *Illinois Medical Journal*.

Kewanee Hospital Dedicated.—The new St. Francis Hospital, Kewanee, which has been erected at a cost of $100,000, was dedicated, July 24, with impressive ceremonies. Bishop Spalding made the dedicatory address.

The Alleged Trouble at Elgin.—Notwithstanding the lurid tales of trouble and mismanagement at the Illinois Northern Hospital for the Insane, Elgin, the superintendent writes: "We have all the attendants we can use, and are running along smoothly."

Tuberculosis Hospital Opens.—The new consumption hospital at Dunning was turned over to the officials, July 2, and three days later all the patients in the old building were transferred. The new hospital consists of five cottages and will accommodate 160 patients. The old building will be used as a hospital for the sick insane.

Chicago.

Chicago to St. Louis.—Profs. Elias P. Lyon, Charles H. Neilson and Orville E. Brown of the department of physiology in the University of Chicago, have resigned to accept similar positions on the faculty of the University of St. Louis.

Death from Poison Ivy.—A death from ivy poisoning—an extremely rare event, especially among adults—is reported. A man 42 years old died in St. Joseph's Hospital July 21, after two months of intense suffering from this affliction.

Davis Will Filed.—The will of the late Dr. N. S. Davis disposes of an estate valued at $39,000, of which $25,000 is real estate. The homestead is bequeathed to his widow, his library to his son, and a perpetual scholarship in Northwestern University, to his grandson, Frank H. Davis.

Heat Increases Deaths.—The few days of excessive heat had a disastrous effect on the public health, increasing the total deaths from 416 the week before to 538, or more than 29 per cent. The increase—122—was almost entirely among those under 5 years of age—212 as against 115 the week before. Acute intestinal diseases caused 118 deaths; consumption, 66; violence, 49; Bright's disease, 33; heart diseases, 26; pneumonia, 25; nervous diseases, 21; cancer, 19; and sunstroke, 17.

Smallpox. Three cases of smallpox were sent to the Isolation Hospital during the week ended July 23, and a fourth one was found which had recovered at home, without the nature of the disease being recognized by the attending physician. From this unrecognized case many exposures resulted, and some of the cases now in the hospital contracted the disease from this source. Three of these cases never had been vaccinated; one had a mark made in childhood twenty-three years ago. One death occurred at the hospital during the week—an unvaccinated groceryman, 26 years old. His unvaccinated child, three months old, is in the hospital with smallpox. His vaccinated wife now a widow—is in the hospital nursing the child.

KENTUCKY.

Ill and Injured. Dr. and Mrs. J. H. Heavrin, Harvesville, have been seriously ill from ptomain poisoning.——Dr. J. P. Wheeler, Prestonsville, was thrown from his buggy recently and sustained severe contusions and the fracture of a small bone of the face.

Hospital and College Additions.—The Louisville National Medical College has completed extensive additions to its hospital.——An adjoining building has been purchased and equipped as a free dispensary. A new dormitory for men has been added, and new laboratories have been installed.

Personal.—Dr. Philip F. Barbour, Louisville, sailed on the *Teutonic*, July 6.——Dr. Charles W. White, Covington, has been re-elected health officer.——Dr. Cleon C. Owens has been succeeded as first assistant physician of the Central Kentucky Asylum for the Insane, Lakeland, by Dr. Malcolm H. Yeaman. ——Drs. William A. Young, Dayton, J. G. Yontsey, Newport, and J. Frank Houston, Alexandria, have been made members of the Campbell County Board of Health.——Dr. Sidney J. Meyers has resigned as professor of pathology and hygiene in Kentucky University to become professor of medicine, clinical medicine and hygiene, in the Louisville Medical College.——Dr. Louis S. McMurtry sailed for Liverpool July 29 on the *Arabic*.

Commencements. The Medical Department of the University of Lousville graduated a class of 18, July 1. Dr. H. A. Cottell delivered the faculty address, and the dean, Dr. James M. Bodine presented the graduates to Hon. Theodore L. Burnett, who conferred the degrees.——The largest class in the history of the Hospital College of Medicine was graduated, July 1, when a class of 99 received degrees from Rev. Francis R. Beatie. Dr. Louis L. McMurtry, president of the college, told of the work of the year and of what the future should bring. A class of 57 was graduated by the Kentucky School of Medicine July 9. Capt. John H. Leathers conferred the degrees and Dr. William H. Wathen, president of the institution, reviewed the past and present methods of medical practice.

Nostrum Vendors Shut Out.—The section added by the last legislature to the law regulating the practice of medicine, went into effect last month. It is as follows:

SEC. 8.—Any itinerant medical company of two or more persons traveling as a troupe or company as venders of any drug, nostrum or instrument of any kind, intended for the treatment of any disease or injury, or who shall, by any writing or printing, profess to the public to treat disease or deformity by the use of any drug, nostrum or instrument, shall pay to the board a license of $100 per month, which shall be at once covered into the state treasury. The board shall issue a license to reputable and worthy applicants under this section on payment of the fee each month, but may for sufficient cause refuse such license. Any such itinerant vender traveling as a company or troupe, with two or more persons as members or in its employ, who shall treat or profess to treat or cure diseases or injuries by the use of any drug, nostrum or instrument without license to do so, or shall sell the same for such purpose, in violation of this section, shall be fined $50 for the first offense, and on each subsequent conviction shall be fined $100.

Honor Dr. McMurtry.—The physicians of Louisville, to celebrate the selection of one of their number as presiding officer of the American Medical Association and to do honor to their representative, gave a banquet to Dr. Louis S. McMurtry, the recently elected president. Dr. William H. Wathen was chairman of the committee of arrangements, and Dr. William Bailey toastmaster. The following toasts were responded to: "Distinguished Men in Medicine," Dr. John A. Ouchterlony; "Medical Organization," Dr. Joseph N. McCormack, Bowling Green; "Surgery of the South." Dr. H. H. Grant; "The Successful Man in Medicine," Dr. Joseph M. Mathews; "Medical Education in the South," Dr. Clinton W. Kelly; "The Young Man in Surgery," Dr. John R. Wathen; "The Medical Man of Yesterday and Today," Dr. J. G. Sherrill; "Fraternalism in Medicine," Dr. T. P. Satterwhite; "The American Medical Association," Dr. Louis S. McMurtry. Dr. Charles A. L. Reed, Cincinnati, made an eloquent impromptu response to a toast. About fifty-five were present at the banquet.

MARYLAND.

Personal.—Dr. John Mace has been elected health officer of Cambridge.——Dr. John Sappington of Darlington suffered a stroke of paralysis July 2.

Only One Case in The State.—There is a case of smallpox at Hurlock, which the State Board of Health says is the only one in the state, although there are several convalescents.

Baltimore.

Deaths of the Week.—There were 250 deaths the week ended July 23, of which 57 were from cholera infantum.

Superintendent Resigns.—Dr. A. Aldridge Matthews, superintendent of the University of Maryland Hospital, has resigned and gone to Spokane, Wash., to practice.

Off for Europe.—Drs. Harvey Cushing and Thomas McCrae will attend the meeting of the British Medical Association.——Dr. Robert Hoffman has gone to Berlin.——Dr. Myer W. Aaronson has gone to Europe to spend three years in study.

Summerings.—Dr. Walter B. Platt has gone to Lake Champlain to fish and camp.——Dr. L. McLane Tiffany is at Manchester, Mass.——Dr. William Green is at Bar Harbor, Maine. ——Dr. J. Albert Boyles is spending some weeks in Rhode Island.——Dr. Henry M. Cook is at the Sweet Springs, W. Va. ——Dr. Thomas B. Futcher is at Newport.——Dr. William A. B. Sellman is spending the month in Cecil County.——Dr. M. L. Price has gone to Boston.——Dr. Thomas S. Cullen is at Halifax, N. S., where he delivers an address before the Maritime Medical Association.——Dr. Thomas J. Ward is at East Stroudsburg, Pa., for the summer.——Dr. William T. Howard

left for Bedford Springs July 6.——Dr. Nicholas L. Dashiell will spend August at Ocean City.

NEW YORK.

Typhoid at Watertown.—Typhoid fever has broken out at Madison Barracks, Watertown, and ten soldiers of the Ninth Infantry are in the hospital as a result of five days' epidemic.

Will Go to China.—Dr. and Mrs. Charles K. Roys, Lyons, sail from San Francisco on August 13, for China, where Dr. Roys will assume charge of a new hospital at Wei Hsieu, Shantung.

Buffalo Personals.—Dr. William F. Beck has been appointed a medical examiner in Lunacy.——Dr. Eugene Wasdin, on the eve of leaving for his new post of duty in Memphis, was presented with a handsome silver loving cup by the staff of the Sisters' Hospital.——Dr. Burt C. Johnson has been successfully operated on for appendicitis.——Drs. Lucien Howe and Frank W. Hinkel have sailed for Europe.——Drs. Lawrence G. Hanley and Charles G. Stockton will spend several weeks in Europe.

Hinder the Medical Society Merger.—The almost completed consolidation of the New York State Medical Association and the Medical Society of the State of New York is opposed by the Onondaga County Medical Association. Their representative appeared before the justice to oppose the motion for an order compelling the association to consent to union. He said that there was no real opposition to the consolidation, but that his clients believed the merger should be carried out in accordance with the terms of the general corporation law, by which each association would be wound up prior to the establishment of the new organization.

Tuberculosis Hospital Open.—The State Hospital for the Treatment of Incipient Tuberculosis is now open at Raybrook, with Dr. John H. Pryor, Buffalo, as superintendent, and Dr. Willis E. Merriman, Jr., Albany, resident physician. The hospital will accommodate about fifty patients. There will be a camp of tents to accommodate forty-four patients. Persons who can afford to pay will be charged cost. The examiners in Albany are Drs. Samuel B. Ward and George E. Gorham. Under the law no person shall be admitted to the institution unless he or she has been a resident of the state for one year. Persons desiring free treatment apply to the local authorities, who thereon issue a written request to the superintendent; then they are examined by the medical examiners and admission to the hospital is made in the order in which the names of the applicants are received. They are transported to and from the hospital free. Applicants for admission who are able to pay should apply in person to the superintendents.

New York City.

Heavy Infant Mortality.—For the week ended July 23, there were 279 more deaths from diarrheal diseases than for the corresponding week of 1903, and this increase in infant mortality increased the annual death rate to 23.46 per 1,000.

Medal for Sanitary Superintendent.—Dr. Charles F. Roberts, sanitary superintendent of the Health Department, on July 1, received a medal from his associates commemorating his thirty-six years' service in the department. Dr. Darlington made the presentation address.

Medical Inspectors Begin Work. Between twenty-five and thirty medical inspectors have commenced their regular summer visits to the tenements in the crowded downtown sections of Brooklyn. Their chief duty is to advise mothers in the care of infants and young children and the proper method of diet during the hot weather.

Help Needed for Babies.—St. John's Guild has issued an appeal for assistance. A floating hospital goes out from the city every day with its wards crowded to the limit of their capacity, and every bed at the Seaside Hospital is occupied. Already this summer as many patients have been treated as were admitted during the whole of last summer.

Contagious Diseases.—There were reported to the sanitary bureau of this city for the week ended July 16, 380 cases of tuberculosis, with 134 deaths; 309 cases of diphtheria, with 41 deaths; 269 cases of measles, with 13 deaths; 60 cases of typhoid, with 10 deaths; 89 cases of scarlet fever, with 7 deaths; 16 cases of varicella, and 23 deaths from cerebrospinal meningitis.

Eastward Ho.—Dr. and Mrs. Francis J. Quinlan sailed on the *Kaiser Wilhelm der Grosse*, for Cherbourg, July 19.——Dr. and Mrs. J. C. Cardwell, Brooklyn, sailed on the *Prinz Oskar* for Naples, July 19.——Dr. and Mrs. George T. Wetmore sailed on the *Potsdam*, for Boulogne, July 19.——Dr. and Mrs. George J. McKelway, Flushing, sailed on the *Finland* for Antwerp, July 19.——Dr. J. Herbert Claiborne sailed on the *Etruria* for Liverpool, July 23.

Rest-Cure House for Consumptives.—Dr. Darlington, commissioner of Health, has announced that another addition is to be made to the Consumptive's Hospital, on North Brother's island, in the shape of a "rest-cure" pavilion. There are three buildings on the island devoted to the housing and treatment of tuberculosis patients. The new building is to be a pavilion with movable sides, so that patients may sit therein, and get plenty of air without being directly in the wind.

Street Sprinkling vs. Flushing.—The commission of the street cleaning department has contended that sprinkling did no good, only making the streets slippery, and that facilities should be provided for flushing instead. As a result of this stand, the medical advisory committee of the board of health met Commissioner Darlington, at the request of Mayor McClellan to consider this question. A resolution was passed recommending that the practice of sprinkling the streets be continued.

Committee for the Study of Pulmonary Diseases.—Dr. Darlington, health commissioner, has selected a part of the investigating committee for the study of lung diseases, for the work of which $10,000 was appropriated. Among these are Drs. Edward G. Janeway and T. Mitchell Prudden, of New York City, Drs. William H. Welsh and William Osler of Baltimore, and Dr. Theobald Smith of Harvard University. They will begin work as soon as possible, in the hope of attaining some definite results before cold weather.

OHIO.

Painesville Hospital Opened.—The new hospital at Painesville was opened July 8. The licensed physicians of Painesville Township have been named as the medical staff.

Held Up and Robbed.—Dr. John E. Darby, Cleveland, was held up by two highwaymen while making a night call, July 4, and robbed of $30 and a gold watch. The robbers returned Dr. Darby's surgical case, but retained his medicine case.

Cincinnati Tourists.—Dr. Henry A. Ingalls has left for a three weeks' trip to Mexico.——Dr. Meyer L. Heidingsfeld has left for Europe and will return about the middle of October.——Dr. John C. Mackenzie is spending his vacation in Alaska. He will return by way of Yellowstone Park.

Personal.—Dr. John M. Buckingham has been made health officer of Springfield, vice Dr. Henry H. Seys, deceased.——Dr. John K. Scudder, Cincinnati, has been appointed a member of the State Board of Medical Registration and Examination, vice Dr. Leo F. Towers, Toledo, resigned.——Dr. Henry R. Mallory has been reappointed a member of the Hamilton Board of Health.——Dr. T. Clark Miller has been appointed health officer of Massillon.——Dr. Charles A. L. Reed, Cincinnati, has sailed for Europe.

Staff Appointed.—The following staff appointments have been made by the executive committee of the Marion City and County Hospital: Special staff—Drs. Horatio Chisholm, Auguste Rhu, and James W. McMurray, all of Marion; general staff—Drs. Robert S. Dombaugh, Waldo, Clyde R. McKinniss, Marion, James A. McMurray, Marion, Joel B. Taylor, Marion, Robert C. M. Lewis, Marion, Lewis D. Hamilton, Marion, Samuel H. Britton, Marion, Dana O. Weeks, Marion, and Eben L. Brady, Marion.

Physicians' Signatures Alone of Value.—The assistant city solicitor of Cincinnati has recently rendered an opinion that will be of some interest to physicians. Information was wanted by the Bureau of Vital Statistics whether the signature of an Eddyite or an osteopath to a death certificate was to be regarded as equivalent to that of a recognized physician. The opinion is that inasmuch as Eddyites and osteopaths are not recognized by the courts and statutes as legal practitioners, and inasmuch as they profess no knowledge of medicine, their opinion as to the cause of death can be of little value to the officials. Their signatures, therefore, signify no more than would those of other laymen. In cases that they have attended alone and where death has resulted, the coroner must be called to determine the cause of death.

PENNSYLVANIA.

Philadelphia.

The Medical Society of the Woman's Hospital of Philadelphia was organized, June 30, at a meeting of the medical staff. Dr. Mary W. Griscom was elected president.

Hospital Improvements.—Extensive improvements are to be

made to the German and Presbyterian hospitals. The latter institution will be extended by the erection of a four-story and basement maternity. The German Hospital will be improved by the addition of a new dining room, a dormitory kitchen, and the fitting up of a new diet kitchen.

June Hospital Work.—During June 193 patients were treated in the wards and 2,910 in the dispensaries of St. Agnes Hospital.——During the same period 212 patients were treated in the wards of St. Mary's Hospital and 2,609 were treated in the dispensaries.——In St. Joseph's Hospital 330 patients received attention in the wards and 3,090 in the dispensaries.

Personal.—Drs. Charles P. Noble and Ralph W. Seiss sailed for Europe July 16.—Dr. George F. Meeser and family sailed July 24.——Dr. William M. Sweet has been appointed professor of ophthalmology in the Polyclinic Hospital and College, to succeed Dr. Howard F. Hansell, resigned, and made emeritus professor.——Dr. William L. Rodman has gone to England to attend the meeting of the British Medical Association at Oxford.

A Year of the Free Hospital for Poor Consumptives.—During the year ended March 1 this hospital treated 560 patients. Of this number 46 were treated in the hospital and the remainder at the White Haven Sanitarium. The average number of weeks of maintenance in the city institution was 9; at White Haven 13. The total cost of the work for the year was $33,691.58, or an average of $5 a week for each patient. The work is somewhat embarrassed by the lack of funds. An appeal has been made to the public by the treasurer, Edward A. Millar, 404 Walnut Street.

Bequests.—By the will of Mrs. Eleanor Cooper $10,000 was left to the Presbyterian Hospital to endow a private room and $5,000 to endow a free bed. The same testator bequeathed $10,000 to the Arnot Ogden Hospital of Elmira, N. Y., to endow two free beds; $500 to the Cooperstown, N. Y., Orphan Asylum, and $10,000 to the medical department of Columbia University.——By the will of Sarah McCann the following charitable institutions have been benefited: St. Joseph's Home for Boys, $300; St. Vincent's Maternity Hospital, $200, and St. John's Orphan Asylum, $100.

City to Disinfect Sewage.—Plans are on foot for the construction of intercepting sewers along the line of the Delaware and Schuylkill rivers, to prevent pollution of the city's water supply. The various sewers of the city will be drained into these channels instead of into the river as at present. The method of treating the sewage will be by collection and filtration. The receiving plant will be covered, and the odor will be overcome by placing jets in the roof of the basin and burning the gas. The law department takes the view that if the city should dispose of its own sewage the authorities would be free to take legal action against any municipality which pollutes the water supply.

Health Report.—The general death rate of the city remains high, due to the extreme heat. Contagious diseases are not prevalent, and smallpox is apparently stamped out, no new cases having been reported during the week. Only 7 cases are now under treatment in the municipal hospital, and these are all convalescing. Typhoid fever is also on the decline, although still more widespread here than in the other large cities. For the week there were 41 cases of diphtheria reported, with 4 deaths, 43 cases of scarlet fever, and one death; 65 cases of typhoid fever and 11 deaths, and 52 deaths were due to tuberculosis. The total number of deaths reported for the week were 482. This is one less than last week, and 18 less than for the corresponding period of last year, but 8 more than for the same period of 1902.

Cancer Hospital Projected.—Plans for the founding in this city of a cancer hospital of national scope were formulated at a meeting of physicians and philanthropic citizens July 21. The proposed institution is to be known as the American Oncologic Hospital, and application is to be made for a charter. The following are to be the incorporators: George H. Earle, Jr., George H. Stuart, Jr., Rev. Floyd W. Tompkins, D.D., Frank L. Patterson, Dr. Boardman Reed, Richard Cadbury, Dr. G. Betton Massey, Charles H. Oberge, B. K. Wilbur, C. Wilson Roberts, Dr. Howard R. Swayne, Dr. Addinell Hewson, Jr., W. Calvin Moore, and Dr. C. M. Desvernine of Havana, Cuba. The hospital is to be devoted exclusively to the treatment of tumors and malignant growths, and to scientific research into the causes underlying the recent rapid increase in the prevalence of the disease. Statistics quoted at the meeting showed that 966 persons died of cancer in this city last year. This is 33 less than the number of deaths from cancer in all of the seven largest cities of this country in 1870 combined. It was stated that 2,898 cases exist in this city at the present time, and that there are 11,302 cases in the state. A temporary organization was formed with the following officers: President, George H. Stuart, Jr.; secretary, C. Wilson Roberts; treasurer, Richard Cadbury.

GENERAL.

American Association of Obstetricians and Gynecologists. This body will hold its seventeenth annual meeting at the Hotel Monticello, St. Louis, Sept. 13-16, 1904. The president is Walter Blackburn Dorsett, St. Louis, and secretary, William Warren Potter, Buffalo.

Marine-Hospital Service Examination.—The next examination of candidates for assistant surgeonships in this service will be held at the Bureau, 3 B Street, S. E., Washington, D. C., Oct. 3, 1904, at 10 a. m. Candidates must be between 22 and 30 years of age, graduates of reputable medical colleges, and must furnish testimonials from responsible persons as to their professional and moral character. The examinations are: 1, physical; 2, oral; 3, written; 4, clinical. On appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. Assistant surgeons receive $1,600. The tenure of office is permanent. Other particulars have been given in THE JOURNAL previously. For further information, or for invitation to appear before the board of examiners, address the Surgeon-General at the above address.

Kitasato to Visit the St. Louis Fair.—Dr. Kitasato of Japan has accepted the invitation of the Congress of Arts and Sciences to attend the International Congress at St. Louis in September. He is one of Japan's most noted scientists. After graduating from the medical college of the Imperial University of Tokio Dr. Kitasato was sent by the Japanese government to Germany to complete his studies. While in Germany he discovered the bacillus of tetanus. After returning to Japan he established the Institute for Infectious Diseases, which was opened in 1892. In 1894 Dr. Kitasato was a member of the commission sent by the Japanese government to study the plague in Hongkong, and while there discovered the bacillus causing the disease. In 1896, under the instructions of the government, he established the Imperial Serum Institute. He was also appointed president of the Imperial Lymph Institute. Dr. Kitasato also holds the following government appointments: Vice-president Central Hygienic Association and adviser to the sanitary bureau charged with the work of preventing the transportation of infectious diseases to Japan. He is also president of the Japan Private Hygienic Society and honorary member of the American Society of Tropical Medicine, and of other scientific associations, both domestic and foreign. A picture of Dr. Kitasato appears in THE JOURNAL this week, page 322.

FOREIGN NEWS.

Memorial to Kahler at Vienna.—A portrait bust of Otto Kahler, 1848-1893, was recently unveiled with much ceremony in the arcades of the Vienna faculty of medicine. Nothnagel and Kraus reviewed his work in internal medicine, and his life career in general.

Retirement of Vogl at Vienna.—After forty years of academic labors Professor A. von Vogl's retirement from the chair of pharmacology at Vienna was made the occasion of an ovation July 2. Addresses were delivered by Chrobak and others and a *Festschrift* was presented.

The Kussmaul Endowed Prize.—Professor Czerny has endowed a prize in honor of his deceased father-in-law, the famous clinician, Adolf Kussmaul. The sum of $2,500 has been paid for the purpose to the Heidelberg University, and the income will be awarded every third year, on Kussmaul's birthday, February 22, for the best therapeutic achievement during the preceding three years, published first in German literature. ("Für die beste therapeutische Leistung welche sich im Laufe der letzten 3 Jahre bewährt hat.")

Official Classification of Diseases in Germany.—The new official decree establishing the classification of diseases for purposes of notification and vital statistics for Prussia has just been published. It is given in full in the *Münch. med. Wochenschrift* for June 14, filling four pages. There are 6 groups of possible causes of death, with 176 titles and numerous subtitles. The first group includes the infectious diseases, the zoonoses and parasitic affections. The rubric "zoonoses" includes merely the four diseases, hydrophobia, anthrax, glanders and foot and mouth disease. The parasitic affections are subdivided as due to worms, to the ray fungus and to mycelium

tungi. There is a still minuter classification by the kind of type used. Tuberculosis has subtitles from *a* to *o*, with a few subdivisions.

Damage Suit Brought by 98 Physicians Against a Medical Official.—Dr. A. Pfeiffer occupies a high official medical position at Wiesbaden, and bears the titles of Regierungsrath and privy medical councilor. The courses for free post-graduate instruction have been in his charge and proved extremely successful two years ago. Last year Dr. Pfeiffer accused a local laryngologist, Dr. Fischenich, of unethical conduct, and made complaint to the government. The local medical organizations took the matter up and "boycotted" the post-graduate courses, after making a formal protest to the government and asking for Pfeiffer's discharge. The strife between the local physicians and Pfeiffer culminated at last in a suit instituted by the ninety-eight physicians comprising the Medical Chamber, against Dr. Pfeiffer, asking damages for libel. The suit was finally decided, June 30, and Dr. Pfeiffer was fined $112 and costs, while his countersuits against the officers of the Medical Chamber were dismissed.

LONDON LETTER.

The Health of Hong Kong.

The annual report on the health and sanitary condition of Hong Kong, by Dr. J. M. Atkinson, principal civil medical officer, has been issued. In 1903 there were notified 1,415 cases of plague against 460 in the previous year. The disease markedly declined when the minimum temperature reached 82 F. The minimum number of cases occurred in December, when only 2 were recorded, and the maximum in May, when 515 were reported. The treatment by 12-grain doses of carbolic acid administered every two hours is still in favor, and appears to give encouraging results. Of 101,056 rats examined, 3,744 were found to be infected with plague. The prevalence of the disease in rats and man increased and declined coincidently. Dr. Hunter, health officer of Hong Kong, intends to make Haffkine's prophylactic in Hong Kong to prevent the risk of contamination in the voyage from India.

Plague in Johannesburg.

Mr. W. C. C. Pakes, medical officer of health, Rand plague committee, has issued a report on the epidemic of plague in Johannesburg, which in many respects is of great interest and importance. In consequence of plague having existed for many months on the south and east coasts of South Africa arrangements were made in Johannesburg to cope with it in case the Transvaal should be invaded. These consisted in appointing (1) a special plague officer at Volksrust (the first town on the Natal line of the Transvaal); (2) the establishment of an observation camp; (3) a general supervision of Asiatics; (4) as early as February, 1903, the health officer of Johannesburg sent out circulars to the doctors containing extracts from the plague memorandum by Mr. R. H. Power, describing the symptoms of the disease and giving full directions for obtaining and forwarding for bacteriologic examination material from suspected cases. He recommended, and the government in connection with the town council organized, a plague camp, to which all cases of plague, known or suspected, were to be transferred. The government laboratories were specially developed in order to be able to perform the bacteriologic diagnosis of plague on a large scale. In January, 1903, the manager of the Central South African railways was requested to issue instructions to all his employees to look out for dead rats and to have them forwarded to the government laboratories for diagnosis. The Johannesburg municipality appointed a professional rat-catcher, and all dead rats found by him were forwarded for examination. The first intimation of the existence of plague in the Transvaal was the finding in April, 1903, of a dead rat in Johannesburg, which was ascertained to have succumbed to plague. Subsequently 13 rats were found to have died from plague in different parts of Johannesburg and the most careful inquiry failed to reveal the slightest connection between any two spots from which they were obtained. The inevitable conclusion was that they were imported singly from the coast in grain or forage. Each place from which a plague stricken rat was taken was visited by the rat-catchers and disinfectors and cleaned up. Only once was a second rat obtained from the same place. The authorities did not confine their attention to rats; cats, dogs, ducks, fowls, and small birds were examined, but with negative results, except in the case of one cat, which was found to have died from plague. Not until March 18, 1904, was plague discovered in men. A large number of sick persons were found collected together in the coolie location. The assistant district surgeon reported that they were suffering from pneumonia. On the 19th five corpses and twelve sick persons were found in a four-roomed house. The necropsies revealed nothing inconsistent with the diagnosis of pneumonia. There was not a single classical symptom of death from plague; the spleens were not enlarged or markedly congested; there were no ecchymoses or hemorrhages, and except the lungs the organs were normal. The latter showed patchy consolidation of the lobular type, and in spite of careful search no enlarged glands were found. But bacteriologic examination of portions of lung showed organisms morphologically identical with the plague bacillus. Owing to the insanitary condition of the coolie location and to the unknown number of cases in it a cordon was established around it at 4 a. m. on the 20th. By 9 a. m. further deaths had taken place, making a total of 26 in 36 hours. A remarkable fact was that not a single case showed any signs of buboes. The whole population of the coolie location—1,600 Asiatics, 1,358 natives, and 142 colored persons—were transferred to a segregation camp outside the town. During the incubation period of the disease only one death from plague occurred. After twelve days the inhabitants of the segregation camp were allowed to come and go under nominal restrictions. April 8 the coolie location was burned to the ground. To prevent the escape of rats, cats, dogs, fowls, and other creatures a galvanized iron fence was put up around the location, and the various animals and birds which had not been previously caught and destroyed were then caught, killed and burned. In the main the recommendations of the Durban Plague Congress were carried out. "Contacts" were not segregated; but were kept under observation, and their movements limited to the least possible extent. "Suspects" were isolated in a suspect camp adjoining the plague camp. The natives working in the mines were inspected daily, and any found sick were examined by the medical officer of the mines. No Asiatic was allowed to travel by rail unless he had received a clean bill of health from the health officer. The total number of deaths from plague up to April 23 was 768 in whites, 52 in Asiatics, and 16 in natives.

The Congo Expedition of the Liverpool School of Tropical Medicine.

In September last, at the request of the king of the Belgians, the Liverpool School of Tropical Medicine dispatched an expedition to the Congo Free State for the purpose of studying trypanosomiasis or sleeping sickness. The expedition consisted of Drs. J. E. Dutton and J. L. Todd, who formed the recent trypanosomiasis expedition of the School to Senegambia, and Dr. C. Christy, who was a member of the Royal Society's commission to Uganda to study sleeping sickness. The expedition proceeded to Bomba, where they stayed until the end of the year, and the Belgian authorities attached to them a state medical officer, Dr. Heiberg, a former student of the Liverpool School. The expedition made a long stay at Leopoldsville, where the government built a special hospital for the study of cases of sleeping sickness. Observations were made under the most favorable conditions extending over several months—an advantage never before enjoyed by previous observers. A large amount of material was available, allowing a close study of all the different types of cases. Dr. Christy left for home on May 1, bringing with him to Europe three natives suffering from sleeping sickness.

The Census of India in 1901.

The census of India, taken in 1901, has just been published in two bulky volumes. This is the third and the most complete census of India. The gigantic nature of the task of numbering nearly 300 millions of people inhabiting a territory of 1,766,597 square miles may be conceived. There has been a steady, but slow increase of population from 1872 to 1901; in the decade from 1891 to 1901 the increase amounted to only 1.5 per cent. The smallness of the increase is partly accounted for by famines and the plague and other epidemic diseases. A curious fact is that, while with few exceptions the females outnumber the males in all European countries, in India the reverse is true: there are only 963 females to 1,000 males. A satisfactory feature of the report is a decided and continuous decrease in the last twenty years in certain afflictions—insanity, deaf-mutism, blindness, and leprosy. This decline is ascribed to better sanitation and medical relief and improved system of food supply in times of famine. There is little insanity in India; Eurasians and Parsees are most affected. The mental strain of severe competition, which is a cause of this disease in Europe, has no place in the East. The doctrine that

consanguineous marriages have a tendency to produce mental unsoundness receives little support from the census figures.

Visit of French Physicians to London.

A visit of leading members of the French profession to London has been arranged, to include Professors Bouchard, Lucas-Championnière, Chauffard, Landouzy, Lermoyez, Marie and Sebileau. It is understood that they desire especially to observe the system of clinical teaching and study in London. Visits to the Royal College of Surgeons, the Lister Institute, and the laboratories on the Embankment will be arranged. A banquet will be given to the visitors, and committees of entertainment and escort are appointed.

Mr. Chamberlain and Preventive Medicine.

The Royal Institution of Public Health has given a banquet to Mr. Chamberlain in recognition of his services to preventive and tropical medicine while filling the office of colonial secretary. Dr. W. R. Smith, the president of the institute, in proposing Mr. Chamberlain's health, said that they were greatly indebted to him for the great progress made in various branches of research. Through his agency the London School of Tropical Medicine was founded. In replying Mr. Chamberlain dwelt on the importance of sanitary reform. Wherever British rule was established sanitary problems arose. His attention and sympathies were given to the efforts of such men as Manson, Ross, Haffkine and others, who devoted their time to tropical medicine and research. They were great assets of the empire, and in time he believed their work would make those tropical climates, which had been each in turn the white man's grave, places in which he could live in comfort. That was the reason why an unknown student working in the laboratories of London or Liverpool might do more for the empire than any statesman, however eminent his position.

DUBLIN LETTER.

Trinity College Postgraduate Session.

Following the example of many American and a few English schools, Trinity College has just arranged for next month a short post-graduate course in the various subjects of medical study. Many of the best teachers in Dublin are giving their services, and clinical and systematic teaching will be given in medicine, surgery, gynecology, physiology, pathology and anatomy. Among others engaged in the work are Mr. Swanzy, the ophthalmic surgeon.

Post-Graduate Work in Dublin.

Following the example of Liverpool the University of Dublin this year inaugurated a short post-graduate course of study in various subjects of medical interest. The entire course lasted three weeks and instruction was given in clinical medicine and surgery, pathology, physiology, anatomy, *x*-ray surgery, diseases of the skin, eye, nose and throat, and gynecology. Many of the best-known teachers in Dublin offered their services, and considering the very short notice given of the course, a large number of medical men availed themselves of it.

Correspondence.

Poisoning by Picrotoxin.

CHICAGO, July 11, 1904.

To the Editor:—In THE JOURNAL, July 2, is an editorial on poisoning by picrotoxin which is very misleading. (In an ordinary journal write-up it would cause little harm; but an editorial writer is supposed to be posted on his subject.) The stomachs examined by the original author had been deluged with cheap beer, in which malt and hops had been charily used. In their stead had been used a surrogate composed principally of quassia, gentian, colocynth, aloes, wormwood and *Cocculus indicus*. It is thus easy to see where the picrotoxin found in the stomachs of persons dying of acute alcoholism came from. To allow your readers to make statements and give THE JOURNAL as authority on this subject, as presented by you, would make both appear ridiculous, is why I attempt to correct it.

ALMERIN W. BAER.

[NOTE.—We are unable to see in what way our editorial is misleading. We directed attention to the possibility of poisoning by *Cocculus indicus*, or by its active principle, picrotoxin. While formerly the use of the drugs mentioned was common as hop substitutes, they are rarely if ever now employed. As the Minnesota experience, however, indicates, cocculus is and has been used for "dope," especially in lumber and mining camp districts, for criminal purposes, and the fact that quantities of the "fish berries" are sold and may easily be obtained, practically without any restriction, strengthens this belief. We do not agree with the assertion that the toxic symptoms described could be derived from the amount of cocculus that might possibly be found naturally in even the very worst kind of beer.—ED.]

The Effect of Digitalis on Cardiac Hypertrophy.

PHILADELPHIA, July 16, 1904.

To the Editor:—I have been much interested in reading an article on this subject by Dr. Wynn in THE JOURNAL, July 16. Aside from my interest in matters therapeutic, my attention was called to this article by reason of the fact that some years ago I published a research which seemed to show that digitalis in moderate dose is capable of producing a very distinct increase in the cardiac muscular fibers, provided that the use of the drug is continued for a long period of time. My results at that time seemed a little more positive than those of Dr. Wynn, although I am again interested to note that in the animals which he employed the hearts weighed more when digitalis had been given than in those animals which did not receive the drug. In regard to the doses named in Dr. Wynn's article, I think there must be a misprint. If a Belgian hare which weighs 2½ kilos, or approximately 5½ pounds, receives 90 drops of tincture of digitalis a day, this dose would be equivalent to the use of almost three ounces of tincture of digitalis per day by a man weighing 165 pounds. Finally, it is interesting to note that such peaceable animals as Belgian hares become ferocious under the use of three large doses of digitalis, for in my experiments, made on pigs, the same change in temper took place.

H. A. HARE.

[NOTE.—We referred the question of whether an error had occurred to Dr. Wynn, who replied as follows.—ED.]

INDIANAPOLIS, July 21, 1904.

To the Editor:—The letter of Dr. Hare is pertinent, in view of the statement made in my article that 90 drops of tincture of digitalis were administered daily to the rabbits. The animals did receive approximately this amount, but only for a day or two, for they manifested vomiting and anorexia—refusing food for two or three days. The average daily dosage for the whole period was about 10 drops. When the dosage had been increased to about 35 drops without disagreeable symptoms I began to doubt the preparation, and gave a tincture made by another well-known firm, but without any difference. Then I directed my assistant, who is exceedingly careful and reliable, to increase the dosage rapidly until toxic symptoms appeared. This rapid increase in the dosage extended over a period of ten days. The great tolerance of the animals to the drug was to me one of the most striking features of the experiment.

FRANK B. WYNN.

Data Wanted on Dentition Periods in Relation to Convulsions.

SONYEA, N. Y., July 5, 1904.

To the Editor:—Will you be good enough to say in THE JOURNAL that I am especially anxious to get accurate data on the influence of the dentition periods in the production of convulsions, especially epilepsy; and that I would be grateful to any physician who would be kind enough to send such data to me? Facts in connection with the influence of the first dentition period from the sixth month to the end of the first year, or thereabouts, are especially desired. W. P. SPRATLING.

Petroleum Internally Not Endorsed by American Therapeutic Society.

[THE JOURNAL has received for publication the following copy of a letter.—ED.]

WASHINGTON, D. C., July 20, 1904.

HILLSIDE CHEMICAL COMPANY, Newburgh, N. Y.

Gentlemen:—At the regular annual meeting of the American Therapeutic Society, held in New York City in June, 1904, the

society determined to call your attention, as well as that of the profession, through the columns of THE JOURNAL of the American Medical Association, to the error you make in your advertising literature.

To quote from leaflet "Petroleum Internally: Its Action"; "Already, at the second annual meeting of the American Therapeutic Society, held at Washington in May, 1900, it was decided (as a result of laboratory and clinical experience extending 'over fifty selected cases') to advocate the following; to wit: (1) that 'refined purified petroleum should be more extensively employed as a therapeutic agent,' and (2) that 'the reasons for its use should be more widely communicated to the profession at large.'"

The society has never in any manner endorsed a remedy. There may have been individual opinions expressed, but these could be regarded only as coming from the individual and not from the society, as the above quotation would indicate. In this particular instance, however, the quotation is at direct variance with the papers and records of the society, as will be shown by the paper read at the 1900 meeting by Dr. Reyburn on the "Inertness of Petroleum Compounds When Given Medicinally."

N. P. BARNES,
Secretary American Therapeutic Society.

Queries and Minor Notes.

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

TIME TO TAKE ALKALIES TO MAKE URINE ACID.

WASHINGTON, D. C., July 25, 1904.

To the Editor:—I most respectfully state, for the benefit of J. W. B., of Virginia, page 275, of THE JOURNAL, July 23, that alkaline salts given before meals enter immediately into the circulation of the blood, decomposing the neutral phosphates of soda therein, forming acid phosphate of soda, which, being eliminated by the kidneys, increases the acidity of the urine. On the other hand, when alkalies are given after meals, during digestion, the acid reaction of the gastric juice decomposes the salt forming CO_2 (presuming the alkali is one of the carbonates), the free salt entering the blood increases the alkalinity of that fluid. See Bartholow's Therapeutics. J. T. HOWARD, M.D.

THE OLDEST STUDENTS' MEDICAL CLUB.

LOWELL, MASS., July 23, 1904.

To the Editor:—In reply to the inquiry of Dr. Cordell, in THE JOURNAL of this date, relative to the oldest students' medical club, I would offer the following: Dr. John Warren formed a students' club for the study of anatomy while he was a student at Harvard College, 1767-1771. This was before the founding of the Harvard Medical School. The club seems to have continued during the Revolution at least, for we find references to it in the letters of one of the members, William Eustis, written during that period. The Boylston Medical Society of Harvard University was formed in January, 1811, "for the purpose of promoting emulation and inquiry, and of disseminating medical knowledge among its members." It is composed of men who, at the time of their becoming members, are students at the Medical School of Harvard University. The first president of the society was Dr. John C. Warren. The Society has been in continuous existence since its birth to the present time. THOMAS F. HARRINGTON, M.D.

Marriages.

EARLE C. GLENN, M.D., to Miss Ella G. Ensor, at Baltimore, June 30.

H. EDWARD SAUER, M.D., to Miss Nellie Delia Bogle, both of Chicago, July 27.

JAMES H. BARTLEY, M.D. to Miss E. Grace Laughlin, both of Zillah, Wash., June 11.

WILLIAM L. SEABURY, M.D., to Miss Mattie May Tubman, at Glasgow, Md., July 11.

CARROLL B. BACON, M.D., to Miss Jennie F. Yells, both of Waterloo, N. Y., June 29.

C. W. RUSSELL, M.D. Elysian, Minn., to Miss Gertrude Fuller of St. Paul, Minn., June 21.

HENRY J. HINKEL, M.D., Baltimore, to Miss Katherine L. Prevost, at Rockville, Md., March 2.

CAPT. IRVING W. RAND, M.D., U. S. Army, to Mrs. Kathryn Brown, at San Francisco, Cal., June 15.

CLARENCE WHITTINGHAM HOPKINS, M.D., to Miss Mary Emma Kinzie, both of Chicago, July 27.

WILLIAM W. QUINLAN, M.D., to Mrs. Truman W. Miller, both of Chicago, at Haverhill, Mass., July 12.

JOHN ARTHUR LUETSCHER, M.D., to Miss Charlotte Elizabeth Zumbleson, both of Baltimore, July 16.

P. N. KURZWEIL, M.D., Brooklyn, N. Y., to Miss Minnie Lustgarten of New York City, June 26.

ANDERS EINAR JOHNSON, M.D., Madison, Minn., to Miss Dina Rindal of Muskegon, Mich., June 17.

THOMAS ASH CLAYTON, M.D., Washington, D. C., to Miss Helen Niernsee at Columbia, S. C., June 30.

FRANCIS M. HARRINGTON, M.D., Pawtucket, R. I., to Miss Lena O'Keefe of Providence, R. I., June 20.

THOMAS H. DANIEL, M.D., Tennessee, to Miss Sarah B. Dunnington, at the University of Virginia, July 19.

WILLIAM ALGERNON BRAND, M.D., Redwood Falls, Minn., to Miss Irene Ross of Black Duck, Minn., June 29.

LORENZO SEYMOUR MORGAN, M.D., of Illinois, to RUTH BENNETT, M.D., of Los Angeles, Cal., Nashville, Tenn., June 29.

Deaths.

Henry E. Paine, M.D. Bellevue Hospital Medical College, New York City, 1863, for many years a member of the American Medical Association; a practitioner of Dixon, Ill., since 1865; formerly house surgeon in Bellevue Hospital, and assistant to Dr. Flint in his physiologic experiments; an acting assistant surgeon in the Army during the Civil War; district surgeon of the Chicago and Northwestern Railway, and local surgeon for the Illinois Central Railroad; a member of the National Association of Railway Surgeons; died at his home in Dixon, July 24, from pulmonary abscess, after an illness of two months, aged 63.

J. Fussell Martenet, M.D. University of Maryland School of Medicine, Baltimore, 1880, of Baltimore, a member of the American Medical Association; for several years in charge of the department of children in the Johns Hopkins Hospital Dispensary, and state vaccine agent, died at Johns Hopkins Hospital, July 18, from typhoid fever, aged 46.

Caroline H. Daniels, M.D. Ohio, for many years a medical missionary in Southern China, died at the University Hospital, Ann Arbor, Mich., July 2, from tubercular meningitis, aged 60.

Norborn T. Greer, M.D. University of Maryland School of Medicine, Baltimore, 1892, died at his home in Rocky Mount, Va., July 7, after a lingering illness, aged 70.

William C. Cole, M.D. Louisville Medical College, 1872, a member of the Morgan County and Illinois State medical societies and the American Medical Association; assistant physician at the Illinois Central Hospital for the Insane, Jacksonville, died at his apartments in the institution, June 28, aged 59.

Richard T. Dozier, Jr., M.D. College of Physicians and Surgeons, Baltimore, 1890, a member of the American Medical Association, died at his home in Milledgeville, Ga., from disease of the stomach and liver, after a short illness.

Samuel L. Abbot, M.D. Harvard University Medical School, Boston, 1841, for 50 years on the staff of the Massachusetts General Hospital, died at his home in Boston, July 1, from apoplexy, aged 87.

William T. Blackford, M.D. New York University, New York City, 1851, of Graysville, Ga., while walking on a railroad track near Ringgold, Ga., was struck by a train and instantly killed, July 9, aged 75.

George Ford Goers, M.D. College of Medicine, Syracuse, (N. Y.) University, 1898, died at his home in Syracuse, June 27, from cardiac paralysis following diphtheria, aged 28.

William H. Githens, M.D. Medical Department of the University of Iowa, Keokuk, 1853; surgeon during the Civil War, died at his home in Hamilton, Ill., June 29, aged 77.

Alfred Sutton Hayden, M.D. Ohio, 1881, died suddenly at his home in Salem, Ohio, July 3, from Bright's disease, aged 62.

William S. Spriggs, M.D. Ohio, of Sarahsville, Ohio, died suddenly from apoplexy, June 30, while making a professional call, near Belle Valley, Ohio, aged 67.

Samuel M. Brown, M.D. Indiana, 1897, for 55 years a practitioner of New Bethel, Ind., died at his home in that place, June 25, after a long illness, aged 82.

Edmund T. Brown, M.D. Medical Department of Washington University, St. Louis, 1901, of Muldon, Miss., committed suicide by taking morphin, June 23.

Robert J. Flint, M.D. Illinois, 1894, died at his home in Antwerp, N. Y., from pulmonary tuberculosis, June 29, after a protracted illness, aged 33.

Wilford F. Hall, M.D. Chicago Medical College, 1874, of McLeansboro, Ill., died at a hospital in Chicago, June 18, after a lingering illness, aged 53.

Howard C. Hanson, M.D. Medical School of Maine at Bowdoin College, Brunswick, died, June 22, from acute mania at Portland, Maine.

Henry E. Harold, M.D. Indiana, 1899, of Lafayette, Ind., died in Indianapolis, June 30, from tuberculosis of the lungs, after a long illness.

Starkie S. Daniel, M.D. University of Maryland School of Medicine, Baltimore, 1887, died at his home in Winton, N. C., June 19.

James B. Bell, M.D., 1846, died at his home in Kansas City, Mo., July 13, from kidney disease, aged more than 80.

Kenan Hall, M.D. College of Physicians and Surgeons, Baltimore, 1881, died at his home in Macon, Ga., July 10.

William W. Curtis, M.D., died at his home in Hampton Falls, N. H., June 14, aged 89.

Addison H. Chaffee, M.D., 1872, died suddenly at his home in Breckenridge, Mo., July 4.

Nathan S. Brown, M.D., died at his home in State Line, Ind., July 7, aged 82.

Association News.

Transactions of the Sections.

Nine of the sections of the Association have ordered their proceedings bound in book form. The transactions of a section will include the papers read at the Atlantic City session, with illustrations and discussions, the minutes of the session, and a list of those registered or of those interested in that specialty. The volume measures about 6 by 9 inches, contains from 100 to 500 pages and is well bound in cloth, appropriately lettered. The following sections have ordered transactions: Practice of Medicine; Obstetrics and Diseases of Women; Surgery and Anatomy; Ophthalmology; Diseases of Children; Cutaneous Medicine and Surgery; Laryngology and Otology; Materia Medica, Pharmacy and Therapeutics; Pathology and Physiology. On publication, some of these books sell for $1.25 and some for $1.50. Every year there are many requests for copies after the supply has been exhausted. The number printed is very slightly greater than the number paid for in advance. This announcement is made now that those who wish copies and who have not ordered may do so. The price, if paid in advance, is $1 per copy for each of the above named sections. This is the price paid at the annual sessions, at which time the great majority of all subscriptions are received. This price is less than cost and therefore no orders are desired that are unaccompanied by the money. (If personal check is sent, 10 cents additional should be added to pay cost of exchange.) This announcement will not appear again. The printing of some of these books has commenced.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 23, 1904:

Geer, Charles C., asst.-surgeon, reports from sick leave of absence to sick in U. S. Army General Hospital, Washington Barracks, D. C.

Billingslea, C. C., and Eastman, Wm. R., asst.-surgeons, arrived at San Francisco on the *Thomas* from Manila, P. I.

Palmer, Fred W., asst.-surgeon, reports departure from Jefferson Barracks, Mo., en route to San Francisco with recruits.

Bevans, James L., asst.-surgeon, relieved from duty at Fort Barrancas, Fla., and ordered to Fort H. G. Wright, N. Y., for duty.

Ford, Clyde S., asst.-surgeon, relieved from duty at Fort H. G. Wright, N. Y., and ordered to Fort Barrancas, Fla., for duty.

Owen, L. J., asst. surgeon, reported for temporary duty at Fort Hancock, N. J.

Ford, Clyde S., asst.-surgeon, promoted captain and asst.-surgeon, U. S. Army, to rank from June 16, 1904.

Brown, Henry L., asst.-surgeon, assigned to duty at Columbus Barracks, Ohio.

Bally, Howard H., asst.-surgeon, assigned to duty at Plattsburg Barracks, N. Y.

Humphreys, Harry G., asst.-surgeon, assigned to duty at Fort Totten, N. Y.

Freeman, Paul F., asst.-surgeon, assigned to duty at Fort Slocum, N. Y.

Howell, Park, asst.-surgeon, left Fort McPherson, Ga., en route to target range, Waco, Ga., for duty.

Gilchrist, H. L., and Reynolds, Chas. R., asst.-surgeons, report arrival at Gettysburg, Pa., on detached duty with company of instruction, H. C.

Rhoads, Thos. L., asst.-surgeon, reports for duty as attending surgeon and examiner of recruits, Philadelphia.

Skinner, Geo. A., asst.-surgeon, left Fort Harrison, Mont., en route to Yellowstone Park with battalion Twenty-fourth Infantry, on practice march.

Minor, James C., contract surgeon, left Army and Navy General Hospital, Hot Springs, Ark., June 27 on leave of absence.

Connor, Michael E., contract surgeon, granted leave of absence for one month from Fort Miley, Cal.

Whitney, Walter, Brown, Polk D., McConathy, Herbert M., Warriner, Benjamin B., Porter, Elias H., Johnson, Charles W., Slayter, John T. H., Eberle, Harry A., and Ward, Josiah M., contract surgeons, arrived July 14 at San Francisco on the transport *Thomas* from the Philippine Division. The first seven mentioned have leaves of absence.

Stallman, George E., contract dental surgeon, now at San Francisco, will sail August 1 for the Philippine Division.

Lauderdale, Clarence E., contract dental surgeon, granted leave of absence for two months from the Philippine Division, with permission to visit Japan.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending July 23, 1904:

DeValin, C. M., P. A. surgeon, detached from the *Albany* and ordered home to wait orders.

McDonnell, W. N., A. A. surgeon, detached from the *Glacier* and ordered to the *Marcellus*.

McMurdo, P. F., A. A. surgeon, detached from the *Gloucester* and ordered to the Navy Yard, League Island, Pa.

Black, W. H., A. A. surgeon, detached from the Navy Yard, N. Y., August 12 and ordered to the Naval Station, New Orleans.

Bogert, E. S., Jr., surgeon, orders of July 15 modified, ordered to continue duty at the Naval Academy.

Curtis, L. W., surgeon, detached from the *Buffalo*, and ordered home to wait orders.

Parker, E. P., A. surgeon, detached from the *Wheeling* and ordered to the *Buffalo*.

Sutton, R. L., asst.-surgeon, detached from duty with the Marine Battalion on the Isthmus of Panama and ordered to the Naval Hospital, New York, N. Y., for treatment.

Grieve, C. O., asst.-surgeon, detached from the Naval Station, Cavite, P. I., and ordered to the Naval Station, Guam, L. I.

Cather, D. C., asst.-surgeon, appointed asst.-surgeon, with rank of lieutenant, junior grade, from July 2, 1904.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 14, 1904:

Stoner, J. B., surgeon, to proceed to Ocean City, Md., Chincoteague and Wachapreague, Va., for the physical examination of certain keepers and surfmen of the Life Saving Service.

Guiteras, G. M., surgeon, granted leave of absence for seven days from July 14.

Grubbs, S. D., passed asst.-surgeon, to proceed to Moss Point, Miss., for special temporary duty.

Billings, W. C., passed asst. surgeon, department letter of March 28, 1904, granting Passed Asst.-Surgeon Billings leave of absence for two months and three days, amended to read one month and twenty eight days.

Korn, W. A., asst.-surgeon, relieved from duty at Philadelphia, Pa., and directed to proceed to Perth Amboy, N. J., for duty.

Amesse, J. W., asst.-surgeon, department letter of March 26, 1904, granting Asst. Surgeon Amesse leave of absence for two months and fifteen days, amended to read two months and eleven days from May 1.

Glover, M. W., asst.-surgeon, granted leave of absence, on account of sickness, for seven days.

Bahrenburg, L. P. H., asst.-surgeon, relieved from duty at Chicago and temporary duty at Evansville, Ind., and directed to proceed to Delaware Breakwater Quarantine and report to the medical officer in command for duty and assignment to quarters.

Stimson, A. M., asst.-surgeon, on being relieved at New Orleans, La., by Asst Surgeon E. M. Steger, to proceed to Washington, D. C., and report to the director of the Hygienic Laboratory for duty.

Ward, W. K., asst. surgeon, on being relieved at Reedy Island Quarantine by Asst. Surgeon G. L. Collins, to proceed to Washington, D. C., and report at the Bureau for instructions preliminary to assignment to duty in the office of the United States Consul at Bridgetown, Barbadoes, British West Indies.

Roberts, Norman, asst. surgeon, relieved at New Orleans, La., and directed to proceed to Evansville, Ind., and assume temporary charge relieving Asst. Surgeon L. P. H. Bahrenburg.

Collins, G. L., asst. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Reedy Island Quarantine and report to the medical officer in command for duty and assignment to quarters, relieving Asst.-Surgeon W. K. Ward.

Steger, E. M., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to New Orleans and report to medical officer in command for duty in connection with the examination of aliens, relieving Asst.-Surgeon A. M. Stimson.

Brown, B. J., Jr., acting asst.-surgeon, granted leave of absence for twenty-one days from July 8.

Cleaves, F. H., acting asst.-surgeon, granted leave of absence for twenty-three days from July 8.

Goldsborough, B. W., acting asst.-surgeon, granted leave of absence for three days from July 13.

Gregory, G. A., acting asst.-surgeon, granted leave of absence for seven days from July 5.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for two days from July 8, 1904, under paragraph 210 of the regulations.

Savage, W. L., acting asst.-surgeon, granted leave of absence for thirty days from August 1.

Stevenson, J. W., acting asst.-surgeon, granted leave of absence for ten days from July 10.

Tappan, J. W., acting asst.-surgeon, granted leave of absence for thirty days from July 10.

Weldon, W. A., acting assistant surgeon, granted leave of absence for thirty days from July 8.

Allen, G. C., pharmacist, granted leave of absence for thirty days from July 13.

BOARDS CONVENED.

Board convened at Washington, D. C., July 11, 1904, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Asst.-Surgeon General G. T. Vaughan, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened at the Marine Hospital, Baltimore, July 12, 1904, for the physical examination of an officer for the Revenue-Cutter Service. Detail for the board: Asst.-Surgeon C. W. Wille, chairman; Acting Asst.-Surgeon J. G. Evans, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended July 22, 1904:

SMALLPOX—UNITED STATES.

Colorado: Denver, May 28-July 9, 3 cases.
District of Columbia: Washington, July 9-16, 1 case.
Florida: Jacksonville, July 9-16, 1 case.
Georgia: Macon, July 2-9, 2 cases.
Illinois: Chicago, July 9-16, 10 cases; Springfield, July 11-18, 5 cases.
Iowa: Clinton, July 2-9, 1 case imported from St. Louis.
Louisiana: New Orleans, July 9-16, 3 cases traceable to importation.
Michigan: Detroit, July 9-16, 1 case; at 71 localities, July 2-9, present.
Missouri: St. Louis, July 9-16, 3 cases.
New Hampshire: Manchester, July 9-16, 3 cases.
New York: July 9-16, Buffalo, 1 case; Niagara Falls, 1 case.
Pennsylvania: July 9-16, Philadelphia, 1 case; Steelton, 1 case.
Tennessee: Memphis, July 9-16, 1 case.
Wisconsin: Milwaukee, July 9-16, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, June 18-July 2, 7 cases.
China: Shanghai, June 11-18, 6 deaths.
Great Britain: July 2-9, Birmingham, 1 case; Liverpool, 1 case; June 18-July 2, Bradford 7 cases; Nottingham, 22 cases; June 25-July 2, Edinburg, 2 cases; London 10 cases, 1 death; Manchester, 1 case; Newcastle-on-Tyne, 8 cases, 2 deaths; Glasgow, 19 cases, 2 deaths.
India: Bombay, June 14-21, 13 deaths; Calcutta, June 11-18, 2 deaths.
Italy: Palermo, June 18-July 2, 2 cases, 1 death.
Japan: Kobe, June 11-25, 2 cases.
Mexico: City of Mexico, June 26-July 10, 5 cases, 6 deaths.
Russia: Moscow, June 18-25, 10 cases, 7 deaths; St. Petersburg, June 25-July 2, 13 cases, 4 deaths.
Turkey: Alexandretta, June 18-25, 1 death; Beirut, June 18-July 2, present.

YELLOW FEVER.

Colombia: Barranquilla, June 23-29, 1 death.
Costa Rica: Limon, July 2-9, 1 case.
Ecuador: Guayaquil, June 8-9, 21 deaths.
Mexico: July 2-9, Coatzacoalcos, 1 case; Vera Cruz, 2 cases, 1 death.

CHOLERA.

China: Shanghai, June 11-18, reported.
India: Calcutta, June 11-18, 9 deaths; Madras, June 11-17, 1 death.
Persia: Koom, June 18, present.
Turkey in Asia: June 13, 342 cases, 230 deaths.

PLAGUE.

Africa: Cape Colony, June 4-11, 1 case; Transvaal, to June 26, 146 cases, 96 deaths.
Australia: Brisbane, May 23-June 1, 4 cases; Sydney, May 27, 1 case.
Chile: Antofagasta, May 24-31, 12 deaths.
China: Amoy, June 4, present.
Egypt: June 11-18, 39 cases, 10 deaths, including 5 cases and 1 death in Alexandria and 1 case in Port Said.
India: Bombay, June 14-21, 55 deaths; Calcutta, June 11-18,

Medical Organization.

Iowa.

IOWA STATE MEDICAL SOCIETY.—This society held its fifty-third annual meeting at Des Moines, May 19, 20 and 21. This was the first meeting since the reorganization. The work of reorganization has been carried on effectively, and when the house of delegates met, May 19, 80 of the 99 counties had completed their organization and had elected representatives. The new constitution adopted at Sioux City in April, 1903, was not satisfactory to a few counties in the state, and efforts were made to overthrow the constitution and begin again. Dr. John S. Lewis, Dubuque, introduced a memoir, asking that a review of the work done at Sioux City be made, and attacking the constitutionality of the adoption, etc. This, through the indulgence of the president, Dr. Joseph A. Scroggs of Keokuk, was referred to a special committee of five, who reported at the second afternoon session, upholding the action of the convention in 1903, and recommending the constitution. The debate on this report was limited to one hour, Dr. Lewis consuming most of the time for his side, and making a very scholarly and telling speech. Dr. David S. Fairchild, Des Moines, answered Dr. Lewis. The vote was overwhelmingly in favor of the report. The election of officers resulted as follows: Dr. David C. Brockman, Ottumwa, president; Drs. J. Fred Clarke, Fairfield, and Dr. Jennie McCowen, Davenport, vice-presidents; Dr. Vernon L. Treynor, Council Bluffs, secretary; Dr. William B. Small, Waterloo, treasurer, and Dr. Edward E. Dorr, Des Moines, delegate to the American Medical Association.

Michigan.

MUSKEGON COUNTY MEDICAL SOCIETY.—On a call issued by Dr. William T. Dodge, Big Rapids, councilor for the Eleventh District, twelve physicians of the county met at Muskegon, June 23, and organized a county society on the standard plan.

Missouri.

STODDARD COUNTY MEDICAL SOCIETY.—Dr. James J. Norwine, Poplar Bluff, met the physicians of Stoddard County at Bloomfield, June 22, and organized a county medical society with an initial membership of 20, and the following officers: President, Dr. Thomas B. Hurnbaugh, Bloomfield; vice-president, Dr. Tazwell B. Wingo, Dexter; secretary, Dr. D. R. Corbin, Bloomfield, and treasurer, Dr. Sammuel M. Evans, Bloomfield.

MISSOURI STATE MEDICAL ASSOCIATION.—A pro ferma decree of incorporation was applied for by this association July 2. The object of the organization was given as the advancement of medical science and the medical profession. The petition was signed by the officers and members of the association.

Oklahoma.

COMANCHE COUNTY MEDICAL SOCIETY.—Physicians of the county met with Dr. Mahlon A. Kelso, Enid, councilor for the Third District, at Lawton, July 6, and organized a county society on the standard plan, with the following officers: Dr. Ferdinand Shoemaker, Lawton, president; Dr. Adam B. Fair, Lawton, vice-president; Dr. Richard H. Tullis, Lawton, treasurer, and Dr. J. Angus Gillis, Frederick, secretary.

KAY COUNTY MEDICAL SOCIETY.—On June 21 Dr. Mahlon A. Kelso, Enid, councilor for the Third District, organized this society on the standard plan at Newkirk, with a membership of fourteen, and the following officers: Dr. Mark M. Lively, Blackwell, president; Dr. James S. Scott, Ponca City, vice-president; Dr. Abraham L. Hazen, Newkirk, secretary; Dr. W. A. T. Robertson, Ponca City, treasurer; Drs. Edgar J. Orvis, Autwine, one year, Otis H. Morey, Ponca City, two years, and Virgil A. Wood, Blackwell, three years; and delegate to the territorial society, Dr. Otis T. Morey, Ponca City.

Tennessee.

SMITH COUNTY MEDICAL SOCIETY.—Physicians of the county met at Carthage, June 24, and organized a medical society on the standard plan.

Book Notices.

EPILEPSY AND ITS TREATMENT. By William P. Spratling, M.D., Superintendent of the Craig Colony for Epileptics at Sonyea, N. Y. Illustrated. Cloth. Pp. 522. Price, $4.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

This book is by far the largest and most ambitious work on epilepsy published in this country since 1870, when the classical treatise of Echeverria appeared. The author has had most exceptional opportunities for the observation and study of the disease, having been medical superintendent of the New York Colony for Epileptics for a period of nearly ten years. This is one of the largest colonies in the world and we believe it is

the best of them. Those parts of the book based on the author's personal experience and investigations are beyond criticism. The chapter on the general treatment of epilepsy is one of the best we have read: concise, practical and most timely. The chapter on the medical treatment is not so strong because it contains less of the author's individual opinion and makes more of an attempt to cover the many methods advocated by others. The discussion on the surgical treatment of the disease is very well balanced and on the whole a safe guide, but we believe that a description of surgical technic is entirely out of place in a work of this kind. The directions given for opening the cranial cavity and for performing abdominal section would be ridiculously inadequate if the operator had had no surgical training and they are entirely superfluous for a trained surgeon. The chapters on status epilepticus contributed by L. Pierce Clark and that on the pathology of epilepsy by Drs. Prout and Clark are masterly, covering the ground fully and in a manner quite beyond criticism. In our opinion two defects mar the work and detract from its value. First, the author apparently lacks a good, broad, neurologic training. This want has allowed considerable loose and inexact statement to creep into the text. Second, the arrangement and manner of presentation of the matter might be much more effective. These are not irremedial faults and may be corrected in the second edition, which is sure to be called for.

As a whole the book covers the subject very completely and contains some matter which is peculiarly good, and some which is difficult to find elsewhere. For example, the chapter on the sequelæ of epileptic convulsions is a valuable contribution to the subject, the part on exhaustion-paralysis being a real contribution to the literature. The description of the unusual and psychic forms of epilepsy will be of great value to the general practitioner, and the chapters on the psychologic and medico-legal aspects of epilepsy contains much of value, and which is scarcely accessible to him who has not accumulated a considerable library on epilepsy and allied subjects. The one chapter which appears to us to be altogether lacking in fullness is that on diagnosis. Three pages serve to cover the diagnosis of epilepsy from hysteria, a differential diagnosis which involves many of the fine clinical features of both diseases. It is to be hoped that in future editions this subject will be more thoroughly presented.

LECTURES ON CLINICAL PSYCHIATRY. By Dr. Emil Kraepelin, Professor of Psychiatry in the University of Munich. Authorized Translation from the German. Revised and Edited by Thomas Johnstone, M.D. Edin., M.R.C.P. Lond., Member of the Medico-Psychological Association of Great Britain and Ireland. Cloth. Pp. 305. Price, $3.50 net. New York: Wm. Wood & Co. 1904.

The English reading members of the profession are certainly under great obligations to the editor and publishers and unknown translator of this work. It has been a standard in Germany ever since its appearance. The author may be said to stand at the head of the alienists of Germany, and he is second to none in the world. In clearness of expression and pleasing manner of presentation of the subjects considered the work is certainly remarkable, and is destined to become a classic. While it does not explore all the by-ways of mental disease, there is no feature of clinical psychiatry omitted which would be of importance to the general practitioner. It is to be hoped that this translation will have a wide circulation, and that it will be very generally read not only by those particularly interested in mental disease, but by a great many general practitioners. Indeed, we are sure that numberless asylum physicians might study it with great edification, and with considerable benefit to their patients. Where all is good it is difficult to discriminate, but we believe that the chapters on melancholia, maniacal depressive insanity, dementia precox, irrepressible ideas and irresistible fears and the one on morbid personalities are particularly practical and valuable.

A TEXT-BOOK OF OPERATIVE SURGERY, Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By Warren Stone Bickham, Phar.M., M.D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York. Second Edition. With 559 Illustrations. Cloth. Pp. 984. Price, $6.00 net. Philadelphia, New York and London: W. B. Saunders & Co. 1904.

The first edition of this work, which appeared but six months ago, was reviewed in these columns. There have been no additions nor material changes in this, the second edition, but some of the slight clerical errors to which attention was directed in the former review have been corrected. That the first edition was exhausted within six months must be a source of gratification to the author, as well as an indication of the manner in which the work has been received by the profession.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Academy of Ophthalmology and Otolaryngology, Denver, August 24-26.

Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.

Oregon State Medical Association, Portland, August 30-31.

Wyoming State Medical Society, Rawlins, September 13.

American Association of Obstetricians and Gynecologists, St. Louis, September 13-15.

American Electro-Therapeutic Assn., St. Louis, September 13-16.

Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Fourteenth Annual Meeting, held at Atlantic City, N. J., June 6, 1904.

MORNING SESSION.

The Association convened in the Hotel Islesworth, and was called to order at 10:45 a. m. by the president, Dr. J. R. Guthrie, Dubuque, Iowa.

On motion, the roll call of members was postponed until the afternoon session, and the first portion of the program was proceeded with, as announced.

Dr. J. A. Bodine was called to the chair, while the president, Dr. Guthrie, delivered the presidential address.

President's Address.

Gentlemen of the Association:—I desire to thank you most heartily for the honor you have conferred on the college which I represent in selecting me to preside over the deliberations of this meeting, and to earnestly solicit your cordial co-operation to the end that the objects of this Association may be splendidly subserved.

Born of courage and conviction, this Association has a record of which to be justly proud. The past is secure, the present ours and the future largely in our hands. Yea, with us, and our fidelity and loyalty to the fundamental objects of this Association, rests the advancement of medical education in this country. The association was born in 1890, and the part it has taken in the United States is highly commendable.

From this congratulatory retrospect, let us be stimulated and encouraged to win still more substantial victories in the cause of medical education in the near future. Let us not tickle ourselves overmuch over these successes, but confront rather the plain facts.

A brief comparison of our standards with those of other countries will convince us that they are yet far too low, and for the accomplishment of the greatest good must be advanced. Our standards are lower than those in Great Britain, and on the continent, and the contest must go on until all this is changed.

Commercialism stifles the professional spirit and is one of the greatest evils of our time.

One of the most powerful causes of this defect is the overcrowding of the profession. The percentage of physicians in this country is higher than many other places on the globe, one to every 500 persons; twice as many as in Great Britain. The number of students graduated this year will be twice that needed to keep up this congestion. Where is the remedy? What is the antidote? In what way may the colleges lessen this evil? Manifestly we need not more students, but a better grade and quality.

We are to be congratulated on the forward step taken at the last meeting, in elevating the standard of admission into the colleges of this association. That was truly commendable, and further progress is in sight.

But far more important and praiseworthy is the firm, consistent adherence to the entrance requirements already fixed. The present needs are not so much for higher standards of admission, as for firmer, more conscientious enforcement of the rules.

The entrance examinations should be conducted by some one not connected with the teaching force of our schools and entirely free from any bias.

The association took a most commendable stand on this point at its New Orleans meeting. Our requirements are now too low and must be increased gradually; perhaps not for some time to demand a baccalaureate degree as an entrance qualification, for that hardly seems practical in a country so broad and diversified as ours. Yet the time is not far distant when in addition to a four years' high school course, two years training in scientific study will be demanded. This training would fit students for leaders, not camp followers, in the onward march of scientific, rational medicine.

The evolution of the combined course is along parallel lines and is, perhaps, growing in the minds of the best educators.

Without attempting a discussion of the arrangement of the course in any detail, it should be insisted on that four full years is spent in purely medical study. Four years is none too long to spend in the purely technical study of the science of medicine. Any shading of the combined course should be in academic rather than medical studies. Why is a demand made for a shorter course? Does such a demand grow out of present economic conditions? Certainly not, with one physician to each five hundred persons in this country. Does the cause of education or do the best interests of humanity demand this change? Certainly not! Commercialism alone demands a contraction of the course of study.

Uniformity in many things is quite impossible, but this is not so in reference to the college year. It should be made nine full months, and to apply to every medical school throughout the country.

The answer is made that a seven months term gives time for the student to earn money for the next year, while nine months offers no such advantage. Here the objection is purely mercenary and not at all from the best interest of education nor humanity.

Again, a better standard of final examinations should be established and fully lived up to by every college in this association. The present method of final examination is notoriously deficient. Any student can, after a four-year course, with the aid of quiz compends, pass this test, and yet he may be unfit for the duties and responsibilities of the profession. He passes a purely didactic examination. Insisting, as we do, on laboratory methods of instruction, we should also demand an examination in laboratory work. This would test the student's actual knowledge and his ability to apply that knowledge in solving problems.

Inseparably connected with the foregoing, is the question of advanced credit, and like it, born of commercialism, a desire to obtain a shorter route into the medical profession. With this parentage it must certainly be viewed with suspicion.

In what interest is the demand for advanced credit made? Is it in the interest of a better quality of medical training? We fear it is not. Is it in the interest of the healing art, or our common humanity? Emphatically, no!

Baccalaureate degrees are freqeuntly of such uncertain value, and many times of no value, that the question is both difficult and important. All are, I think, agreed to this proposition that for a student to receive advanced standing for a baccalaureate degree, this degree must have been earned along scientific laboratory courses. The scientific education of today should be secured in a college with large endowment so that the various laboratories may be provided with the best modern equipment and enough competent instructors so that the section method in laboratory teaching may be properly carried out.

Dr. W. W. Keen, four years ago, at the meeting of the American Medical Association in this city, argued in favor of a large endowment for the medical college, an end which, if once attained, will solve this entire question. No advanced standing should be allowed for any degree unless for those who pursued the scientific course with a view to acquiring a medical education.

I am convinced that the granting of credit for any degrees whatsoever should be abolished in the interest of humanity, our profession and the cause of higher education.

That there is great need of active systematic work in the improvement of our standards, no one for a moment doubts.

There are over fifty regular medical schools in the United States outside of this Association. An organized effort should be made to bring in the best of these, not to strengthen the association, but by co-operation elevate the general status of the profession.

Work can be accomplished by co-operation on the part of this association with the "National Association of Licensing Boards." A uniform statutory requirement is at present impractical owing to the variable condition of population and education. Yet it must be conceded that state licensing boards will insist on such qualifications as the majority of recognized medical colleges demand.

Early in the past year an intimation was heard that the American Medical Association might and would make some requirement for admission of its members which would elevate or help to elevate the educational standard in America. This statement was definitely made, through THE JOURNAL of the American Medical Association, the mouth-piece of this association, and it was heard again in the majority report on entrance examinations at our meeting at New Orleans. If this idea was ever seriously considered, the actual workings of the reorganization scheme of the Association, doing away with all requirements and practically admitting every one regardless of qualifications must effectually disabuse us of any such notion. The reorganization accomplished the desired result of the association's growth numerically, but not its growth or improvement in educational attainment.

President Rodman, in his address, recommended a committee for inspection of all schools, members of this association and those applying for membership. The secretary, in his report, made the same suggestion, asking for an appropriation of $400 for defraying such expenses. The minutes of the last session show this suggestion was referred to the committee on by-laws. But no record of any action is found in the minutes of any meeting.

I believe the suggestion is worthy of consideration, and hope the association will take affirmative action at once.

In conclusion, I believe the time has come when this Association should decide in favor of:

1. Uniformity of length of term, and make the minimum nine months.
2. That we should seek to establish practical uniformity of curricula.
3. That this association should require a definite number of hours as a minimum in any one subject.
4. That our methods of final examination should be so changed as to include a test of a student's knowledge of laboratory methods and of his ability to apply his knowledge in solving problems at the bedside.
5. That the standard of requirements of admission should be raised as rapidly as practical to junior standing.

Our medical schools must be liberally endowed, thus liberating faculties from the need of student tuition, and forever relieving medical education of the baneful influence of commercialism.

Our colleges of medicine must no longer be places for imparting a certain amount of knowledge, but outposts on the field of discovery in rational medicine, devoted to original research work.

The Association is to be congratulated on the advancement made in the past, urged to look seriously at the present, and hopefully to the future.

On motion of Dr. Wm. H. Wathen, a committee of three was appointed to consider the suggestions contained in this address, and to report at the afternoon session. The chair appointed on this committee Drs. Wm. H. Wathen, Seneca Egbert and S. C. James.

Dr. Wm. H. Wathen of Louisville, Ky., followed with a paper entitled "The True Purpose of Education."

On motion the discussion on this paper was deferred until after the reading of the papers by Drs. Taylor and Kober, the three to be discussed together, inasmuch as they dealt with related subjects.

Prof. Henry L. Taylor of Albany, N. Y., read a paper on "What Credit, If Any, Should Be Given by Medical Colleges to Holders of Baccalaureate Degrees?"

Dr. Geo. M. Kober of Washington, D. C., contributed a paper entitled "A Plea for Uniform Curricula in Medical Colleges."

Committee on National Uniformity of Curricula.

Dr. Kober, in his paper, offered the following resolution:

Resolved, That a Committee on National Uniformity of Curricula be appointed, to co-operate with a similar committee appointed by the National Confederation of State Examining and Licensing Boards, for the purpose of presenting a minimum standard of

Medical Education, together with such recommendations as the committee may deem proper as to the division of the subjects in a four years' graded course. Said report to be presented at the next annual meeting, and to be printed and distributed at least one month before said meeting.

On motion, duly seconded, the resolution was adopted unanimously. The chair appointed as this committee, Geo. M. Kober, 1600 T. Street, Washington, D. C., Wm. J. Means and Parks Ritchie.

The discussion on the papers of Wathen, Taylor and Kober was participated in by Drs. Seneca Egbert, Clara Marshall, D. A. K. Steele, Wm. H. Wathen, Henry L. Taylor and Geo. M. Kober.

Dr. Seneca Egbert of Philadelphia, contributed a paper entitled "Teaching Methods."

Dr. Geo. M. Kober offered the following resolution:

Resolved, That the Association of American Medical Colleges approves of the so-called combined system of literary and medical education, and of giving time credits of not exceeding one year to the holder of the degree of A.B. or B.S., or other equivalent, from a reputable college or university: *Provided*, that such student has had at least 900 hours in physics, chemistry, osteology, histology, embryology, anatomy and physiology; and *Provided*, that the applicant for such time credits satisfies the professors of the chairs mentioned in the medical school as to his proficiency in these first-year medical studies.

The resolution was duly seconded and adopted.

On motion, the association adjourned until 2 p. m.

(To be continued.)

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held June 23, 1904.

Dr. Samuel Wolfe in the Chair.

Cases Reported.

Dr. Anna M. Reynolds exhibited a specimen of bone passed per rectum by a woman who, six years before, had fallen downstairs and struck her left side, it being six months thereafter before she felt all right: on physical examination, the lower rib on that side could not be found and the specimen looked very much like a rib.

Interesting cases were also reported by Dr. Harry Lowenburg and Dr. Alfred Hand, Jr.

This was followed by a symposium on summer diarrhea of children.

Etiology of Summer Diarrhea of Children.

DR. ALFRED HAND, JR., stated that the disease was undoubtedly of infectious origin and that of the causative factors three stood out with striking weight: (1) summer time, (2) infancy, and (3) bottle feeding, the first being mainly dependent on the delicate anatomic structure and immature physiologic functions. He stated that out of 636 cases of diarrhea in children from 1896 to 1902, in his dispensary service at the Children's Hospital, 12 per cent. occurred in May, 36 per cent. in June, and 52 per cent. in July. The heat exerts its influence by lowering the resisting power of the individual and favoring the multiplication of bacteria in milk and water, which is particularly emphasized in large cities, due to the heat, stale atmosphere, filled with dust and germs, and the age of the milk supply. He laid especial emphasis on the importance of cleanliness in the production and handling of the milk. He referred to the work of Shiga and Duval with the dysentery bacillus; the latter having demonstrated that out of 42 cases of summer diarrhea in infants, every one gave positive results as to the dysentery bacillus; and out of 20 cases in his wards at the Children's Hospital last summer, 12 gave positive results. He remarked that the bacillus had been isolated from water, and referred to the views of Knox and Newsholme as to the relationship between the drainage of the community and the number of cases of summer diarrhea.

Prevention of Summer Diarrheas.

SAMUEL MCC. HAMILL considered as factors entering into the production of these conditions: (1) the atmospheric conditions—excessive heat, humidity and sudden fall in temperature, which act in two ways, first by increasing the bacterial content of the milk, and, second, by reducing the resisting power of the individual, the latter of which should be protected as much as possible by regulation of the clothing of the child, taking it to the country or keeping it in the shade, etc.; (2) defective conditions of hygiene, rendering the food liable to contamination and causing the child to suffer from lack of sufficient light and air, which should be remedied by keeping the child in the street or park, etc., as much as possible; (3) defective conditions of the soil, resulting from dusty and torn up streets; (4) lowered resistance from infections or nutritional disturbances, which should be guarded against by careful regulation of diet, particularly as to digestibility, cleanliness and regular administration. He stated that mother's milk was the best food for the infant, and when cow's milk must be substituted, recommended that careful attention be paid to the sanitary and hygienic production thereof as the toxic products in unclean milk can only be destroyed by a degree of heat which renders its nutritional value less. He also recommended careful attention to the nursing bottle, which should be thoroughly cleansed after each feeding. Proper bathing should also be given careful attention, and water, always boiled, should be allowed freely, but not within one and one-half hours from the preceding meal.

Treatment of the Summer Diarrheas of Children.

DR. H. LOWENBURG considered this subject under the following heads: (1) prophylaxis, (2) dietetic treatment, (3) mechanical treatment, (4) medicinal treatment, (5) serum treatment. Under the head of prophylaxis he regarded as the most important factors summer heat and improper feeding. The sleeping apartments should be cool and well ventilated, and the bed covered with mosquito netting in order to prevent the contact of flies and influence of drafts. Cool bathing is also of value. The feeding of the infant should be at regular intervals, and, if possible, it should be breast fed; if not, pasteurized milk, if obtainable, or in the event this can not be secured, the milk as well as all water entering into its composition should be boiled, the exact composition of the food to be governed by the particular case. Careful attention should also be given to the cleansing of the nipple and nursing bottle. As to the dietetic treatment, all milk should be discontinued, on the beginning of an attack for twenty-four to forty-eight hours, sterile water being administered at short fixed periods, preferably, if tolerated, albumin water, to which may be added expressed beef juice or brandy; in severe cases the child must be maintained on nutrient enemata for twenty-four to forty-eight hours. The use of milk of slight strength, preferably peptonized, should be gradually resumed and the strength increased. The mechanical treatment consists of lavage in cases of uncontrollable vomiting; colonic irrigation when incomplete emptying of, or combined with silver nitrate solution, 1 to 1,000, when there is ulceration of the bowel; and hypodermoclysis in cases of cholera infantum during the stage of collapse following excessive purgation. The medical treatment consists of purgatives, such as castor oil and calomel, combined with intestinal irrigation in the fermental type of diarrhea; following this are administered the intestinal antiseptics consisting of salol, zinc sulphocarbolate and copper arsenite, which, however, have not been attended with success on account of the inability to administer them in large doses; and the intestinal astringents and sedatives such as morphia, bismuth and atropia. The serum treatment, he stated, was still in its experimental stage and referred to the paper read by Holt at the recent meeting of the American Medical Association.

DISCUSSION.

DR. JAMES H. MCKEE stated that there were a number of instances in which the streptococci had been found in milk, and referred to the work of Eskridge, Vaughan, Bobinsky, Holt and Parke in this direction. As to the finding of the dysentery bacillus, he believed that there was no doubt of its presence in these cases, but the frequency varied considerably according to different observers. He stated that while he did not believe pasteurization or sterilization could replace a pure milk, these measures were of immense value, and also remarked that he had seen a number of cases of milk infection produced by pure

milk. In the treatment of the cases, he recommended the withdrawal of all food and the administration of barley water for forty-eight hours, after which the resumption of milk should be gradual. In cases of fermentative diarrhea he recommended the administration of calomel at first, with castor oil later on, and the withholding of milk; in severe cases enteroclysis of normal salt solution was recommended. In these cases milk should not be resumed within forty-eight hours, but barley jelly may be administered on the third day, followed by animal broths.

DR. LEBOUTILLIER referred to the large amount of bacteria in the ordinary milk supply, and referred to the case of a patient who was taken with a slight attack of diarrhea which he attributed to the milk, which, on examination, was shown to contain streptococci. In regard to pasteurization, he believed the home modification, if possible to be carried out, better than the laboratory method.

DR. W. H. RUOFF referred to the danger of producing diarrhea from bichlorid of mercury formed by the giving of calomel followed by enemata of normal salt solution, and believed codein to be preferable to morphia for a soothing effect.

DR. WILLIAM H. GOOD thought that if the calomel had not changed when passing through the gastric contents it would not do so when it reached the sodium chlorid.

DR. H. BROOKER MILLS said he had observed the almost universal use abroad of a bottle with a long rubber tube, and that there was no more trouble there than in this country, where we do away with the attachments.

DR. MCHAMILL stated that sterilization should be used only as a temporary procedure, and that at the present time all ordinary milks were of such a character as to require pasteurization. He believed that if certified milk was used in winter we should be able to use it in summer without pasteurization. He remarked that the certified milk seemed to suffer more in March than in any other month, which he attributed to the fact of the sudden change of weather and insufficient icing to stand the same.

DR. H. LOWENBURG stated that while possibly pasteurization and sterilization might not be the best methods of destroying the organisms and modifying the toxins, he felt they were the best available for the poorer classes. He did not believe there was any danger as suggested in the administration of calomel followed by saline enemata.

CLEVELAND ACADEMY OF MEDICINE.

Regular Meeting, held April 15, 1904.

The Vice-president, Dr. W. E. Bruner, in the Chair.

After the regular business meeting, at which delegates were appointed to the American Medical Association, and new members were elected, Dr. Bruner introduced the guest of the evening, Dr. F. B. Mallory of Harvard Medical School.

Coccygeal Glioma.

DR. MALLORY'S subjects were "A Glioma Over the Coccyx with Metastases," and "Demonstration of Bodies Found in the Skin in Cases of Scarlet Fever." In the first paper he described a tumor occurring over the coccyx, probably originating in fetal inclusions of the terminal end of the neural canal, the chief peculiarity being the fibers which were found in large numbers. The relations of these to the cells of the tumor were such that the diagnosis of glioma was made, though the recurrences and the metastases were carcinomatous in type. The fibrils were of three varieties, the typical neuroglia, lying about the essential cells of the tumor, the myoglia, or bundles of fibers lying about the smooth muscle cells, and the fibroglia of the ordinary fibrous tissue.

The Possible Parasite of Scarlet Fever.

In his second paper Dr. Mallory gave a brief outline of his work in connection with the possible parasite of scarlet fever, illustrated with drawings and with lantern slides from microphotographs. The bodies seen very much resemble those seen in malaria, the rosette form being especially striking. He was extremely conservative in his statements, admitting the incompleteness of the evidence, but, on the other hand, giving strong reasons why the appearances were probably neither artefacts nor invasion of leucocytes or other cells. The results in this research are open to the same objections as those in Councilman's work, chief among which is the lack of absolute proof that these appearances are really alive in the absence of observed motion.

Symptoms of Scarlet Fever.

DR. WILLIAM THOMAS CORLETT called attention to the spurious forms of scarlatina encountered in septic wounds and found following various ingested substances. He illustrated, with stereopticon views, the rash of scarlet fever as it appears in cases of moderate severity, and following its regular course. He demonstrated that on the upper part of the trunk the exanthem usually forms a solid erythematous surface, whereas on the lower parts of the trunk, and especially on the lower extremities, the eruption is often patchy, such as is commonly observed in measles. He then went into the differential diagnosis between scarlet fever and measles, throwing on the screen cases of measles in which the eruption had completely merged on the upper part of the trunk, while on the other parts of the body it presented a normal appearance. In such cases Dr. Corlett pointed out that one must rely on the accompanying symptoms, such as coryza and photophobia with bronchial cough in measles, and angina and frequent pulse rate, together with a common onset of vomiting in scarlet fever. The color of the eruption in the two affections might likewise be distinguished, being bright pink to scarlet in scarlatina, while in measles a bluish or purplish tint gives character to both the exanthem on the mucous membranes as well as the exanthem on the skin. He dwelt likewise on rötheln and said that it might be called the fourth disease, or more properly, the forty-fourth disease, if one chose to recognize as an affection *sui generis* all of the departures from the normal encountered in this special class of affections.

Dr. Corlett then threw on the screen numerous illustrations of German measles or rötheln, first showing those in which the disease approximated more closely that of scarlet fever, then in a graded series those which more closely resembled the rash of measles. He maintained further that the mildness of the symptoms, together with the enlargement of the lymphatic glands, was the chief distinguishing diagnostic feature of rötheln. He spoke of the malignant forms of scarlet fever, and said that in many instances, especially when hemorrhages occurred, a diagnosis was most difficult, and in many instances was not made until after a fatal termination.

The Management of Scarlet Fever.

DR. CARLYLE POPE said that owing to the great danger of nephritis following the disease, the bath treatment has to be used with special care. The warm bath seems to be especially dangerous because by promoting free diaphoresis a urine of high concentration is thrown on the kidneys. This, however, can be avoided by giving the patient plenty of water to drink, and this latter treatment is to be recommended in all cases for the purpose of keeping the toxins in as dilute a solution as possible. Reference was also made to the use of urotropin throughout the disease, as reported by Wiodowitz, who cites 102 cases of scarlet fever treated by urotropin without a single case of nephritis as a sequel. Dr. Pope also advised caution in the use of the nasal syringe, in septic throat affections, as, on account of the large size of the eustachian tube and low position of its orifice in childhood, the danger of producing otitis media is especially great.

Throat Complications in Scarlet Fever.

DR. J. LENKER said that sore throat in a varying degree of intensity generally complicates scarlet fever, the inflammatory process frequently extending into the middle ear and mastoid antrum, resulting in rapid and extensive necrosis of the drum membrane, and exfoliation of one or more of the ossicles. In the treatment of scarlet fever the hygiene of the mouth and pharynx is of the greatest importance. Many secondary complications can be avoided by properly clearing the mouth and pharynx of the irritating secretions. A solution of bichlorid

of mercury 3 gr. to the pint, peroxid of hydrogen, or 3 per cent. solution of carbolic acid gives the best results. For the middle ear complications early incision of the drum membrane, afterward syringing the ear with a solution of bichlorid of mercury, 1 to 1,000, is advised. If the suppurative inflammation extends to the mastoid antrum, early operation is the only safe course to pursue.

DISCUSSION.

DR. WILLIAM T. HOWARD, JR., considered the proofs very conclusive that Professor Mallory has discovered the organism of scarlatina, although they can not as yet be positively so regarded. The discovery of specific bacteria as the cause of those exanthemata, of whose nature we are still uncertain, seems very doubtful. Bacteriologists seem to have exhausted their resources in searching for causative agents: there is a possibility, however, that these diseases may be due to submicroscopic bacteria which so far have escaped observation.

DR. SIHLER remarked on the almost constant occurrence of diarrhea in fatal cases of the disease.

DR. ALDRICH thought that the nasal syringe was often unjustly blamed. It was generally employed in the bad cases only, those that were especially apt to show middle ear involvement. The eustachian tube was generally so swollen that water would be very unlikely to pass into it. Adults attending children, sick with scarlatina, were very liable to sore throat even if they showed no other symptoms of scarlatina itself.

DR. SAWYER thought that some remains of the protozoa should be found in the desquamated skin. A striking feature of scarlet fever cases was the rapid pulse; he had found the crescentic arrangement of the measles rash very useful in making a differential diagnosis.

DR. MALLORY said that they had not been able to trace the parasites beyond the prickle layer into the cornified layer, so that it would be difficult to prove their presence in the desquamated skin. Some observers claimed that the stomach was the avenue of infection and Dr. Sihler's observation as to the diarrhea in fatal cases might support this.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Infant Feeding.

Freeman, in the *Arch. of Pediatrics* for June, 1904, discusses the subject of feeding children after the first year. He believes that not only must care be exercised in the diet, but attention must be paid to the amount of rest, exercise, ventilation and exposure to fresh air. Each child should be a subject for special study as to the amount and sort of food it needs, but a very large proportion are materially aided by the diet. A healthy complexion, a clean tongue and well-digested movements are the best exponents of well-being in children. The secret of successful feeding after the first year is to keep the child largely on milk. He allows some other food, but there is less indication for a liberal and varied diet than is generally conceded. A child with normal dentition is properly able to grind its food at the age of eighteen months, hence milk may constitute the diet of the child well into the second year.

A healthy child at the beginning of the second year should be taking from eight to ten ounces of milk every four hours during the day, therefore the matter of the nutritive value of the first foods need not be especially considered since the forty or fifty ounces of milk will furnish quite sufficient nourishment. He recommends that the food be taken with a spoon, should not displace the milk, but render it more digestible; this requirement being best met by one of the cereals, finely ground or strained and thoroughly cooked. For example, four ounces of a thick strained oatmeal or a wheat meal may be added to the midday meal and one-half ounce of orange juice may be given. It is a safe precaution to add one-half ounce of orange juice daily to the dietary of all children of six months or over. When fifteen months of age a soft-boiled egg may be added to the diet at the 1 o'clock feeding. The cereal is given at 6 a. m. and 5 p. m. The child has three meals, with the addition of an eight-ounce bottle of milk at 10 a. m. and 9 p. m. No change is made in the next six months except the addition of four ounces of clear beef, mutton or chicken soup, with a slice of dry bread and butter to the midday meal. Beef juice he does not give to the healthy child, but reserves that for the ill or anemic.

About the twenty-first month meat is allowed in the form of scraped beef, one tablespoonful at first, for the noonday meal, and this amount soon doubled. The child should be taught to chew systematically. The soup should be increased to six ounces and the milk dropped at the midday meal. He believes that milk is not digested well when given with meat. The taking of prunes, apple sauce, cake, candies, etc., frequently disturbs the digestion and is responsible for the child refusing milk. When it is a question between no milk and only milk the latter alternative should be selected. Tact, not force, should be used in bringing the child back to milk. During the second year water should be given once between feedings, or, best, an hour before each feeding.

During the third year the 9 p. m. feeding may be omitted. Breakfast at 6 a. m., eight ounces milk at 10 a. m., dinner at 1 p. m., supper at 5 p. m. For breakfast he recommends orange juice from one orange, ten ounces of milk, six ounces of any well-cooked cereal, soft boiled or shirred egg with bread and butter. For dinner eight ounces of clear soup, one to two ounces of meat, beef, lamb, chicken or turkey, lean and without gristle or skin and finely cut, not scraped, and see to it that the child chews it well. A small amount of dry bread, well boiled rice or some vegetable may be added. The first vegetables should be put through a colander, e. g., fresh peas, fresh string beans, lima beans or stewed celery, and later spinach. Mashed potato or squash may be given later. Junket is the best dessert, and may be alternated with rice pudding, custard, and occasionally a little ice cream. The total bulk of the meal should not exceed that of a pint of water. The supper should be a simple meal of ten ounces of milk, six ounces of gruel with bread and butter.

After the third year three meals a day are sufficient and should continue until the tenth year, the same type of meals being given as in the third year. The usual lunch, taken at 10:30 to 11 o'clock in school, spoils the appetite for the midday meal and makes too frequent a call on the gastric digestion.

At the age of 10 children may have breakfast and dinner at noon with the family. The evening meal is best served alone, as it should be taken early and be simple in character. Greater variety of fruit may be allowed, e. g., juice of grape fruit and grapes. Baked and stewed apples should be given with caution and without much sugar or cream. Stewed prunes and berries may upset the digestion of some children. Jams, preserved fruits and raw apples are apt to make trouble. Cereals of many varieties are given, ordinary grains being cooked about six hours; the prepared grains are best cooked about four times as long as the directions call for. Six to eight ounces of milk should be taken on the porridge and an equal amount drunk from a glass. Bread must be properly selected and butter may be allowed in moderation. Avoid hot biscuits, muffins, waffles, pancakes, fried and greasy foods, all stews and hashes, all pies and cakes and candies, most raw vegetables and fruits.

The author gives the following summary for the hygienic care of children: "Provision for the exercise of children should be carefully planned. At first by the use of the nursery

fence and the baby jumper, and later by systematic walks for short distances at a time, and still later by bicycling, horseback riding and tramps in the country. Throughout childhood they should be kept as much as possible out of close and crowded rooms. When in the house the room should receive ventilation from out of doors, and they should be kept in the absolute open air several hours each day."

Chronic Rheumatism.

Elkourie recommends the following:

R. Potass. iodidi 3i 4
Sodii salicylatis 3ii 8
Colchicin
Strych. sulphatis, āā ..... gr. ss 03

M. Ft. capsules No. xxx. Sig.: One capsule three times a day after each meal. To be taken in conjunction with:

R. Sodii benzoatis
Sodii phosphates, āā 3i 30

M. Sig.: Teaspoonful in warm water every morning before breakfast.

Gonorrheal Urethritis.

Larson, in a communication, states that he has treated one hundred cases by the following method and a successful cure has been effected in a comparatively short time:

In the acute form of the disease limited to the anterior urethra injections of a 3 per cent. solution of protargol were used. When the posterior urethra was affected, either in acute or chronic forms, the following mode of treatment was used and the usual instructions as to diet, habits and hygiene were given: For the first five days injections of a 3 or 5 per cent. solution of protargol were used three times daily. The second five days a 3 to 5 per cent. solution of yellow muriate of hydrastis was used three times daily. The patient is instructed to first empty his bladder; then, just as he is ready to inject, to make that peculiar downward pressure as in the act of urination, force the medicine in and clamp the head of the penis with the index and middle fingers of one hand and hold there for from five to fifteen minutes. A half-ounce hard rubber syringe is of sufficient size. On every other day have the patient visit the office and massage the prostate gland. Sitz baths should be used daily.

Graves' Disease.

Rogers, in the *Wis. Med. Jour.*, gives the following treatment as followed out in thirteen cases of Graves' disease in which all but one recovered, and in most of them one or more of the physical symptoms disappeared. The length of time for discharge varies from one to six years. He concludes that all these patients are reduced physically and call for constitutional measures. All cases will not improve under the same treatment. Some few yield only to surgical interference.

REST.

The author emphasizes the importance of this measure no matter how slight the case may be. "In no class of cases does the Weir Mitchell method prove so successful as here." This is many times very difficult to carry out, but the "rest cure" should be advised and carried out as faithfully as possible, with careful regard for details, for at least six weeks. In cases where the rigid "rest cure" can not be carried out, the patient should be advised to lead as quiet a life as possible, avoiding all unnecessary fatigue of body and stress of mind. Certain hours should be set aside daily for rest in a recumbent position. Late rising and early retiring should be the rule.

DIET.

"The diet should be carefully regulated, allowing the patient simple yet nourishing food from four to six times in each twenty-four hours, avoiding all articles of diet tending to produce gastric or intestinal fermentation and thus avoid further irritation to an already irritable heart. Many of these cases have an annoying and exhausting diarrhea, and hence there is all the more need of careful attention to the diet. In some instances the lax condition of the bowel yields only to a liquid diet and astringent medication such as Dover's powder, bismuth subnitrate and beta-naphthol."

MEDICINAL.

For the nervous, irritable and sleepless condition the author recommends the following:

R. Sodii bromidi
Potass. bromidi
Ammon. bromidi, āā ..... gr. ii 12
Liq. potass. arsenitis ..... m. ii 12
Tincturæ nucis vom. ..... m. iv 24
Aquæ camphoræ q. s. ad 3i 4

M. Sig.: Give half an ounce of such a solution well diluted three to four times a day.

Or, codein in doses of one-fourth to one grain three to four times daily, is more satisfactory where the bromids cause gastric disturbance. Sulfonal in three to five grain doses, six to eight times in twenty-four hours, has an excellent sedative and hypnotic effect. Combined with or in some cases as a substitute for these remedies, suggestion, baths, massage and faradization may be used.

For the tachycardia or irregular heart action, rest, an ice bag over the precordium, the tincture of belladonna in increasing doses or the sulphate of atropin hypodermically. He believes the usual cardiac sedatives are disappointing and digitalis fails to produce any permanent effect.

The author believes that galvanism frequently and perseveringly used is efficacious in lessening the size of the goiter and reducing the number of heart beats. The treatment is best given with the patient in the recumbent position and administered two or three times daily. The negative pole is applied over the thyroid gland or over the sympathetic nerves, the positive over the occiput or between the shoulders and using a current of three to eight milliamperes for from three to five minutes.

The author considers the hypodermic injection of any substance into the thyroid gland and the internal administration of any preparation of the thyroid gland as absolutely contraindicated.

The following formula has also been recommended for exophthalmic goiter with irregular and rapid heart and nervousness:

R. Potass. bromidi 3ii 8
Infusi digitalis q. s. ad ..... ℥viii 240

M. Sig.: Tablespoonful in water every six hours.

Cardiac Adynamia in Infectious Diseases of Children.

Nouveaux Remèdes recommends:

R. Spartein sulphatis ..... gr. iss 1
Aquæ dest. 3viss 25
Syrupi aurantii 3vss 20

M. Sig.: For a child three years of age, two coffeespoonfuls daily; five years, five coffeespoonfuls; ten years ten coffeespoonfuls.

Medicolegal.

Special-Tax Liability of Physician Furnishing Liquor.—The United States Commissioner of Internal Revenue ruled, July 11, 1904, that a practicing physician who, without holding the special-tax stamp of a retail dealer under the internal revenue laws of the United States, furnishes his patients with distilled spirits, wine and malt liquors under conditions constituting sales of these liquors directly or indirectly, involves himself in liability to criminal prosecution under these laws, unless he shows that the liquors thus furnished have been compounded into medicines by the addition of some drug or medicinal ingredient. If the liquors are not so compounded he can not sell them even for medicinal use only without involving himself in special-tax liability.

Requirement Not Met by Abbreviation in Prescription.—The Missouri statute exacts, as a condition precedent to legalizing sales of intoxicating liquors in pharmacies for medicinal purposes, a statement in writing from a registered and practicing physician, in good faith, that such liquor was "prescribed as a necessary remedy." The St. Louis Court of Appeals holds that the abbreviated form, "P. N. R.," used in a prescription, and

relied on as a defense in the case of State vs. Manning, could neither in language nor in substance, by the use of the initial letters P. N. R., which have neither customary signification nor usual interpretation, nor any accepted meaning of which judicial notice can be taken, be regarded as a sufficient compliance with the law, which in explicit terms provides for the wording of the prescription.

Compensation for Care of Illegally-Committed Insane.—The Court of Appeals of Kentucky says, in Michaels vs. Central Kentucky Asylum for Insane, that Michaels was committed to the asylum, and the latter was seeking to recover compensation for taking care of him. The proof showed that he was in fact insane, and that it was necessary for him to be in an insane asylum, though the inquest, being held without notice to him or his presence at the trial, was void. As he was in fact insane, the asylum might recover for necessaries furnished him on a quantum meruit (as much as it deserved), just as a recovery may be had for necessaries furnished an infant. But it appeared that Michaels, while an inmate of the asylum, except for the first few months of his confinement, worked for it, driving a cart, digging a ditch, and doing other such work on the farm run by it, he being a stout man, and able to work. Continuing, the court says that when the asylum claims under a quantum meruit for necessaries furnished one who has not legally been found of unsound mind, its claim rests on the idea that it should be allowed compensation in justice and right for that which it is out on account of the lunatic. If the lunatic's services have been worth to it as much as his keep was worth, it is in fact out nothing. A man who takes care of an infant, and seeks compensation on a quantum meruit for necessaries furnished him, would not be allowed anything if it appeared that the infant's services, while being so kept, were of as much value as what he received. The same principle must be applied to the asylum when it comes to claim for keeping one who has not legally been found of unsound mind, and committed to it for safe keeping. Where the inquest is legal, then the statute regulates the rights of the asylum. The state, in that event, requires that the patient be received in the asylum, and has regulated by statute on what terms he shall be kept. When the asylum claims in such a case for the keeping of a patient, its claim rests on the statute, and no allowance can then be made for the labor of the patient, as the statute provides for none. But when the inquest is illegal and void a different rule must apply, for then the claim of the asylum against the lunatic must be determined wholly on common law principles, and, while it may recover for necessaries furnished the lunatic on a quantum meruit, it must credit him on the claim by what it has received from him in labor or otherwise. So, as on all the evidence in this case the court concludes that the labor of the lunatic was of value as much as his board and keep at the asylum during the time sued for, it holds that no recovery, during this period, for his keep could be allowed.

Privileged Communications Under the Indiana Statute.—The Supreme Court of Indiana says, in the case of Towles vs. McCurdy, that the provision of the statute is in these words: "The following persons shall not be competent witnesses: . . . Fourth—Physicians, as to matter communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases." Communications from a patient to his physician were not privileged at common law, but they have been made so by statute in many jurisdictions. The construction given to the statute forbidding the disclosure in evidence against the will of the patient of communications made to the physician in the course of his professional business has been much broader than the language of the act, and the prohibition has been held to include not only communications and advice, but all information acquired by the physician while treating or attending the patient in his professional capacity. It must be regarded as settled that the prohibition of the statute (subject to the qualification that the objection founded thereon may be waived by the patient himself, or by those who represent him) extends to all communications made by patients to physicians in the course of their professional business, to all advice given, and to all information acquired by the physician, by observation or otherwise, by means of his professional relation to his patient and in his professional intercourse with him. All that the physician sees or observes is as fully within the statute as matters which are communicated to him by his patient. The testimony objected to in this case, where a will was presented for probate, related to facts discovered and information obtained by the witness while visiting and treating, or being consulted by, the decedent, as his physician. The court says that it follows from what has been said that the witness was not competent to testify concerning these matters, unless the objection to the evidence, which was made by those offering the will for probate, was waived by those who stood in the place of the decedent, and were authorized to represent him, or unless the statutory rule does not extend to cases where the controversy is among heirs and devisees over testamentary dispositions. For obvious reasons, when the controversy is among heirs and devisees, the set of such heirs or devisees who strive to overthrow the will can not, for their own benefit, and against the wishes of the other set, who desire to sustain it, waive the objection to evidence otherwise incompetent, to the detriment of those who seek to establish the will. The words of the statute declaring attorneys incompetent to testify as to confidential communications made to them in the course of their professional business, and as to advice given in such cases, are almost the same as those relating to physicians. It was held in Kern vs. Kern, 154 Ind. 29, that the rule in regard to confidential communications made to attorneys does not apply to testamentary dispositions, where the controversy is between the heirs and devisees of the testator. The Supreme Court of Missouri, in Thompson vs. Ish, 99 Mo. 160, held that a like exception should be made as to the testimony of physicians. The same view was taken by the Supreme Court of Iowa in Winters vs. Winters, 102 Iowa, 53. See, also, Russell vs. Jackson, 9 Hare, 387, and Hageman's Priv. Com., sec. 86. This court, however, in Brackney vs. Fogle, 156 Ind. 535, expressly decided that the rule announced in Kern vs. Kern, above mentioned, did not apply to the testimony of physicians, and that even where the controversy was confined to the heirs and devisees of the decedent, the physician of the decedent was incompetent to testify in regard to communications made to him by his patient, or facts learned by him in the course of his business as such physician. According to that case, the evidence objected to in this case was not competent, and the court holds it was error to overrule the objections to it.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 16.

1 Fractures of the Extremities: A Report of 1,000 Consecutive Cases Verified by Radiographs. G. G. Ross and M. I. Wilbert.
2 Observations on Smallpox Prevailing in Pennsylvania Since 1898. George G. Groff.
3 *The Carotid Body: Anatomy, Histology, Embryology and Tumors Arising from It. John Funke.
4 Concussional Vertebral Reflexes. Albert Abrams.
5 *Fluorescent Transillumination of the Stomach. Solomon Solis Cohen.
6 Version in Delayed or Obstructed Labor. Daniel Longaker.
7 The Ideal Physician. H. D. Didama.

3. **The Carotid Body.**—Funke describes in detail the anatomy, histology and embryology of the carotid gland, and also the gross and microscopic pathology of tumors arising from it. These tumors have been mistaken for tuberculous lymph nodes, lipoma, fibrolipoma, lymphosarcoma, aneurism and aberrant thyroid; on superficial examination, cystomas of the neck may be mistaken for tumors of the carotid body.

Tuberculous lymph-nodes are entirely hard or entirely fluctuating and multiple. As a rule, these nodes involve the surrounding structure and may be tender; lipomas are more superficial, are softer, and less consistent: although fibromas are harder than the carotid tumor, and are rarely found at this site, yet should they develop here it would be very difficult to differentiate them from the carotid tumor. According to Kopfstein, pulsation and murmur rule out lymphosarcoma. Recius observes that lymphosarcomas are hard, malignant, everywhere adherent and of rapid growth. Absence of expansion rules out aneurism; Kopfstein forti-

nes exclusion by the absence of syphilitic infection and atheroma in his case. The same author excludes aberrant thyroid by the absence of an enlarged thyroid gland; Reclus says he has never seen an aberrant thyroid as high as the thyroid cartilage. Cystomas of the neck are superficial, fluctuating; tapping gives either a light straw-colored or clouded fluid; as a rule, they are congenital.

5. **Fluorescent Transillumination of the Stomach.**—Cohen uses a diaphane similar to Einhorn's, except that the socket of the lamp is made in two separate parts, permitting a new lamp to be substituted in a moment for one that has been burned out.

The patient is given quinin bisulphate, .13 gm. (2 gr.) three times daily before the examination, and the fluorescin solution is made up some hours previous to its use. To examine a number of cases in succession in the dark room I had a gallon each of solution No. 1 and solution No. 2 prepared, and each patient was given a tumblerful of each solution to drink about two or three minutes before the lamp was introduced. Solution No. 1 consists of sodium bicarbonate in distilled water, .162 gm. (2½ gr.) to the fluid ounce. Solution No. 2 consists of the same basic alkalinized water, with the addition of 7.5 c.c. (2 fl. dr.) of glycerin and 16 c.g. (¼ gr.) fluorescin to the pint. By taking a half pint of each solution the patient introduces into his stomach 8 m.g. (⅛ gr.) of fluorescin, 3.75 c.c. (1 fl. dr.) of glycerin, and one pint of distilled water. I find this a sufficient quantity of fluid, and like Kemp, find that a greater proportion of fluorescin diminishes the illumination.

New York Medical Journal.

July 16.

8 *Some "Liver" Cases. J. H. Carstens.
9 The Sequelæ of Typhoid Fever in the Nervous System. Pearce Bailey.
10 *The Differential Diagnosis Between Incipient Pulmonary Tuberculosis, Healed Cavities and Non-tuberculous Fibroids. George W. Norris.
11 Congenital Inspiratory Laryngeal Stridor, with Report of a Case. Samuel Kohn.
12 The Dysentery of the Tropics, with Special Reference to Our Insular Possessions. Frederick M. Hartsock.
13 Treatment of Noctural Incontinence of Urine. Frank T. Davis, Jr., Thomas W. Salmon, Evelyn Witmer and L. H. Bernd.

8. **Some "Liver" Cases.**—Carsteus refers to the old-time subterfuge of saying "your liver is out of order," when we really did not know exactly what the trouble was. All abdominal troubles were referred to the liver, were they intestinal, indigestion, autoinfection, constipation or diarrhea. Cathartics were used, and with a good deal of benefit, as the deep lesion of the abdominal viscera relieved them and caused a free secretion from the mucous membrane that lubricates the intestinal tract. At the present time any ordinary physician is able to diagnosticate the case sufficiently to know just what organ is affected. However, if he decides that the trouble is in the liver, it is still very difficult in a great many cases to say what the exact condition is, and in some cases it is impossible to make a diagnosis. An operation will often clear up the question, but even then a microscopic examination may be the only means of making a diagnosis. The author cites a number of cases of mistaken diagnoses by physicians on which he operated later. One case had suffered from so-called acute gastritis for twenty years; on operation it turned out to be a case of gallstones. Another case, one of suppurating gall-bladder, was said to have suffered for two years with malaria. In a third case, a diagnosis of a tumor or growth of some kind was made, which on operation was found to be a floating liver and kidney. Another case was referred for operation because of inflammation of the ovum. Both ovaries were removed and the uterus ventrofixated. There was a great deal of suppuration, from which the patient recovered. Later she began to have pain from so-called peritonitis, and a tumor developed. On operation it was found that she had gallstones, a ventral hernia, and a fibroid uterus. Carstens closes by saying: "The great thing in the practice of medicine is the diagnosis. For the treatment, the ignoramus can look in the text books."

10. **Differential Diagnosis Between Pulmonary Tuberculosis, Healed Cavities, and Non-Tuberculous Fibrosis.**—As the result of a year's experience at the Phipps Institute, Norris emphasizes the fact that the significance of physical signs, as currently taught, when viewed in the light of autopsy findings, is often stultifying and apparently contradicted. The differential diagnosis between the conditions embraced in the title is a very puzzling one. The greatest care should be exercised to ascertain and carefully weigh all the facts obtainable concerning the patient's past history and mode of life; the probable duration of the disease, the occurrence of hemoptysis, the history of an attack of typhoid pneumonia, pleurisy, or protracted influenza. Repeated examinations are advisable before committing one's self to a diagnosis. In cases of true incipient pulmonry tuberculosis it is often possible to differentiate from a healed cavity. The results obtained from percussion are not as satisfactory as those obtained by auscultation. The fine localized crackling râles, heard especially at the end of inspiration are not easily confused with the larger, louder, metallic clicks, which speak so volubly of cavity. The blowing amphoric note and whispered cavernous pectoriloquy are not readily confused with the suppressed breath sounds, respiratory harshness, bronchovesicular or bronchial breathing, whichever the incipient case may present. If the cavity is contracted or filled with secretion, Wintrich's or Gerhardt's change of note may be of great assistance, as may also Friedrich's sign. Cavities are more frequently overlooked than erroneously diagnosticated when absent. The diagnosis of incipient pulmonary tuberculosis from non-tuberculous fibrosis frequently is impossible. If the fibrosis is confined to one lung vicarious functional emphysema will probably exist on the other side, more so than in incipient tuberculosis. Extensive fibrosis with marked thoracic retraction, displacement of the heart, etc., is not so hard to distinguish. In either of the foregoing conditions use ful information may often be obtained from the use of the fluoroscope and the laryngeal mirror.

Boston Medical and Surgical Journal.

July 14.

14 Animal Experimentation. Harold C. Ernst.
15 *A Study of Amputations of the Lower Extremity. Fred T. Murphy.
16 *Experimental Decapsulation of the Kidneys. N. H. Gifford.
17 Functional Albuminuria, with a Report of a Case. J. Bergen Ogden.
18 Coagulation-time of the Blood. F. T. Murphy and A. H. Gould.

15. **Amputations of the Lower Extremity.**—In order to get an idea of the type of cases and the immediate results before leaving the hospital, Murphy abstracted the records of five hundred cases of amputations of the lower extremity. A list of questions was sent to each patient and another list was sent to eleven of the best-known makers of artificial limbs. As a result of his study of these cases Murphy presents the following conclusions:

Anterior and posterior muscle flaps when obtainable are to be preferred to the circular cuff of skin.

The fibula should be cut off at a higher level than the tibia in leg amputations, and care should be take to bevel off bony prominences such as the sharp anterior tibial edge.

Suture of the periosteum and approximation of the muscles and fasciæ is desirable.

Drainage of the stump is advised, unless the dead space is obliterated by means of buried sutures.

Partial amputations of the foot or amputations at the ankle-joint, except under unusual conditions are not as satisfactory as those above the ankle joint.

Tibial stumps between 6 and 8 inches long are the most serviceable.

Amputations through the knee joint are inferior to those just above the condyles.

The longer the thigh stump the better, provided the condyles have been removed.

In general, in tibial amputations down to 4 inches and in thigh amputations down to 5 inches, sacrifice bone in order to obtain good muscle flaps.

16. **Experimental Decapsulation of the Kidney.**—Gifford presents the results of a year's work on the experimental decapsulation of kidneys in rabbits, in normal dogs, in dogs with induced nephritis, in dogs with an infarct of kidneys, and in dogs with normal kidneys, but with additional work thrown on them, and summarizes his paper as follows:

1. In all my cases of two days and under and in my controls the entire thickness of the capsule had been removed over two-thirds of the surface by the operation of decapsulation.

2. There is a certain amount of intracapsular tension in undecapsulated kidneys, normal or with nephritis, as shown on removal of capsule.

3. There is an immediate increase in size of decapsulated kidneys persisting up to one month at least; afterwards, a decrease to approximately normal size complete at end of six months.

4. There is congestion, moderate in degree, most marked in the intertubular blood vessels in cortex, lasting three to five days after the operation.

5. No histological change in the renal epithelium follows the operation of decapsulation of kidneys.

6. A new capsule, very vascular, at first two to four times thickness of old, is well marked at the end of eight days. At end of six months it returns to approximately the normal thickness and vascularity. The new capsule arises chiefly from the connective tissue cells of the intertubular connective tissue, but in part from the retroperitoneal connective tissue which is present in the new bed of the kidney.

7. No new vessels are formed which anastomose with those of the kidney.

8. The increase in size is due primarily to the increase in blood supply, possibly resulting from the removal of the capsule.

Medical Record, New York.

July 16.

19 *Pyelitis Complicating Pregnancy. Edwin B. Cragin.
20 The True Education of Mind and Body. Richard Cole Newton.
21 Study of Intestinal Perforation and Peritonitis in Typhoid Fever, with a Report of Three Successful Operations, and a Statistical Investigation of 295 Operative Cases. William D. Haggard.
22 Improvements in Anesthetic Apparatus and Technic. James T. Gwathmey.
23 *Hay Fever, Some Practical Suggestions as to Its Management and Treatment. Ralph W. Parsons.

19.—See abstract in THE JOURNAL, xlii, p. 1584.

23. **Treatment of Hay Fever.**—Parsons discusses the treatment of hay fever under three separate heads: (1) Constitutional; (2) local; (3) treatment of the exacerbation. For building up the nervous system, he advocates the daily morning cold plunge taken immediately on rising, followed by vigorous rubbing with a coarse towel. The use of the bath should be commenced several weeks before the usual time of the hay fever to make its appearance. The mode of life, diet, and exercise should be regulated. Suitable clothing and shoes should be worn to prevent taking cold. The sleeping-room should be well ventilated. Nerve tonics, such as strychnin, arsenic, and phosphorus are indicated. A thorough examination should be made of the nose and nasopharynx of every patient suffering from hay fever, with a view to correcting any existing chronic inflammatory condition or obstructive lesion. It is advisable to begin the treatment of local conditions in the spring, or at least several weeks before the time when the symptoms of hay fever usually make their appearance. This plan of treatment may need to be renewed at the same period for two or three years before marked improvement in the severe cases can be expected. In the treatment of the exacerbation it is well to give due attention to the possibility of uric acid being a factor in the causation of the malady. The internal administration of the saccharacted extract of the dried suprarenal gland and the active principle of the gland in the form of a nasal spray, are very efficient. By some suprarenal extract is considered a specific. It is given in 5 gr. doses every two hours, day and night, until dizziness or palpitation is observed, or until the vasomotor paralysis in the nasal mucous membrane is controlled. Then the intervals between doses are increased. Solution of adrenalin is best used as a spray in the proportion of 1 to 5,000 in normal salt solution. Its use may be preceded by a mild alkaline solution and followed by a bland oily spray. The quantity and irritating quality of the secretion of the nasal mucous membrane is diminished by treatment of the uric acid diathesis, treatment of the intranasal pathologic conditions and the use of the suprarenal gland. Complicating conditions such as asthmatic paroxysms and bronchitis should receive proper treatment. The use of camphor, the cold spinal douche, the ice bag applied to the back of the neck and the upper portion of the spine, change of climate, are mentioned as adjuvants in the treatment of the hay fever. The use of opium, alcoholic stimulants and cocain should be avoided.

Medical News, New York.

July 16.

24 The Relations of Surgery to the Recent Advances in the Knowledge of the Pancreas. George Woolsey.
25 *The Application of Conservative and Radical Surgery to Chronic Nasal Accessory Sinus Disease. R. B. Canfield.
26 Treatment of Lobar Pneumonia in the Adult. Wm. H. Dukeman.
27 *Gastroptosia. A. Rose.
28 Treatment of Tuberculous Testicle. Joseph B. Bissell.
29 Cocainism. Charles J. Douglas.
30 *The Extraperitoneal Relations of the Appendix Vermiformis to the Posterior Surface of the Cecum, with the Report of a Form Hitherto Undescribed. C. E. Briggs.
31 A Modified Scissors. C. C. Miller and J. H. Langstaff.

25. **Surgery of Chronic Nasal Accessory Sinus Disease.**—Canfield discusses the results of his observations on some two hundred cases of chronic disease of the different nasal accessory sinuses treated radically, and on one hundred and ten cases treated conservatively. In a minority of these cases he operated himself, and assisted at all the remainder. He found that fully one-half of all chronic empyemas of the antrum are simple: that is, disease in the other sinuses had shown itself neither by symptom nor sign. By far the greater number of cases can be treated successfully conservatively, and recourse to radical operation should be had infrequently. It should be remembered that the local condition will improve much more rapidly when the general health is cared for. The application of conservative treatment to chronic empyema of the antrum may be considered under three methods: the alveolar, that of the canine fossa and the intranasal. Operation through the alveolus is applicable to uncombined cases only, and should never be considered the operation of choice. The same may be said of the method of operating through a small opening in the canine fossa. The best results from conservative surgery must be expected from intranasal methods. The first step is to establish free nasal respiration and to correct any pathologic condition that may exist. One should never resort to radical surgery because the symptoms are severe, the pus foul, and the physical depression profound. The most chronic cases are not always the most difficult to treat, nor do they always require radical measures. When it becomes necessary to resort to a radical operation, the so-called Luc-Caldwell operation, or some modification of it (such as the one employed by Jansen), should be chosen. The best operation for operating on the frontal sinus is that of Killian. Frontal sinus operations not closed at the time of operation cause deformity. Great care must be taken of the eye to prevent the occurrence of accidents, such as loosening the pulley of the superior oblique muscle, causing diplopia, and dimness of vision due to extra-ocular causes—lachrymation, conjunctivitis and intraocular causes—iritis, neuroretinitis.

27. **Gastroptosia.**—This term is applied to the condition which is commonly called gastroptosis, and which Ross says is identical with relaxation or atonia; it is atonia gastrica. This condition may exist without motor insufficiency. Such insufficiency may occur under circumstances in a healthy stomach when the mass of ingested food is too large, or the nature or condition of the ingesta unsuitable. Atony may cause insufficiency, but is not of itself insufficient. It may exist without insufficiency, when the resistance of the pylorus is subnormal, and it may be caused by insufficiency. There is no gastropsia without dilatation. Of practical importance is the relation between gastroptosia and gastric and nervous symptoms. Many cases which formerly were classified as nervous dyspepsia are cases of gastroptosia with gastric and nervous symptoms. The principle in the treatment of gastroptosia is relief from relaxation; first of all of abdominal relaxation by means of support of the abdominal wall by strapping, as suggested by Rose. Very often strapping alone will restore the secretory and motor functions to a normal state. Medical treatment without mechanical support may be useless.

30. **Undescribed Form of Extraperitoneal Relation of Appendix to Posterior Surface of Cecum.**—The form referred to by Briggs was seen in a case of appendicitis operated on by himself. The cecum and appendix were readily located, there being no adhesions. The appendix emerged from the cecum at the usual point, a little internal and slightly posterior to the projection of the caput. Curving gently on itself in a downward and backward direction, what appeared to be the tip of the appendix seemed attached to the cecum by an adhesion about 1.5 cm. below the appendiceal base. This at first appeared to be the entire appendix and measured 2.5 cm. There was a meso-appendix arising from the under or left layer of the mesentery of the extreme distal portion of the ileum. The meso-appendix was about 2 cm. long at the base of the appendix and about 4 cm. along its free border, reaching what appeared to be the adherent tip of the appendix. This free border was nowhere attached to the parietal peritoneum, so that the apparently adherent tip of the appendix could be completely surrounded by introducing the finger from the outer side underneath the appendix, beneath the meso-appendix, and out again below the free border of the meso-appendix. This undoubtedly was a primary anatomic condition and not one resulting from inflammatory adhesions.

St. Louis Medical Review.

July 9.

32 *Diagnosis, Etiology and Prophylaxis of Yellow Fever. F. Torrablas.

32. **Yellow Fever.**—Torrablas reviews the symptoms of yellow fever with special reference to diagnosis and prophylaxis, and also the history of the investigations made by the United States government for the purpose of determining the specific cause and method of propagation of the disease.

Virginia Medical Semi-Monthly, Richmond.

July 8.

33 *Progress in Aural and Ophthalmic Therapeutics. D. B. St. John Roosa.
34 History of Chimborazo Hospital and Its Medical Officers During 1861-65. John R. Gildersleeve.
35 Preventive Medicine. O. C. Wright.
36 *Mercurial Poisoning. John E. Kincheloe.
37 Uric Acid Metabolism. D. K. Hays.
38 Some Observations on the Treatment of Rectal Diseases. W. L. Dickinson.
39 Local Treatment of Diphtheria. James R. Elv.

33. **Aural and Ophthalmic Therapeutics.**—Roosa gives a historic review of the progress made in aural and ophthalmic therapeutics. Among other things he mentions the *x*-ray and radium in the treatment of trachoma, and recent work of Abadie in the subject of tuberculous iritis. Abadie believes that the administration of a preparation of iodin, iodogenol, combined with meat food and carnine Le Francq, will not only cure tuberculosis of the iris, but also holds out something for pulmonary tuberculosis.

36. **Mercurial Poisoning.**—Kincheloe reports a case of poisoning by calomel in a boy 8 years of age, who took once a day for three days a dose of 3/5 gr. of calomel. Another case, a boy 14 years old, died from mercurial poisoning (necrosis of lower jaw) produced by one dose of 5½ gr. of calomel.

Brooklyn Medical Journal.

July.

40 *Bilharziosis. Wm. H. Rankin.
41 How Far Shall We Treat the Gall Bladder as We Do the Appendix? Richard W. Westbrook.
42 Litholapaxy in the Office. G. Morgan Muren.
43 Management of Clubfoot, Including Reference to the So-called Lorenz Operation for Clubfoot. B. B. Mosher.

40. **Bilharziosis.**—This disease, named after its discoverer, Bilharz, is caused by a parasite finding entrance into the body in some way not yet clearly understood and setting up an inflammation in the various tissues infected. For a time it was thought that the only source of the disease was drinking the water of certain streams in Egypt and South Africa, but closer observation has demonstrated the danger of infection to be equally great from digging in the soil, or from bathing in such waters, the parasite entering through the rectum, vagina, urethra or abrasions of the skin. It would seem that the eggs deposited by the female in the bladder or intestines are carried by the lymph stream into the tissues and there, perhaps, partly transferred as emboli from the vessels to other organs. No organ is exempt from their invasion. The portal vein usually contains great numbers of them, and the liver is quite extensively involved, the lesion produced being not unlike nutmeg liver. The serious pathologic lesions are found in the lower colon, sigmoid flexure, rectum and uropoietic system. The marked changes in the blood are a slight leucocytosis, an enormous increase in the eosinophile leucocytes with a proportional diminution in the polymorphonuclear leucocytes. Less frequent is an increase in the large mononuclear leucocytes, and when this is present it is associated with a diminution of the lymphocytes. The disease has become much more widespread, several cases having been seen in New York, some in Canada, and one case in the West Indies. During the Boer war many men in the British army were invalided home because of their sufferings from this disease. The pathology of bilharziosis is an inflammation of the mucous membrane, followed by the formation of new fibrous tissue that replaces the glandular elements. Quite frequently there is a great overgrowth of the normal elements of the parts attacked, with the formation of polypi and growths taking on all the clinical characteristics of malignant disease. It is noteworthy that many cases die of intercurrent cancer, either sarcoma or carcinoma of the bladder and rectum. The diagnosis is confirmed by the discovery of the ova in the urine or in the mucous discharge from the rectum. A brisk calomel or saline purge will bring away great numbers of them. The urine should be centrifuged. The symptoms first complained of are malaise, backache and pain referable to either the bladder or rectum, and there may be a discharge of a viscid yellow or greenish-yellow mucus, sometimes mixed with blood, from the rectum. Tenesmus is severest and persistent. The prognosis is more grave in some countries than in others, especially in Egypt. An early diagnosis and prompt treatment are of the greatest importance.

Denver Medical Times.

July.

44 *Considerations Regarding Medical Inspection in the Public Schools. Edward Jackson.
45 Anti-bacterial Secretions of the Bronchial Tubes—Preliminary Work. Daniel S. Neuman.
46 Eclampsia; Forceps Delivery; Resuscitation; Complete Recovery. Wm. H. Helsen.
47 Use of the Trial Case in Correcting Errors of Refraction, or Objective Optometry. Emma J. Keen.

44. **Medical Inspection of Public Schools.**—This subject is discussed by Jackson, who says that school hygiene must include attention to actual disease within the schools and provision for its treatment; the immediate suppression of epidemics; the recognition of all physical defects among the pupils, with steps to help secure their correction as far as possible; maintenance of the best sanitary conditions throughout the whole school environment of the child; the training by verbal instruction, exercises and habitual practice of general and individual hygiene; and the inspiring in every scholar of the same reverence for health that we seek to instill with regard to patriotism or moral obligation. Medical inspection of schools is the chief agency to which our knowledge of vital processes and disease is to be applied. The work of medical inspection in the public schools is directed obviously to three purposes: (1) The detection of and limiting the spread of contagious disease; (2) the study of physical defects and other departures in health with indication of the remedy; and (3) supervision of the scholar's environment and the instruction regarding hygiene. The qualifications demanded of those who are to carry on this work are skill in diagnosis, at least an outline knowledge of what is required to meet each pathologic condition discovered; the medical inspector must have a broad, definite practical knowledge of hygiene, including the factors which produce disease and those which guard against it. In many chronic cases the school physician should perform another very important function. Through him the practitioner in charge of the case should be able to secure that modification of school routine which the interests of his patient require, such as special light, or seating, or hours of work; the arrangement of a special course of physical training, or the modification of the course of instruction to meet the needs of that particular child. This work will be best done by a class of practitioners who devote their whole time to this and similar work, and it may become necessary that special training for the duties of school physician be given in a standard medical college, to be followed by a certain number of years, say three, of general medical practice. These men must have a thorough course in hygiene, both personal and public, including some practical skill in bacteriology. The thing required of the members of the medical profession is a frank, hearty recognition of this new specialty: recognition of its importance, its scope, the difficulties necessarily encountered by those entering on it, with the possibilities it offers of useful employment for a certain number of educated physicians.

Illinois Medical Journal, Springfield.

July.

48 *Use and Abuse of Drainage. J. H. Stealy.
49 *Subcutaneous Injuries of the Abdominal Walls and Viscera. D. N. Eisendrath.
50 Tuberculosis of the Nervous System. J. Grinker.
51 Some Remarks on Tuberculosis in Children, with Reports of Two Tuberculous and Two Non-tuberculous Cases That Illustrate Points in Diagnosis. Robert H. Babcock.
52 *The Mental Disorders of Neurasthenia. Frank P. Norbury.
53 Medical Ethics and Its Relation to the City Health Officer. F. E. Wallace.
54 The Exercise of Preventive Medicine a Factor in the Social Evolution of Man. S. O. Hendrick.
55 *The Radical Cure of Inguinal Hernia. L. L. McArthur.
56 *Polyneuritis. L. Harrison Mettler.
57 *Chronic Myocarditis Occurring in Elderly People, with Especial Reference to Treatment. E. H. Butterfield.

48.—See abstract in THE JOURNAL, xlii, p. 1511.

49 and 52.—Ibid., p. 1441.

55. **Radical Cure of Inguinal Hernia.**—All operators have come to the conclusion that to strengthen the weak point of the abdominal wall in the treatment of inguinal hernia certain structures must be sutured to Poupart's ligament. McArthur aims to show that it is feasible to close the inguinal canal with the patient's own living tissue. Having made the usual skin incision, exposing the external ring, the latter is prolonged upward in the line of separation, paralleling exactly the tendonous fibers of the external oblique muscle to its commencing muscular insertion. This divides the aponeurosis of the external oblique into an external and internal flap. The sac having been treated according to the preference of the operator, a bunch of white fibers which enter into the formation of the internal pillar of the ring are split off from the edge of the internal flap of the external oblique, quite up to their insertion in the muscle belly, where they are cut loose from the muscle, but left attached to the spine of the pubes. This strip should vary in width from one-eighth to one-quarter of an inch, according to the development of the tendonous fibers. In case a Bassini is done a similar strip is taken from the outer flap, the lower end of which terminates in the fibers of the external pillar of the ring. The operation is completed according to the choice of the operator, these fibrous strips being used as suture material for a running stitch. The first stitch is so applied as to give the desired lumen to the new external abdominal ring, using the one terminating in the internal pillar for the first suture, the remaining one for the superficial layer and buried sutures. With these strips of tissue a running stitch is made; the little fibrous ends are tied with a piece of silk, which is used to handle them and draw them through. A fine catgut stitch is passed through the tissue at the point where it emerges, and is then passed once or twice around it and incorporated in the knot. The silk is removed, leaving only one knot in the wound. McArthur believes that by incorporating white, inelastic fibrous suture material recurrence is prevented more certainly. He has had no recurrence thus far, and has done nearly one hundred operations according to this method. He had an opportunity to examine microscopically the scar removed from a patient dying of a gangrenous appendicitis one and a half years after the operation, and the living inelastic tissue could be traced distinctly in the scar tissue. Some of the advantages of the method are that it minimizes the amount of foreign material introduced in the wound; lessens the danger of sepsis, affords greater resistance to a future hernia through the incorporation of the unyielding white fibrous tissue; makes local convalescence more smooth, as there is less caking and infiltration, less febrile reaction; that at least equally good results are obtainable, and that the ten minutes necessary to the preparation of the strips does not greatly increase the risk.

56.—See abstract in THE JOURNAL, xlii, p. 1441.

57. **Chronic Myocarditis.**—Butterfield discusses the pathology, etiology, physical signs and symptoms, prognosis and treatment, of chronic myocarditis, especially the variety occurring in elderly people. The treatment should include rest, diet, exercise, active and passive, in suitable cases; freedom from care, and the judicious use of remedial agents. The disease ought to be detected early if any results are expected from treatment. The author offers nothing new.

Medical Age, Detroit.

July 10.

58 Renal Decapsulation; Indications, Limitations and Technic. R. R. Kime.
59 *Notable Advances in Ocular Therapeutics. Henry B. Hollen.

59. **Advances in Ocular Therapeutics.**—Hollen points out those medicaments which are of especial importance, and which are adjudged of service in making easier and more effectual the treatment of ocular disorders. Adrenalin has been found valuable in many conditions involving congestion and exudation such as conjunctivitis, keratitis, scleritis, iritis, dacryocystitis and trachoma. In ocular traumatisms with pain, lacrimation and extravasation it renders early and material relief. Nitrate of silver, as utilized in the Credé method for combating ophthalmia neonatorum, has enjoyed general acceptance, but in some cases produced considerable irritation. Other preparations are nargol, protargol, argentamin, argonin, itrol, largin, actol and abrin. Organic silver preparations are serviceable in suppurative conjunctival inflammations, phlyctenular states, purulent dacryocytisis, gonorrheal ophthalmia and ophthalmia neonatorum. Holocain, eucain and nirvanin have been used as substitutes for cocain. As substitutes for atropin have been mentioned, eumydrin, scopolamin, homatropin and euphthalmin hydrochlorate. The latter is recommended mainly on account of its brevity of action, absence of untoward effects and minim disturbance of accommodation. Aspirin, a salicylic synthetic, is useful as a specific antirheumatic in rheumatic and gonorrheal eye affections because of the profuse diaphoresis it causes. Copper sulphate is being superseded by cuprol, a combination of copper with nucleinic acid, and which, while possessing all the therapeutic efficacy of the sulphate, eliminates almost entirely its objectionable features. It is of distinct service in chronic conjunctivitis with cicatricial alterations of the mucous membrane after trachomatous disease. A 10 per cent. solution of cuprol produces either no pain at all or very slight pain, and causes very little irritation.

Southern Practitioner, Nashville.

July.

65 *Membranous Croup, with Report of Cases. J. T. Herron.
66 Diphtheria—with a Resumé of Cases Treated with Antitoxin. J. B. Witherington.
67 *La Grippe and Its Complications. A. J. Swaney.
68 Irregular Menstruation and Treatment. E. C. Willey.

65. **Membranous Croup.**—Herron discusses this subject and reports nine cases. He emphasizes the importance of antitoxin used early and in large doses, for by so doing there will be little need for the performance of an intubation or a tracheotomy. All cases having some involvement of the larynx should be examined carefully with the laryngoscope, thus establishing the diagnosis beyond question.

67. **La Grippe.**—Swaney reviews the subject of la grippe, with special reference to the complications of the disease, but offers nothing new.

Louisville Monthly Journal of Medicine and Surgery.

July.

69 Things of Specialism and of This Society that Make for Optimism. Wm. M. Beach.
70 Traumatic Urethral Stricture. Irvin Abell.
71 Surgical Treatment of Ulcer of the Stomach and Duodenum. Wm. H. Wathen.
72 *Of What Value Is Blood Examination to the Surgeon? Thomas L. Butler.
73 Ether Anesthesia. Lindsey Ireland.
74 Clinical Lecture on Pelvic Surgery. Charles C. Miller.

72. **Value of Blood Examination in Surgery.**—Butler makes a plea for blood examination, not only in surgery, but in all branches of medicine.

Journal of Advanced Therapeutics, New York.

July.

75 Electricity in the Treatment of Chronic Deafness. George Z. Goodell.
76 A Year's Work in Electrotherapeutics. L. V. Gustin Mackey.
77 *The Relation of Mechanical Vibration to the Nervous System. Arnold Snow.
78 *Physical Modalities as Adjuvants in the Treatment of Tuberculosis. J. D. Gibson.

77. **Mechanical Vibration.**—The range of application of mechanical vibration to therapeutics says Snow, is far greater than is appreciated by the profession, but it has its particular field of usefulness as well as its limitations. By removing exudations, extravasations, transudations, and stimulating the circulatory and lymphatic systems, by assisting in chemical changes, by influencing heat elimination and production, by its physical and metabolic effects as well as its reflex action through the nerve stimulation of the cerebrospinal and sympathetic systems, it can be readily appreciated that the diseases to which it is not applicable may be enumerated more easily than those in which its use is indicated. In combination with static electricity, hydrotherapy, phototherapy, thermotherapy, and most valuable of all, properly selected and graded exercise—passive, active, assistive, or resistive—it can care for many conditions far more ably than older methods of treatment. The following forms of vibratory treatment are recognizable: 1. Interrupted vibration—an interrupted vibra-

tory impulse communicated to the body without pressure in the form of superficial interrupted vibration or deep interrupted vibration of which compression is a feature. 2. Stroking a superficial vibratory impulse applied with motion over a part, no pressure being exerted. It is generally applied against the venous flow, but may be applied otherwise in respect to direction as indications warrant. 3. Friction—deep vibratory impulse applied with motion, varying degrees of pressure being used, the subdivisions according to direction being centripetal, centrifugal and circular. 4. Rolling—a backward and forward movement of a part over underlying structures. It is a form of kneading. Speed, stroke and pressure are important factors to be considered in connectioon with mechanical vibration. To increase or lessen speed with a given stroke will increase or lessen penetration and affect the quality of vibration. An increase or lessening of stroke with a given speed increases or lessens penetration and affects diffusion. Pressure always increases penetration and diffusion. If too great pressure is used, nausea, weariness, or pain may result. Vibration has a marked effect on respiration, digestion, absorption, heat production, secretion, excretion, the nervous system, the muscular system, and all physiologic processes affected by active change. This being the case, it is necessary that the anatomic relations, the physiologic function, the blood, nerve and lymph supply of each organ or part of the body be thoroughly understood.

78. **Tuberculosis.**—Gibson emphasizes the importance of intensifying Nature's methods in the cure of pulmonary tuberculosis by the use of such agents as electricity, vibration massage, superheated dry air, the arc-light bath and the inhalations of ozone, which latter can be generated in great quantities by means of electric sparks, but care must be taken not to allow the patient to inhale too much ozone at the beginning as the effects are very unpleasant. Of 140 cases of pulmonary tuberculosis treated by means of the *x*-ray, without a change of climate, 20 per cent. recovered, 70 per cent. were improved, and 10 per cent. were not benefited.

Journal of the Michigan State Medical Society, Detroit.

July.

79 Have We Yet Learned How Potent for Cure Are the Natural Processes? A. N. Collins.
80 A Message from the Clinicians to the Laboratory Worker. David Inglis.
81 *Prophylaxis and Treatment of Puerperal Infection. J. G. Lynds.

81. **Puerperal Infections.**—Lynds summarizes his paper as follows:

To Prevent Sepsis.—Bring the patient to confinement in the best state of general health possible; observe surgical cleanliness during labor and the puerperium; repair lacerations likely to become infected; leave the uterus free from secundines and clots; fortify system against infection.

To Treat Sepsis.—Prevent absorption of more infections material; destroy the germs in the system and eliminate the toxins; support the vitality of the patient and increase the power of the body cells to resist germ invasion in every way possible; control temperature by sponge baths and ice bags; evacuate collections of pus.

International Journal of Surgery, New York.

July.

82 *Contribution to the Study of the Operative Cure of Gastric Ulcer, with Report of a Case. C. W. Strobell.
83 Sepsis; Its Clinical Aspect and Treatment. (To be continued.) J. Bennett Morrison.
84 The Surgical Assistant. (To be continued.) Walter M. Brickner.

82. **Operative Cure of Gastric Ulcer.**—A case of this kind is reported by Strobell, which yielded to treatment. He insists that the purely medical treatment of gastric ulcer should be persisted in until hematemesis occurs, which is in 50 per cent. of all cases, or until progressive disturbances of nutrition result in emaciation and exhaustion, when it becomes strictly operative; of course, perforative cases always are operative. On the occurrence of hemorrhage, at any stage of the case, and in any degree, the proper treatment is surgical, and delay is useless as well as dangerous. He inclines to the belief that the benefits accruing from the use of silver nitrate are due to its well-known beneficent effect on mucous membranes in general; that it acts by relieving the irritability of the hypersensitive zones of the gastric mucosa surrounding the irritating ulcer; and that, therefore, the therapeutic effect is due not so much to its action on the lesions as on the effect of the lesion. He contends that the pathologic condition is not progressive, as in syphilis, but that the lesion is limited to the primarily devascularized area and that after the digestion and absorption of this area, the lesion either heals quickly and spontaneously, or enters on its chronic career. Medicinal treatment merely gives relief from gastric symptoms and vastly lessens the suffering.

Southern California Practitioner, Los Angeles.

June.

85 Retroversion of the Uterus—Its Correction. J. De Barth Shorb.
86 Diagnosis and Treatment of Eczema. T. J. Wilson.
87 *Surgical Treatment of Cancer of the Pylorus. Andrew S. Lobingier.
88 *Puerperal Eclampsia. T. M. Blythe.
89 Rôle of Heredity in Disease. Mary E. D. Dennis.
90 Vaccination. Edward v. Adelung.

87. **Surgical Treatment of Cancer of the Pylorus.**—Lobingier emphasizes the importance of early diagnosis and operative interference in cancer of the pylorus. If a diagnosis by accepted methods of medical analysis is impossible, the surgeon has a right to expect the internist to ask for an exploratory incision and visual inspection of the stomach. In the hands of the surgeon qualified to do gastric surgery, the exploratory operation has practically no mortality; many a life might be prolonged greatly by its skillful and intelligent performance. It should not be forgotten that ulcer of the stomach may be the starting point of malignant disease.

88. **Puerperal Eclampsia.**—Blythe reviews the subject and lays special stress on the use of normal salt solution, either per rectum or subcutaneous injection. He thinks veratrum viride is worthy of a trial in suitable cases, but should be used in heroic doses, 10 to 20 minims of the tincture, repeated within an hour, until the pulse rate is reduced. Venesection, when resorted to, should always be followed by the free use of normal salt solution.

New Orleans Medical and Surgical Journal.

July.

91 *Malarial Cystitis. Robert Westphal.

91. **Malarial Cystitis.**—Westphal reports a case of cystitis in which the presence of the malarial parasite in the blood vessels of the bladder walls was the exciting cause of the disease. The symptoms were typical of an acute attack of cystitis, but the patient did not give a history of malaria. An examination of the urine showed a great many leucocytes, staphylococci and red blood corpuscles, and in many of the latter active malarial parasites. In a stained specimen of the urinary sediment at least half of the erythrocytes were found to be infected. The case yielded promptly to quinin.

Journal of Medicine and Science, Portland, Maine.

June.

92 *Cure of Consumption by Bleeding the Patient with Subcutaneous Injections of Oil and Its Digestion by the White Globules of the Blood. Thomas B. Keyes.

92.—This article has appeared elsewhere. See THE JOURNAL, xlii, title 107, p. 1595.

Bulletin of the American Academy of Medicine, Easton, Pa.

June.

93 *The Doctor's Duty to the State. John B. Roberts.

93.—Ibid., July 2, ¶19, p. 77.

Medical Standard, Chicago.

July.

94 Autointoxication and Its Treatment. Heinrich Stern.
95 Differential Diagnosis Between Hysteria and Neurasthenia, and Treatment. L. Harrison Mettler.
96 Surgical Clinic. N. Senn.
97 Treatment of Pneumonia. Charles J. Whalen.

New York State Journal of Medicine, New York.

July.

98 Business Side of the Profession from the Standpoint of the Country Practitioner. F. W. St. John.
99 Treatment of Pneumonia. DeLancey Rochester.
100 Pneumonia; Prognosis and Treatment. John F. Humphrey.
101 Treatment of Diseases of the Heart. F. W. Higgins.
102 Report of Case of Aortic, Mitral, Tricuspid and Pulmonary Regurgitation. George H. Fish.
103 Appendicitis; Indications for Appendectomy. F. E. Lettice.

104 Cirrhosis of the Liver. G. W. Roos.
105 Report of a Case of Poliomyelitis. John Cotton.

Toledo Medical and Surgical Reporter.

July.

106 Bright's Disease. C. M. Harpster.
107 Pemphigus. E. D. Tucker.
108 Treatment of Tetanus. L. A. Levison.

Fort Wayne Medical Journal-Magazine.

June.

109 Rheumatism and Rheumatic Affections. Robert Hessler.

Nashville Journal of Medicine and Surgery.

May.

110 Diagnosis. P. F. Fyke.

Clinical Review, Chicago.

July.

111 Surgical Clinic. W. M. Harsha.
112 Treatment of the Insane in Private Practice. L. L. Skelton.
113 Treatment of Mild Mental Cases in Private Institutions. S. R. Slaymaker.
114 Multiple Neuritis. L. Harrison Mettler.

Journal of the Kansas Medical Society, Lawrence.

July.

115 Value of the Exact Determination of Blood Pressure in General Practice. O. P. Davis.

Canadian Journal of Medicine and Surgery, Toronto.

July.

116 Acute Bronchitis. R. J. Smith.

Canada Lancet, Toronto.

July.

117 Thoughts on Cancer. Wm. Hingston.
118 Address, Medico-Chirurgical Society, Ottawa. James Grant.
119 Dr. Oliver Wendell Holmes, Physician and Man of Letters. F. R. Eccles.
120 Case of Intestinal Perforation in Typhoid. Operation, and Death Thirty-one Days Afterward from Abscess in the Pelvis. Neil J. Maclean.

Medical Times, N. Y.

July.

121 Internal Urethrotomy for Stricture At or Near the Bulbo-Membranous Juncture. C. C. Miller.
122 Gonorrhea as Seen and Treated by the General Practitioner. N. E. Fitch.
123 Peculiarities of Childhood in Disease. M. McCrory.
124 Syphilis in Its Relation to Marriage. M. Shellenberg.
125 Status of Electricity in Medicine. J. T. Pratt.

American Practitioner and News, Louisville.

June 15.

126 Hysteria, with Report of Cases. John E. Kincheloe.
127 Influenza. O. A. Kennedy.
128 Symposium on Diphtheria. B. L. Bruner.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 9.

1 *Prevention of Ventral Hernia as a Sequel to Abdominal Section. E. Stanmore Bishop.
2 The Radical Cure of Hernia. Mayo Collier.
3 Traumatism and Hernia. William Sheen.
4 Surgical Anatomy of the Normal and Enlarged Prostate, and the Operation of Suprapubic Prostatectomy. J. W. Thomson Walker.
5 Chlorid of Ethyl and a Method of Administering It. Norman Porritt.
6 Modification of Hammond's Splint for the Treatment of Certain Fractures of the Mandible. J. Crombie.

1. **Prevention of Ventral Hernia.**—Bishop says that the only tissues as to the union of which the surgeon need interfere are the peritoneum, the fascia and the skin. If these are secure, all the rest fall naturally into their own place, and are far better left untouched. The union of the peritoneum offers no difficulty. The rapidity of its union and the powers of absorption permit of the use of fine catgut, which is readily eliminated as soon as its work is done—within forty-eight hours. The union of the skin is equally simple, but the union of the combined tendon of the lateral muscles is by no means such a simple matter. Some material must be used which shall be strong enough to resist not only the natural pull of the three strong muscles attached to this tendon on either side, but any extraordinary strain which may be placed on them by chloroform or other vomiting, by cough, or by movements of the patient. This material must remain strong and firm for a month or six weeks, and probably such material will remain unabsorbed during the life of the patient. Buried sutures are to be avoided, if possible; but if a buried suture must be used, nothing serves so well as plain silver wire, the ends being twisted and pressed flat against the surface of the fascia. The way in which the sutures are placed is of importance, especially when the material used is wire of any kind. But a method which leaves behind foreign material in the living tissues which can not be absorbed, is not ideal, and it would be of advantage if it could be removed at the end of six weeks without reopening the wound. If the figure-of-8 method is used, the wire is introduced through the skin on one side, penetrating the subcutaneous fatty layer in an oblique manner and emerging in the wound just above the fascia. It is then carried to the opposite side, reversed, and made to pierce the fascia of that side from above downward, about a centimeter from its edge. Both layers of fascia have previously been cleared of fat on their lower surface for that distance. Passing beneath this, the needle is carried through the fascia on the original side from below upward at a point the same distance from its edge. The needle is again reversed and carried through the subcutaneous tissue and fat, obliquely upward, to emerge through the skin at a point corresponding to that by which it first entered, but on the opposite side of the wound. By pulling on both ends of the wire in a direction from the wound, the two fascial under surfaces are brought together and held firmly opposed to one another. The skin edges are then adjusted, a layer of gauze laid over them, and the ends of the wires are brought together over this and twisted together, closing the skin wound and bringing the divided subcutaneous tissue surfaces in contact. When it is required to remove the wire, this is slightly pulled out on one side and divided close to the skin. A steady pull on the other end draws it out. This method is the quickest of all those which permit removal of the foreign material uniting the fascia, but the removal of these wires is sometimes painful. Therefore, Milton's method may be substituted. The central idea of this method is the use of the lock-stitch. Except for the pain which may be caused by its removal, the first method is preferable.

The Lancet, London.

July 9.

7 Cases of Appendicitis. Anthony A. Bowlby.
8 Deaths in Childbed: A Preventable Mortality. W. Williams.
9 Diabetic Neuritis. F. W. Pavy.
10 Pathologic Suggestions: (1) Preparation of Microscopic Slides for Blood Films. (2) Possible Application of Formalin Gelatin as an Antiseptic and Disinfectant Protective Skin; and (3) a Trypanosome-like Organism Found in Association with Some Chronic Pathologic Affection of the Mouth. A. E. Wright.
11 *Treatment of Congenital Equino-varus During Early Infancy. E. Laming Evans.
12 Examination of Apparatus Proposed for the Quantitative Administration of Chloroform. Augustus D. Waller and J. H. Wells.
13 Note on the Concentration of Chloroform Vapor in Air Drawn from Beneath a Skinner's Mask. W. Legge Syms.
13½ Frequency of Aseptic Necrobiosis or Red Degeneration of Fibromyomata of Uterus. Frank E. Taylor.
14 Adenomyoma of the Uterus. S. J. Murdock and Archibald Leitch.

14. **Treatment of Congenital Equinovarus.**—The treatment of congenital equinovarus is divided into two main schools by Evans: (1) Those who treat during early infancy, employing various methods, and (2) those who wait until childhood has well advanced and then correct by one of the various major procedures. The author favors the first method. The pain is slight and is inflicted at a time when the memory is undeveloped and impressions are obliterated at once. Simple division of the tendons of the tibial muscles and the flexor longus digitorum, with immediate rectification of the deformity, as far as possible, and subsequent manipulation have sufficed to convert the compound into the simple deformity in an average of thirty days. The immediate division of the tibial tendons spares the infant during the first few months of life manipulation and plaster-of-paris, and, if the division of the tendo achilles is postponed until the varus is completely, and not only in great measure, corrected, Phelps' operation at so tender an age can also be avoided. On a few occasions the author divided the tendo achilles before the varus was completely cor-

rected, and on each occasion the correction of the residual varus was troublesome and tedious.

Journal of Laryngology, Rhinology and Otology, London.

July.

14½ *Recent Physical Researches on the Nature of Vowel Tones in Regard to Their Bearing on Movements of the Tympanic Membrane. Walter Colquhoun.
15 *Removal of the Semicircular Canals in a Case of Unilateral Aural Vertigo. Richard Lake.
16 Brief Note on Testiug the Hearing with the Higher Tuning Forks: Derived from Tests Made in a Case of Removal of the Necrosed Labyrinth Together with the Membranous Cochlea. Richard Lake.
17 Indications for Operative Procedures in Connection with the Lateral Sinus and Internal Jugular Vein. James H. Nichol.

14½. Vowel Tones.—The nature of vowel tones in regard to their bearing on the movement of the tympanic membrane is discussed by Colquhoun. Vowels are musical tones produced in the larynx, but owe their special quality to the fact that the laryngeal tone arouses by resonance mouth tones, which are added to the laryngeal tone, or they may mask it to such an extent that the laryngeal tone may be scarcely heard. The pitch of the mouth tones is variable owing to the possibility of infinitely small changes in the form and capacity of the pharyngeal, oral, nasal and other cavities of the throat and face. This variation is never beyond a certain limit, so that a certain vowel is always recognizable. The vowel being produced by simultaneous sounds of different pitch and intensity, it follows that the tympanic membrane has the power of taking up such vibrations simultaneously, and, since we distinguish the vowels, that the ear has the power of transmitting them so that they are analyzed and recognized by the higher centers. It is possible that the analysis is made first in the internal car, and that the results affect groups of cells in the higher centers differently. Cases of disease of the internal ear are especially interesting as bearing on the question of an analysis of the compound sound wave taking place there.

15. Removal of Semicircular Canals.—Lake describes a case of unilateral aural vertigo of five years' standing. No cause could be found for the origin of the deafness. The attacks were heralded in by increased tinnitus, which persisted after the sickness and vertigo had ceased. An examination of the ear gave the following results: Acoumeter in concha. Voice was heard at two feet. Whisper not heard. Rinne's test with forks C and C^2 were negative. C. mastoid — 30 secs., C^2 — 16 secs. Tests with tuning forks 3C, 2C, 1C, C were not heard. C^1 — 50 secs., C^2 — 40 secs., C^3 — 30 secs., C^4 — 25 secs. An ordinary radical mastoid operation was performed with the exception that the innermost portion of the posterior wall was not removed, but the bony opening in the temporarl bone was enlarged, forward, upward and backward. The maleus and incus were removed. The upper and outer surfaces of the external semicircular canal were exposed throughout its whole extent. The antero-external portion was followed forward and inward until the outer surface of the superior canal was brought into view. The whole of this canal was removed by cutting it away with a medium-sized bur, leaving only the upper part of the arch untouched. The posterior canal was burred away entirely. The upper surface of the external canal was cut away with the bur until the anterior half of the membranous canal was exposed. This was then removed with a small bur, the medium-sized opening made into the vestibule, and the crista acoustica was removed as far as was possible. The wound was swabbed out with Lister's strong solution, the external meatus was divided longitudinally through its posterior wall, and the wound packed and closed by the ordinary methods. The patient suffered severely from shock for about an hour. For the next forty-eight hours she lay in a position commonly described as being typical of cerebral irritation. Three months after the operation there had been no return of the vertigo and the patient is enjoying better health than she has for the last few years. Operation is indicated in these cases when it has been established positively by careful examination and treatment that the vertigo can not be controlled, and that the deafness is sufficiently great to admit of no reasonable hope of alleviation. Although the tinnitus in this case remained as bad as ever, the hearing power improved remarkably. The voice, which before operation was heard at two feet, was now heard well at five feet. Bone conduction had improved by five seconds.

Medical Press and Circular, London.

July 6.

18 *Pessaries; Their Uses and Limitations. Arthur E. Giles.
19 *Comparative Advantages of Inorganic and of Organic Iron in the Treatment of Anemia. William Murrell.

18. The Use of Pessaries.—According to Giles, pessaries should be used (1) to affect a cure in cases where the uterus may be expected to retain its proper position unaided after being held in that position for some time by means of a pessary; (2) as a temporary expedient while waiting for operation, and in retroversion of the gravid uterus; (3) as a palliative measure when operative treatment is impracticable, undesirable or declined by the patient. The indications for the use of the pessary are: (1) Hernia of the vaginal walls (cystocele and rectocele), the rubber ring pessary of the Meyer pattern being the best in most cases; (2) prolapse and procidentia of the uterus—the rubber ring pessary is the best, but if the perineum is deficient, a Napier pessary or other stem pessary should be used; (3) backward displacements of the uterus. In uncomplicated cases the cure may not infrequently be obtained by means of a well-fitted Hodge pessary or one of its modifications. In cases of long standing, it is best to perform a ventrofixation, as the use of the pessary is liable to cause much pain. It is bad practice to introduce any pessary without first correcting the displacement. The hard rubber, vulcanite, celluloid or block tin pessaries are the best. The pessary must fit; the patient should be advised to use a plain water or boracic solution douche at intervals. Astringent lotions are to be avoided, because they tend to coagulate the secretions and favor infection. Periodic inspection is essential, in order to judge of the progress of the case and institute any additional measures which may be necessary.

19. Advantages of Inorganic and Organic Iron in Anemia.—Murrell regards Blaud's pill as inferior to the dried sulphate of iron pill. He treated five cases with exsiccated sulphate of iron, 5 gr. three times a day, and noted the result. There was a daily increase of 100,000 red blood corpuscles and 1 per cent. in hemoglobin value, which may be taken as the inorganic iron standard under favorable circumstances. For experimental purposes he also treated other cases with organic iron preparations, such as that made from spinach growing on ferruginous soil, consisting of a dark green fluid with a pungent aromatic taste. There was a daily increase in the red blood corpuscles of 70,000, while the increase in hemoglobin value was small. Cases treated with a popular blood preparation showed an improvement of 86,000 red blood corpuscles and 1.67 per cent. hemoglobin a day. In his estimation the best organic iron preparation is iron-vitellin, the use of which gave a daily increase in erythrocytes of 157,000 and the hemoglobin percentage 1.26, an improvement in the red blood corpuscles of 50 per cent. over the best inorganic iron treatment, and 25 per cent. improvement with regard to the hemoglobin value. A good organic iron preparation compares favorably with the best of the inorganic salts, apart from the great advantage of being easily assimilated and free from the discomforts which so frequently attend the administration of the astringent forms of the drug.

Glasgow Medical Journal.

July.

20 *Surgical or Traumatic Rheumatism, with a Note on the Use of Corrigan's Button. James Weir.

20. Surgical or Traumatic Rheumatism.—One of the commonest conditions which medical men are called on to treat is what might be termed a rheumatoid affection of some muscle, tendon, or joint, subsequent to an injury. It is not a true rheumatism, for, as a rule, it is quite intractable to treatment by the usual rheumatic remedies. Weir says that the vagaries of the medical mind are never more demonstrable than in the treatment to which these patients are subjected. Of course, treatment directed toward a possible uricemia, rheumatism,

syphilis or tuberculosis is futile, as a rule. There are some cases in which a constitutional taint is discoverable as present in a decided degree, and this factor in the etiology is not to be neglected when treatment is exhibited; but, in the majority of cases, the only assignable cause is some injury suffered, it may be, some considerable time previously. Occupation plays no unimportant part in the causation of this periarthritis in those whose calling necessitates the constant and undue use of special parts, such as is seen in the case of oarsmen, dressmakers, pianists, etc. Deformity is another predisposing cause. In flatfoot it is not uncommon to have a similar condition about the tarsus and its surrounding structures. A case is reported in full which illustrates the following points in connection with the subject of traumatic rheumatism: 1. The history of a comparatively slight injury, and later the history of periods of enforced rest of one or other wrist, alternating the periods of hyperactivity amounting to overstrain of that wrist which happened to be at the time the less seriously implicated; the occupation, that of a dressmaker, is significant. 2. The history of the illness is typical, the patient drifting from one medical man to another, thence to the public institutions, and finally into the hands of bone-setters and quacks. The non-response of the symptoms to internal medication and to less heroic measures than the actual cautery is very typical. 3. The fact that active movement of the wrist and hand caused considerable suffering, while passive movement was quite free and painless, excluded the wrist joint from being the seat of the lesion, and directed attention to the periarticular structures. 4. The highly successful, almost immediate, result of the treatment by Corrigan's button. In using the button in these cases the cautery is heated to a degree only sufficient to destroy the superficial layer of skin, or to blister it, so that anesthesia is unnecessary. Treatment by means of the actual cautery is the only therapeutic exhibition which has yielded any successful result in the hands of the author.

Presse Médicale, Paris.

21 (I, No. 49.) *Traitement pathogénique de la douleur chez les dyspeptiques (pain in dyspepsia). G. Lyon.
22 *Pseudo-urinary Troubles. P. Bazy.—Des faux urinaires glycosuriques.
23 *Treatment of Appendicitic Abscesses Spreading in the Pelvis. Chaput. From society report.
24 (No. 50.) Le congrès colonial, Paris, May 29, 1904.
25 Ce que sont les "séborrhéides." R. Sabouraud.
26 Un nouveau stérilisateur électrique pour instruments de chirurgie. P. Wiart (Paris).

21. **Treatment of Pain in Dyspeptics.**—Lyon emphasizes the importance of the threefold indications in case of gastralgia: First, to treat the causal affection; secondly, to suppress the influences which exaggerate or maintain the pain, independently of the direct cause, and thirdly, to modify the nervous condition, the cause or consequence of the stomach trouble. The second indication is sometimes the only one that has to be met. Drug gastritis is almost the rule in nervous dyspeptics; their stomachs have to run the gauntlet of one course of medicinal treatment after another. Hayem has long insisted on the dangers of much medication for dyspeptics. Sometimes the mere suppression of all drugs will banish the pains. Overexertion, mental or physical, and professional emotions are sometimes the sole causes of dyspepsia, and almost inevitably aggravate or perpetuate it. In regard to the third indication, psychotherapy is the most important weapon at our disposal. When the gastralgia is a psychoneurosis it is the only treatment needed, and in cases of actual gastritis it acts on the functional disturbances which in the majority of cases far overshadow the organic lesion. One of the aims of psychotherapy should be to divert the patient's attention away from his stomach, while inspiring him with the desire to recover and the confidence in a cure. The article concludes with various formulæ for use when drugs are needed.

22. **Pseudo-Urinary Troubles.**—Bazy has been consulted a number of times by patients complaining of a smarting during urination and abnormally frequent desires. The assumption of a urinary affection was disproved by the results of examination and tests, but analysis of the urine revealed the presence of sugar, although there were no other evidences of glycosuria. He warns that this possibility should be borne in mind in such cases, especially in middle-aged patients. The urinary disturbances in these "false urinaries," as he calls them, are not always due to the presence of sugar, as the proportion may be minute, but may be a nervous manifestation such as is frequently encountered in arthritic subjects, a form of migraine, due to elimination of uric acid, or the urine may become irritating from some other cause. The urinary disturbances are, therefore, important, as they afford a clue to nutritional disturbances which may be aborted by proper treatment.

23. **Treatment of Appendicitic Abscess.**—Chaput reports 7 cases of appendicitis forming an abscess extending along the pelvis, all cured by operation. In 4 cases he operated by way of the rectum. This does not require general anesthesia; the operation is simple and rapid; the wound is trifling; the drainage is on a downward slope; there is no danger of eventration, and the patients are up in eight to ten days. In the 43 cases thus operated on there has been no mortality. The vaginal route is excellent for women; it exposes to the danger of hemorrhage, but this can be easily controlled with a large natural sponge.

Semaine Médicale, Paris.

27 (XXIV, No. 26.) *Paralysies urémiques et lacunes de désintégration cérébrales. J. Castaigne and J. Ferrand.
28 Angine et appendicite. F. Lejars.
29 A propos des accidents qui surviennent au cours de la résorption des œdèmes. Merklen. From society report.
30 *Considérations sur la tuberculose expérimentale. Heymans (Ghent). From society report.
31 Traitement du diabète par des injections intrarectales de sucre (of sugar). Arnheim. Abstract.
32 Emploi prophylactique de la morphine dans les grands traumatismes du cerveau (of brain). J. A. MacDougall. Abstract.

27. **Uremic Paralysis.**—Marie and Ferrand have described certain old lesions found at the necropsy of uremic subjects which they think explain the predisposition to uremic paralysis. They call them lacunæ of disintegration, and state that they are most frequent in the gray nuclei and the internal capsule. Eighteen cadavers of persons who had succumbed to uremic manifestations were examined for these lesions. Twelve of the subjects had not exhibited any paralytic symptoms, and in none of these cadavers were these lacunæ to be found, while they were constant in the 6 other cadavers, all the subjects having presented paralytic manifestations during life. In this article other clinical and experimental data are cited which confirm the importance of these lesions in the development of paralytic symptoms in the course of uremia from any cause.

30. **Experimental Tuberculosis.**—For six years Heymans has been conducting extensive researches on animals inoculated with human tuberculous material. His conclusions are in favor of the assumption that the tubercle bacillus is a parasite which can live either inside or outside of the cells, and is extremely refractory to the toxic action of the humors of the organism, but does not kill the latter by intoxication. The first lesion caused by the bacilli may heal while the affection appears at some point above, and the latter point may heal while a third point still farther along becomes infected, all by way of the blood. The predilection of the tubercle bacilli for the apices may be because the tubercles in the other parts of the lung heal, and tuberculous processes in the parenchyma of the lung may thus work their way outward, healing proceeding behind them until locating at the surface of the lung a tuberculous pleurisy may result, or the bacilli may be swept into the general circulation and induce a tuberculous lesion at some remote point, in the bones, serosæ or skin. He attributes infection to invasion of some mucosa, but thinks it is still an open question as to whether man becomes infected by eating or breathing.

Berliner klinische Wochenschrift.

33 (XLI, No. 25.) Passing of Cysticercus Eye Affections. J. Hirschberg (Berlin).—Die Verminderung der Finnenkrankheit.
34 Destruction of Tympanic Membrane by Lightning. K. Bürkner.—Fall von Zerstörung des Trommelfelles durch Blitzschlag.
35 *Goldspohn's Operation for Displacements. R. Kossmann (Berlin).—Die Goldspohn'sche Operation.
36 *Test of Motor Gastric Function. H. Elsner (Boas' clinic, Berlin).—Ueber die Prüfung der motorischen Magenfunction.

37 The Water Economy in the Sick Body. E. Homberger.—Der Wasserhaushalt im kranken Körper.
38 Perlbäder (improved carbonated baths). S. Weissbein.
39 (No. 26.) Inaugural Address (gynecology). E. Bumm.—Wissen und Können des Arztes.
40 *Ueber die Einwirkung der Endo-Faradisation und Endo-Galvanisation des Magens auf Secretion, Motilität und Sensibilität (electricity applied in stomach). A. Borri (Ewald's clinic, Berlin).
41 *Ueber die Agglutination der Typhus-Bacillen bei Icterus und Leber-Krankheiten. H. Kammerer.
42 *Zur Kenntnis von der physiologischen Wirkung des Radiums. J. Wohlgemuth.
43 *Treatment of Nephritis. G. Kövesi and W. Roth-Schulz (Korányi's clinic, Budapest).—Die Therapie der Nierenentzündungen. (Commenced in No. 24.)

35. **Goldspohn's Operation.**—Kossmann regards this operation as an essential progress in gynecologic technic, and describes it and its advantages for the benefit of his German confrères. Goldspohn's original article on the subject was published in THE JOURNAL of July 5, 1902, page 10.

36. **Test of Motor Function of Stomach.**—Among the various tests of the motor functioning, that of Mathieu and Rémond is particularly important. This test is the determination of the residuum in the stomach one hour after a test breakfast. In health, this residuum is never more than 180 to 200 c.c.; a larger amount they assert is presumptive evidence of impairment of the motor functions. The presence of an abnormal amount of secretion, however, decreases the amount of the residuum even when the motor function is entirely normal. The test acquires scientific accuracy if besides the total amount of stomach content, the total solid content is estimated. This modification has been found a very valuable improvement on the original technic, and it enables motor anomalies to be detected even in their earliest stages. The solid substances must be rubbed to a pulp to form a homogeneous mass before the supernatant fluid is decanted. The test breakfast consists of 60 gm. white bread and 400 gm. water. One hour later the stomach content is siphoned out (b), and the stomach is rinsed with 200 c.c. water (q). The Mathieu-Rémond formula is $x = b$ plus the acidity of q divided by the acidity of b minus the acidity of q. When this has been determined, the fluids are mixed and poured into two or three graduated cylinders. The amount of sediment after standing twenty-four hours is the basis for the modified test. The bread should be softened before eating. When the amount of sediment is large, without increase in the total amount of stomach content, the assumption of motor insufficiency, without essential increase in the secretion, is justified. Elsner gives the findings in a number of groups of various stomach affections. The total acidity in 11 cases of other affections ranged from 40 to 91, the total residuum from 90 to 250 c.c., the amount of solid residuum from 30 to 95 c.c. In a case of gastric ulcer the total acidity was 35, the total residuum 191 c.c., and the solid residuum 175 c.c. In a case of neurosis, with motor insufficiency, the total acidity was 47, the total residuum was 189, and the solid residuum 150 c.c. In some cases of motor insufficiency with hypersecretion the total acidity ranged from 43 to 71, the total residuum from 321 to 389, the solid residuum from 110 to 140 c.c. The findings in these and other cases indicate that hypersecretion develops in most cases on a basis of motor insufficiency, and that a primary hypersecretion may in turn entail motor disturbances.

40. **Endogalvanization of Stomach.**—Borri's test of endofaradization of the stomach resulted negatively, and endogalvanization likewise had no effect on the secretions and motor functions of the organ. On the other hand, the endogalvanization manifested an unmistakable sedative action. The soothing of the pains was the more remarkable, as the secretory and motor elements persisted unmodified. He applied endofaradization 106 times on 10 subjects, each test lasting fifteen minutes, and applied in the empty stomach. The endogalvanic tests were made 49 times.

41. **Agglutination of Typhoid Bacilli in Biliary Affections.**—Kämmerer obtained negative results to the agglutination test in 94 per cent. of 50 cases of icterus or liver affections. One of the subjects with icterus agglutinated at 1 75, the two others at 1 40. With these exceptions, all the tests were negative.

42. **Physiologic Action of Radium.**—Wohlgemuth failed to detect any elective action of radium on lecithin—such as has been proclaimed by some writers. He found, however, that under the action of radium an emulsion of tuberculous lung parenchyma showed accelerated autolysis at first. He theorizes to explain this, assuming that the radium abolished the natural resistance to autolysis inherent in the tissues. The autolysis, therefore, proceeded more rapidly at first, but the controls caught up with it in time, and the final outcome was the same for both portions.

43. **Treatment of Bilateral, Diffuse Nephritis.**—This communication from Korányi's clinic proclaims that rational treatment should aim to prevent, restrict and abolish retention in this disease. This can be accomplished to a certain extent by dietetic measures, adapted to the varying insufficiency of the kidneys. The conditions are more complex than in diabetes, but the retention of salt is an important element. Nephritic subjects with a tendency to dropsy should be carefully watched in regard to the intake of salt, and, even without this tendency, attention should be directed to the retention of salt as a menace to the fluid balance of the body. In case of a perfectly compensated contracted kidney, retention of salt seldom occurs, and can be prevented by avoiding highly-salted foods. In the moderately severe cases the amount of diuresis is a good criterion of the kidney functions. As the normal proportion of salt in the urine is about .5 per cent., the subject can safely ingest as many half grams of salt daily as he excretes hundreds of c.c. of urine. For instance, when the daily urine amounts to 1,000 c.c., he can ingest ten half grams of salt with impunity. The intake of water should also be regulated. When an immoderate amount of water is taken by a nephritic subject with a tendency to dropsy, the elimination of the solid constituents of the urine is not promoted, their retention is not obviated, while the retention of water is favored, and thus the hydremia and hydrops are exaggerated. The criterion here is likewise the diuresis. Excretion of 1,000 c.c. of urine by a nephritic with a tendency to dropsy corresponds to an intake of 1,500 c.c. of water. Reduction of the intake of water reduces the dropsy. When the water-secreting power of the kidneys is unimpaired—that is, in well-compensated cases of contracted kidney—no toxins are circulating in the blood which can be expelled by increased diuresis, and the canaliculi are not obstructed by tube casts or clots which it is necessary to wash out by this means. Consequently, the indications for increased diuresis are subordinate in these cases. The further indication—to wash out more of the solid constituents of the urine—is not realizable by increasing the diuresis—at least it has so proved in the writers' experience. Hence, we need not expect any favorable effect from a copious intake of water in the cases of well-compensated, chronic interstitial nephritis. It is even liable to prove directly injurious. Rational restriction of the intake of fluids is the better plan, the same as in certain cases of heart disease. Regulation of the intake of nitrogen, salt and water thus becomes the most important means at our command to influence chronic kidney affections of this kind. An exclusive milk diet supplies too much fluid for the proportion of calories. A strict vegetarian diet is scarcely practicable for any length of time. The components of the diet should be quantitatively regulated to meet the varying functional capacity of the kidneys. When retention is once established, dietetic measures alone are unable to influence it, and diaphoresis should be promoted. Experiments in the clinic have demonstrated that sweating procedures are able to induce the elimination of considerable amounts of solid substances in the sweat, the average being about 10 to 20 per cent. of kidney elimination, and in some cases as much as 50 per cent. The diaphoresis does not cause more solid substances to be eliminated through the kidneys, but it induces a vicarious elimination in the sweat of both water and urea and allied compounds, which has a very beneficial effect in cases of retention with a tendency to dropsy. The solid substances are eliminated so freely that after a vigorous sweat the blood will be found less concentrated than it was before, notwithstanding the copious excretion of water. Diaphoresis is, therefore, the sovereign remedy for contracted kidney with pronounced retention of water and

hydrops, and the writers would restrict it to these cases, but in such would use it freely, refraining from an increased intake of water at the same time, as this would annul its effects. In regard to catharsis, their results were less definite, but they think that it deserves more attention as a means of vicarious elimination in dropsical kidney affections, the patients in good condition. When none of these measures proves effectual, drugs have to be used. All the diuretics act by stimulating the kidneys, and those only should be used which cause the elimination of solid substances as well as of water. Elimination of the latter alone brings danger of uremia. This question deserves further study. The writers report research on a healthy subject, various diuretics being given at intervals for seventy days. The amount of urine excreted rose under the influence of caffein, diuretin and uropherin, but the elimination of substances in solution in the urine did not increase in proportion to the increase of fluid. Each time the freezing point was lower. The chlorids were washed out most freely; the output of other molecules was scarcely increased at all. The same tests in cases of compensated contracted kidney produced an opposite result. The fluid was not increased so much, the chlorids still less, and the chlorin-free molecules much more. The diseased kidneys respond less to the stimulus than a healthy organ. In severe cases, with pronounced retention of water and urinary solid substances, copious diuresis may be a life-saving measure, but it can be anticipated in response to drugs only when the reacting and functional powers of the kidneys have not fallen below a certain minimum. In one such case, under the influence of diuretin the elimination of chlorin-free molecules was increased by 67 per cent., while the concentration of the blood returned nearly to its normal figure. In the severer cases all our measures are powerless, dietetic treatment is impossible, stimulation of the vicarious emunctories gives inadequate results, the diseased kidneys are unable to respond to medication, and we are reduced to merely symptomatic treatment. Our aim should be to ward off this severe stage, and this can be accomplished by preventing and combating retention.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

44 (XXX. No. 26.) *Ueber die Bedeutung der Lungen-Infusionen für die Diagnose und Therapie der Lungen-Tuberkulose. P. Jacob (Berlin). (Continued.)
45 Ueber das arsenhaltige Wasser von Val-Sinestra und über seine Wirkung auf den Stoffwechsel (study of Val-Sinestra waters). M. Henius.
46 Fall von seniler Demenz mit gleichzeitiger genuiner Schrumpfniere (contracted kidney). G. Lomer.
47 Dangers of Gas Bath Heaters. Hamm.—Die Gefahren des Gasbadeofens.
48 Patents of Interest to Physicians. Schotten (Berlin).—Pat entamtliche Neuheiten.

44. **Direct Infusion of the Lungs for Diagnosis and Treatment.**—Jacob is the physician in charge of the first university medical clinic at Berlin, and he has been studying the question as to whether medicinal substances can be safely injected directly into the bronchi, below the fork, and the effects produced. He describes extensive experimental research, the principal results of which are that five cows tolerated for months direct injections into the lung of various substances without the slightest apparent inconvenience, confirming the results obtained in smaller animals. Of all the substances tested, Koch's old tuberculin proved to have the greatest therapeutic effect. Next in efficacy came creosote, hetol and methylene blue. The results of the tests all corroborated the peculiar efficacy of tuberculin from the bactericidal as well as the therapeutic standpoint. They also established the harmlessness of direct infusion of a fluid into the lungs and its especial advantages in treatment. Tuberculous bronchopneumonic cavities in the cows treated by infusion of tuberculin and creosote became encapsulated more perfectly than is ever observed in cattle under other circumstances. The tuberculin and the creosote were used in the strength of .1 per cent. The most striking results were obtained in the emaciated cow No. 2. During the five months' course, 30 infusions were made of 500 c.c. each, using first a .1 per cent. and gradually increasing to .4 per cent. solution of tuberculin. The total amount of tuberculin thus introduced into the lungs was 23 gm. After each infusion there was pronounced dyspnea, and the temperature rapidly rose, but these symptoms all subsided in the course of one, or at most two days. The cow's appetite remained good throughout, and the lung cavities healed over. The fluid was slowly infused through a special elastic catheter, about a yard long, introduced into a main bronchus through a tracheotomy opening, the infusion complete in a few minutes. It was never found necessary to fasten the cows. An attendant merely held the head, drawing it up to expose the wound. During the infusion the animals hawked more or less, and afterward coughed for a few minutes, but then proceeded to eat with apparent enjoyment, and no evidence of dyspnea, except the very sick animal, No. 2. The article is continued to include the clinical experiences.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed XLII, page 1525.

49 (LXXX, Nos. 1-2.) Die Homberger Trichinosis-Epidemie und die für Trichinosis pathognomonische Eosinophilie. K. Schleip (Freiburg).
50 Zur pathologischen Anatomie der Kapsel-Bazillen-Pneumonie (nebst Anhang über Kapsel-Bazillen-Meningitis). I. Kokawa.
51 Ueber multiple Arterien-Thrombose. H. Eichhorst (Zurich).
52 *Ueber die differentielle Diagnose der gichtischen Tophi der Ohrmuschel (tophi in the ear). W. Ebstein (Göttingen).
53 Die Zucker-Bildung aus Glyzerin (sugar formation from glycerin). H. Lüthje.
54 *Ueber Hypo-Leukozytose beim Abdominal Typhus und anderen Erkrankungen. L. Kast and C. Gütig (Prague).
55 *Influence of Alcohol on Cerebrospinal Pressure. R. Finkelnburg (Bonn).—Experimentelle Untersuchungen über den Einfluss des Alkohols auf den Hern-Rückenmarksdruck.
56 *Zur Differential-Diagnose der extra- und intramedullären Rückenmarkstumoren (tumors in spinal cord). von Malaisé.
57 Changes in Spleen in Pernicious Anemia, etc. O. Kurpjuweit Königsburg.)—Veränderungen der Milz bei pernizlöser Anämie und einigen anderen Krankheiten.
58 Ueber die spezifizität des Fibrin-Fermentes und Seiner Vorstufe. Muraschew (Moscow).

52. **Differential Diagnosis of Tophi in the External Ear.**—Ebstein describes two cases in which lumps were noted in the auricle of the ear, in subjects evidently predisposed to rheumatism or gout. He supposed at first that they were tophi, but concludes from his study of the cases that such lumps should not be accepted as tophi until the discovery of the presence of urates in them. In the absence of urates, they can not be classed as tophi.

54. **Hypoleucocytosis in Typhoid and Other Diseases.**—Kast and Gütig found leucopenia a corroborative sign in 92.4 per cent. of 103 cases of typhoid examined for the purpose at Prague. Even in the cases with severe complications, such as pneumonia, icterus, multiple abscesses and sore throat, the sign was positive in 80 per cent. of all cases. Under 7,000 is accepted as pronounced leucopenia, but up to 12,000 is regarded as still dubious. Leucopenia is extremely valuable for the early diagnosis of typhoid, in connection with other signs of the disease. It may be apparent, actual or absolute, according to the circumstances. Leucocytosis over 12,000 renders the assumption of typhoid very improbable, especially the alternations of very high and very low leucocyte count which are noted in sepsis and severe pneumonia. The leucopenia of anemia simulates that of typhoid, as also paratyphoid, according to Gütig's experience.

55. **Influence of Alcohol on Pressure of Cerebrospinal Fluid.**—Finkelnburg remarks that if we are allowed to apply to man the results of experimental research, we have every reason to assume that alcohol has a marked effect in increasing the pressure of the cerebrospinal fluid, in addition to its toxic action on the nerve substance. We have also reason to assume a secretion-promoting action when the paralyzing effect of the alcohol on the ganglion cells of the cortex is dying away, and the signs of increased cerebrospinal pressure then predominate in the clinical picture.

56. **Differential Diagnosis of Spinal Tumors.**—Malaisé discusses the differentiation of tumors within and outside the spinal cord. The course of true spinal cord tumors is irregular, in consequence of the various inflammatory processes and hemorrhages induced by the growth of the tumor. On the other hand, an extramedullary tumor proceeds through a regular series of phases after the first protracted stage of the unilateral root pains, which may occur as an isolated symptom for months and years before other symptoms develop. The lack of a neuralgic phase at the beginning suggests the probability of an intramedullary location, although not absolutely pathogno-

monic. A painless course speaks in favor of a tumor of the cord, after exclusion of gliosis. Tumors originating in the cord may induce a circumscribed painfulness of the spine which is also noted with tumors originating in the membranes, especially the extradural ones. When the tumor is intradural this is not observed to such an extent. Pointed kyphosis suggests a bone affection, tuberculous caries or a carcinoma of the spine. On the other hand, round kyphosis is observed and kyphoscoliosis may be noted with either an extramedullary or intramedullary location, especially in cases of gliosis. The dissociated sensory paralyses are important signs for the location of the tumor, especially in gliosis, and to a certain extent in meningeal and vertebral tumors. Paralysis is observed more with extramedullary, and especially with extradural tumors than in case of tumors of the cord. The root symptoms, and even the first cord symptoms, may be restricted to one side in case of extramedullary, especially of meningeal tumors, and the Brown-Séquard one-side lesion may be observed. Dissociated anesthesia, an expression of an affection of the posterior horn, is usually homolateral, generally in the arm. If it is the result of compression, it is usually due to compression of the lateral columns and develops in the crossed leg. The sequence of the appearance of the symptoms has great differential value. The bone symptoms, for instance, when they are the first to appear, speak for the assumption of a process in the bone.

Mitteilungen a. d. Grenzgebieten der Med. u. Chir., Jena.

Last indexed XLII, page 1259.

59 (XIII. No. 2.) *Glandular Metastasis of Gastric Cancer. Renner (Breslau).—Die Lymphdrüsenmetastasen beim Magenkrebs.
60 Zur Kenntnis des Bothriocephalus liguloides. H. Miyake.
61 *Zur Kenntnis der sogen. Myositis infectiosa. Ibid.
62 Ueber einen neuen anaeroben pathogenen Bazillus. Beitrag zur Aetiologie der akuten Osteomyelitis. O. Wyss.
63 Fall von Tuberkulose des Wurmfortsatzes (of appendix). M. Behr.
64 *Ueber Perityphlitis mit bes. Berücksichtigung der Leukocytose. II. Begrenzte eiterige Peritonitis (circumscribed suppurative peritonitis). A. Federmann (Berlin).
65 Experimentelle Beiträge zur Nieren-Dekapsulation (of kidney). O. Ehrhardt (Königsberg).

59. **Glandular Metastases in Case of Gastric Cancer.**—Renner is convinced from study of 302 glands in 15 cadavers, that metastasis in the glands occurs by embolism in case of cancer of the stomach. He found the various groups of glands involved in from 22 to 60 per cent. of the cases, with occasionally metastasis in some liver gland. He advocates removal of all accessible ones in operating. The consistency and size are no criteria, as enlarged glands may be intact, while small, soft ones may be cancerous. Six of the cadavers examined had not been operated on. He gives a diagram to show the involvement of the various groups of glands, each square representing one gland. The glands in the lesser curvature were by far the most frequently involved. Out of 51 suprapancreatic glands examined, 49 per cent. were found cancerous. This darkens the prognosis of a gastric cancer when the glands on the pancreas behave suspiciously under palpation. About 175 of the 302 glands were free from cancer, and 127, or 42 per cent., were involved.

61. **Myositis Infectiosa.**—Miyake regards this affection as a septic pyemia, and has established that it has no specific agent, but may be caused by the ordinary cocci or the typhoid or colon bacilli. The striated muscles are alone attacked. He found that staphylococci from a panaritium, injected into a vein, induced a suppurative inflammation in a muscle predisposed by electric overstimulation, passive congestion or contusion. The staphylococcus is the most frequent agent in man, but the combination of extreme virulence and a predisposition on the part of the muscle from overexertion, trauma or congestion is necessary to induce this primary suppurative myositis. It may be solitary or multiple. It develops with a sudden onset, chill, swelling and painful contracture of the muscle with abscess formation. Miyake reports 33 cases.

64. **Appendicitis.**—In this part of his monograph Federmann reviews the material of circumscribed suppurative peritonitis observed at the Moabit Hospital in Berlin. He proclaims that during the first two to two and a half days simple appendicitis seldom shows a leucocytosis of more than 20,000, while the figure is usually higher in the severer forms. A low leucocyte count, with severe clinical symptoms, indicates general intoxication and paralyzing of the resisting forces. The third to the fifth day, a high leucocyte count and severe symptoms indicate operation at once, but a low leucocyte count with the same shows that surgical intervention might be too dangerous and that it is better to temporize. By the end of the first week, and later, a leucocyte count of 20,000 and over indicates a circumscribed abscess. If the symptoms are serious, operate; if not, wait. As soon as the suppuration ceases, the leucocyte count drops, although the collection of pus may persist indefinitely. The chief value of the enumeration of leucocytes is for diagnosis and prognosis; its import as an indication is trivial.

Münchener medicinische Wochenschrift.

66 (LI, No. 21.) *Ueber Dysbasia angiosclerotica ("intermittierendes Hinken") (claudication). W. Erb (Heidelberg).
67 Technic of Agglutination Test. A. Lion (von Leube's clinic, Würzburg).—Die Metoden zur Ausführung der Gruber-Widalschen Reaktion.
68 Ueber Fyemia mit chronischem Verlauf (course). O. Jordan.
69 *Ueber funktionelle Diagnostik mit bes. Berücksichtigung der Perkussion des Herzens (of heart). O. Rosenbach (Berlin).
70 *Zur chirurgische Behandlung und Histologie der Röntgen-Ulcera. G. Baermann and P. Linser.
71 Ueber Suprarenin bei Colliculus Caustik (cauterization of crest of urethra). Dreuw.
72 *Statistics Derived from Inquiries at Public Vaccination Stations. M. Hahn.—Statistik auf öffentlichen Impfterminen.
73 Infant Feeding in Munich and Infant Mortality. A. Groth. —Die wahrscheinliche Ausdehnung der natürlichen und künstlichen Ernährung in München und ihr Einfluss auf die Säuglingssterblichkeit.
74 Action of Roentgen Rays on Internal Organs. F. Krone.—Einwirkung der R.-Strahlen auf innere Organe.
75 Further Progress in Radioscopy. F. Dessauer and B. Wiesner.
76 Ueber Striæ cutis distensæ. H. Köbner.
77 (No. 22.) *Direct Registration of Heart Sounds. O. Frank (Munich).—Die unmittelbare Registrierung der Herztöne.
78 *Ueber Colitis ulcerativa. K. Vogel.
79 *Action of Salicylates on Urinary Apparatus. E. Knecht.—Wirkung des Natrium salicylicum auf den Harnapparat.
80 Results in 250 Bassini Operations for Inguinal Hernia. F. Fraenkel (Nuremberg).—Erfolge der Leistenbruchoperation nach der Bassinischen Methode.
81 Exaggerated Fear of Potassium Chlorate. Büri (Basle).—Die übertriebene Furcht vor Kali chloricum.
82 Ein kompendiöser Beinhalter (leg holder). O. T. Lindenthal.
83 Must Every Recent Laceration of Perineum Be Sutured at Once? K. Hegar.—Muss jeder frische Dammriss genäht werden?
84 Wilhelm His. Nekrolog.
85 Medico-historical Art Achievements in Germany. E. Hollander.—Ueber deutsche mediko-historische Kunstbestrebungen.
86 (No. 23.) *Ueber die lokale und allgemeine Wirkung der Röntgenstrahlen (action of Roentgen rays). G. Baermann and P. Linser.
87 *Zur Behandlung von Hautkrankheiten mit Röntgenstrahlen (ibid in cutaneous affections). J. Müller (Wiesbaden).
88 Arsenic in Arsenic Antidotes. C. Strzyzowski.—Sind unsere Arsengegengifte immer arsenfrei?
89 *Preservation of Aluminum Acetate. Vörner.—Haltbarmachung von Liquor aluminis acetici.
90 *Ueber den diagnostischen und therapeutischen Wert der Lumbalpunktion bei der Meningitis. T. Wertheimber.
91 *Die psychiatrischen Aufgaben des praktischen Arzts (psychiatric tasks of general practitioner). A. Schott.
92 Eine Erleichterung beim Anlegen des Jaquetschen Sphygmographen (improved technic). O. Reissner.
93 Eine neue Unterschenkelschiene (leg splint). E. Funke.
94 *Licht-Therapie nach Professor von Tappeiner (phototherapy). Jesionek. (Commenced in No. 22.)
95 Report of the Damage Suit.—Homoöpathie und Kurpfuscher. See page 132.

66. **Intermittent Limping.**—Erb's article was reviewed in an editorial on page 200. He has encountered the typical syndrome of what he calls dysbasia angiosclerotica in 38 out of 45 cases. In one instance a truss was responsible for the arteriosclerosis of the leg and foot, entailing the syndrome. Symptomatic treatment improves and may arrest the affection, but no brilliant therapeutic results have been attained to date.

69. **Functional Diagnosis of the Heart.**—Rosenbach warns that the basing of a diagnosis on a single symptom is liable to entail many errors. Especially is this the case with the heart. If a halt is not made we will soon find that every third person is labeled as having heart disease, and the fact that nothing is easier than to cure the dilatation of the heart observed so frequently will before long be the eighth wonder of the world.

70. **Surgical Treatment of Roentgen Ulcerations.**—This communication from Neisser's clinic relates that a number of cases of severe Röntgen ulcerations were rapidly cured by transplantation of pedunculated flaps. No other procedure had any effect. The flaps rapidly healed in place, the pains subsided and the general health was invariably benefited. The trouble

is unmistakably the result of the injury of the vessels by the rays. They are injured beyond the possibility of repair, but the supplying of normal vessels in the flaps transforms, as it were, the Röntgen surface, and healing then proceeds rapidly. In one case this occurred, although the flap itself became necrotic and was replaced by Thiersch flaps, previously useless.

72. **Statistics Gathered at Vaccinations.**—Hahn suggests that immensely valuable information might be obtained by inquiries of the parents when infants are brought to be vaccinated. The physician nowhere else encounters such a wealth of material in healthy children, and statistics gathered by medical students at the public vaccination stations would solve many of the problems in regard to infant feeding, etc.

77. **Direct Registration of Heart Sounds, Etc.**—Frank has invented an apparatus for registration of the heart and other faint organic sounds. The movements of a membrane set in motion by the sounds are photographically recorded on a sensitized film automatically unrolling behind a narrow slit. The membrane of the drum is connected by means of a tube with a phonendoscope or funnel over the heart. To magnify the record of the movements of the membrane a small mirror is connected with it, mounted on a rubber rod, the whole resembling the parts and relations of the membrana tympani and the malleus.

78. **Surgical Treatment of Ulcerative Colitis.**—Vogel reports from Bier's clinic 2 cases of this affection successfully treated by making an artificial opening into the intestine to allow cleansing and local treatment of the parts. Boas published a similar case more than a year ago. The artificial anus should be made as far toward the periphery as possible, and the opening should be large enough to allow ample therapeutic intervention. Vogel found a suspension of bismuth or iodoform very useful for local treatment, allowing the drug to settle on the intestinal walls before withdrawing the fluid. It can be rinsed away after a few hours' action. He attributes the ulcerative colitis in one case—by exclusion—to primary erosions of the mucosa with eventual lesions of the solitary follicles. Months are required for this course of treatment, but by the end of the year the patients were all cured. As a measure to prevent the development of strictures he inserted a rubber tube from the natural to the artificial anus from time to time.

79. **Action of Sodium Salicylate on Urinary Apparatus.**—Knecht tabulates the findings in patients with rheumatism or sciatica, treated with sodium salicylate. In only 7 out of the total 40 were any symptoms noted indicating irritation of the urinary apparatus, and they were minimal in all but 2—the latter passing isolated tube casts, the others showing merely traces of albumin in the urine.

86. **Action of Roentgen Rays.**—Research at Neisser's clinic corroborates the assumption that the blood vessels are the tissues that suffer from the action of the Röntgen rays. The destruction of the cells is followed by absorption of the toxic products, which explains the general action observed.

87. **Roentgen Rays in Treatment of Cutaneous Affections.** Müller reports 3 cases of pruritus, 2 of hyperhidrosis and 2 of chronic eczema of the hands, all cured by Röntgen treatment, after long resistance to other measures.

89. **Preservation of Aluminum Acetate.**—Vörner has found that the addition of a small amount of boric acid not only preserves the solution of aluminum acetate but enhances its therapeutic action while preventing smarting. He uses it in a proportion of .25 parts boric acid to 100 parts solution of aluminum acetate, diluting to 1 10 for compresses, or 3.5 parts boric acid, otherwise the same. For dressings he uses 100 parts of the acetate solution with a saturated solution of boric acid to make 1,000 parts.

90. **Lumbar Puncture in Meningitis.** Wertheimber proclaims that lumbar puncture has relieved the prognosis of meningitis in children to a certain extent. It is particularly valuable in the meningitis that follows pneumonia or any other acute infectious disease, when we have reason for assuming the presence of a non-bacterial, serous meningitis. The puncture should be repeated not only to evacuate the cerebrospinal sac when exploratory puncture discloses a high pressure, but also whenever there are general symptoms, especially eye findings, which indicate pressure on the brain. By so doing we may sometimes succeed in saving an otherwise doomed child and also restore the already impaired brain functions, the sight in particular. In one of the cases reported he made 14 punctures between June 17 and August 5, withdrawing from 30 to 80 c.c. each time until the last, when only 5 c.c. escaped.

91. **Psychiatry in General Practice.**—Among the points emphasized by Schott are that it is impossible to treat the patient properly at home, and that the facial expression and the manner of expression are important for the diagnosis—if possible have the patient write out his experiences himself. In making the prognosis err, if at all, on the side of an unfavorable outcome. The general practitioner should refrain from certifying in respect to sanity or insanity. His task is to draw a picture of the case as he knows it, refraining from prejudice as to this or that psychosis, and merely noting the facts in the case, retaining the patient's confidence and avoiding the stigma of denouncing him as mentally irresponsible—this should be left to the skilled psychiatrist.

94. **Phototherapy According to Tappeiner.**—This communication from Posselt's clinic at Munich gives the details of a number of cases of cancerous and other growths treated by painting the surface with a 1 per cent. solution of eosin to enhance the action of phototherapy.

Therapie der Gegenwart, Berlin.

Last indexed page 289.

96 (XIV, No. 6.) *Zur Behandlung des sogenannten inoperablen Uterus-Carcinoms. A. Martin (Greifswald).

97 Ueber das Eupophin (Apomorphinbrommethylat). P. Bergell and R. Pschorr. Ibid., M. Michaelis (von Leyden's clinic).

98 Regular Efficacy of Thoroughly-dried, Pulverized Digitalis Leaves. Focke (Dusseldorf).—Ueber den gleichmässigen Wirkungswert von gut präpariertem und gut aufbewahrtem Digitalisblätter-Pulver.

99 Einige Worte über Gelenksneurosen (neuroses of joints). E. Weiss (Pistyan).

100 *Die Behandlung der Cholera infantum mit bes. Berücksichtigung der therapeutischen Technik. H. Roeder (Berlin).

101 *Chronic Tumefaction of Glands, Suspicious of Latent Tuberculosis. Thirst. Chron. lymphdrüsen-Intumeszenzen, verdächtig als latente Tuberkulosecherde.

102 Mercury in Certain Forms of Liver Disease. O. Rosenbach (Berlin).—Quecksilber als Heilmittel bei gewissen Formen der Leberkrankung nebst Bemerkungen über die Diagnose der Lues ex juvantibus.

96. **Treatment of Inoperable Uterine Cancer.**—Martin remarks on the increasing proportion of operable cases of uterine cancer which we now encounter, Mackenrodt even reaching the proportion of 94 per cent. Zweifel has never observed a case of cancer in a patient whom he had previously treated for a gynecologic affection, but Lomer has had a case in which he was able to detect the incipient phase of a cancer and watch its development. Martin has observed 2 such cases. One was in a woman of 30, a year after a benign adenoma of the corpus had been removed. She was a ii-para, with rachitic pelvis requiring instrumental delivery of the second, very large child. The ninth day the lochia showed traces of blood and a nodule as large as a bean was found to have grown in the cervix. High amputation of the collum was done in two weeks, but the patient succumbed the seventh week after delivery with diffuse carcinoma metastases over her entire body. The other patient was a woman of 42 with extensive erosions of the portio. They were excised and showed no trace of cancer. She returned about a year later with a cauliflower cancer at the spot, and was treated by total extirpation. She died eleven months later, four months after the first symptoms of metastasis had been noted. In all of Martin's experience he has never encountered but a single instance of spontaneous recovery from a cancer. This was in a woman of 40 whose vagina and collum were the crater of scirrhus. The disturbances were slight, and she refused an operation. Her physician gave her condurango, and reported recently that she was still alive after twenty-two years, and did not require treatment of any kind. Martin has also encountered 3 other instances in which the disturbances were so slight that the elderly patients bore

them without trouble and succumbed years afterward to senile exhaustion of the vital forces. His father, as long ago as 1871, called attention to the frequency of cancer of the uterus in women who had married again after having been infected with syphilis by their first husband, who had succumbed to some syphilitic brain affection. The frequency of this sequence in his experience was so striking that he made it a rule to advise such widows against remarriage. Two who followed this advice are free from cancer to date. Martin's observation has been that cancer in young, full-blooded women runs a more rapid course than in others, and that a pregnancy has a most baleful effect on it. No benefit was derived in his inoperable cases from any of the drugs recommended for general or local treatment nor from electrolysis. He prefers to curette and pack the crater with gauze impregnated with solution of ferric chlorid, leaving it in place for four to six days. The surface granulates, and after four or five days it is irrigated with dilute tincture of iodin, after which it skins over. As a rule, the crater heals completely and the patients are rejuvenated. The fetid secretions, hemorrhages and pains are arrested by this procedure, and the moral effect on the patient is a great gain. When symptoms of recurrence appear, he repeats the excochleation and the cauterization as long as it is possible to avoid injury of other organs in so doing. Later than this he uses antiseptics to deodorize, and narcotics to relieve the pain, with alcohol to delude the patients.

100. **Treatment of Cholera Infantum.**—Roeder describes the method of treatment adopted by Baginsky, who insists that this disease requires ceaseless observation of the clinical manifestations, sensorium, turgor, attitude of the body, behavior of pulse and of diuresis, and adaptation of the therapeutics to the varying conditions, with a certain executive skill in the measures deemed necessary and their systematic application. The great and immediate danger is from the loss of fluids, felt specially in the functioning of the organs which are thus stranded, as it were, from loss of their accustomed medium. The body may lose one-tenth to one-fifth of its weight in the diarrhea of a single day in this disease. The symptoms observed resemble in many respects those of uremia, and are due to the lack of fluids and the consequent retention of toxins in the body. The diarrhea carries away much of the causal agents and this may be supplemented by calomel and castor oil. A mustard bath is a sovereign means of stimulating the vasomotors and heart from the periphery. The infant is kept in the bath from five to eight minutes—the water colored a turbid, yellowish green by a couple of handfuls of mustard. It is well to give the mustard bath in the morning instead of the ordinary bath, and repeat it during the day if needed, carefully protecting against drafts to ward off otitis media. Camphor should be injected before the bath and again every three hours in urgent cases until danger of collapse is past. Injections of artificial serum restore the loss of fluid, and a hypotonic saline solution should be preferred, as it is more rapidly absorbed and as salt is more or less contraindicated by the nephritis generally present—a half a teaspoonful of salt to a quart of boiled water. The amount should be about 20 to 30 c.c. per kilo, and the injection repeated, if necessary, twice a day. It is supplemented by mineral waters. The practitioner must not be misled by the apparent mildness of the attack and postpone these measures until the opportune moment has passed. When vomiting continues, notwithstanding abstention from food, lavage of the stomach is called for, and in many cases after lavage 60 to 100 c.c. of the above salt solution is poured into the stomach and left to quiet the thirst, or it can be injected into the rectum. Albumin seems to be the most harmful food in cholera infantum; its nourishing value is far outweighed by the danger from its putrefaction. Strict asepsis should be insured, both for the infant and for the nurse, in every measure undertaken.

101. **Enlarged Glands as Foci of Latent Tuberculosis.**—Fürst deplores that the lymph system is too often neglected in combating infections. The circulation through the lymphatics should be promoted in every way. He gives effervescent cod liver oil, iodin and syrup internally, but places most dependence on iodin externally, applied in a 6 per cent. solution in fluid vasogen. This combination does not irritate the skin and has no odor of ammonia. He paints the suspicious glands twice a day, or has the mixture gently rubbed into them after softening with wet cotton. He supplements this by giving five to ten drops of the iodized vasogen in cocoa three times a day. Treatment should be kept up for six to nine months, commenced while the glands are still reparable. The children emerge from such a course in blooming health.

Zeitschrift f. Krebsforschung, Jena.

Last indexed XLII, page 1667.

103 (I, No. 5.) *Healing Processes in Epitheliomata. J. Orth.—Ueber Heilungsvorgänge an Epitheliomen, nebst allg. Bemerkungen über Epitheliomen.
104 *Transplantables Lympho-sarkom des Hundes (of the dog). A. Sticker (Frankfurt a. M.).
105 Zur Kenntnis des primären Horn-Krebses der Lunge (cancer). S. Watsuji.

103. **Healing Processes in Epitheliomata.**—One of the cases described by Orth was published recently by Schwarz in *Virchow's Archiv*, a papilloma which had developed on a basis of atheroma. It displayed traces of destruction of the epithelial elements by a kind of calcifying process—evidently a tendency to spontaneous healing. The growth had developed rapidly, first noted only three months before, and there has been no evidence of recurrence. In two other cases the calcified epitheliomata were malignant growths, developing on the basis of a chronic bone lesion, with fistula. The calcification was not so pronounced as the accompanying horn formation, some of the "horn pearls" being directly surrounded by a connective tissue stroma. The giant cells in these tumors were "foreign-body giant cells," thus suggesting an explanation for the formation of connective tissue.

104. **Transplantable Lymphosarcomata.**—For the last two years the Institute for Exp. Therapy at Frankfurt has been experimenting with inoculation of cancer material. None of the experiments with human material was successful, and but few of those with animal material. But a spontaneous lymphosarcoma on the penis of a dog was successfully transplanted into the fifth generation, the positive results numbering 31. The dogs with positive results proved to be nearly all immune to later inoculations. Bacteriologic examination of the tumors was always negative. Photogravures of some of the findings are appended.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VIII. Illustrated by Chromolithographs and 435 Half-tone and Wood Engravings. Cloth. Pp. 784. Price, $7.00 per volume. New York: Wm. Wood & Co. 1904.

THE EXAMINATION OF WATERS AND WATER SUPPLIES. By John C. Thresh, D.Sc. (Lond.), M.D. (Vic.), D.P.H. (Camb.), Honorary Diplomate in Public Health, Royal College of Physicians and Surgeons, Ireland. Cloth. Pp. 460. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1904.

A TEXT-BOOK OF HUMAN PHYSIOLOGY. By Albert P. Brubaker, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College. With Colored Plates and 354 Illustrations. Cloth. Pp. 699. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1904.

THE DOCTOR'S LEISURE HOUR. Facts and Fancies of Interest to the Doctor and His Patient. Charles Wells Moulton. General Edition. Arranged by Porter Davies, M.D. Cloth. Pp. 352. Price, $2.50. Chicago, Akron, New York: The Saalfield Publishing Co. 1904.

THE TREATMENT OF SOME ACUTE VISCERAL INFLAMMATIONS, and Other Papers. By David B. Lees, M.A., M.D. Cantab., F.R.C.P. Lond., Formerly Scholar of Trinity College. Cloth. Pp. 300. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1904.

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Original Articles.

WHAT IS THE PROPER SURGICAL TREATMENT OF SUSPICIOUS TUMORS OF THE INVOLUTING BREAST?*

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MINNEAPOLIS.

From articles which have appeared in the medical journals during the past year emanating from centers of medical education, it would seem as if the query propounded above was susceptible of widely varying answers, and that there was no unanimity of opinion on this question among American surgeons.

By suspicious tumors are meant, not clearly diagnosable carcinomata or cysts, but small, hard tumors in women over 40, which may be early carcinomata, adenofibromata, single tense cysts or the earlier cysts of a chronic cystic mastitis.

All surgeons must frequently have to decide this question of how to best surgically treat a small doubtful tumor in a woman past the menopause, and many must err either in doing an unnecessarily large operation on the one hand, or, far worse, in failing to recognize malignancy and by too conservative work favoring prompt recurrence.

What is needed is an acceptable exploratory procedure which will allow exposure and macroscopic, and, if need be, microscopic examination of the suspected mass before deciding on the extent and nature of the operative procedure that must be carried out.

Can this be safely done? In regard to this there are again very decided differences of opinion which may, perhaps, be harmonized by a study of the accepted facts.

It is admitted, by all pathologists and most surgeons, that malignant tumors can be grafted on healthy tissue by accidental implantation of tumor elements during operation. Hence, it has long been an accepted theoretical rule that in operations for malignancy no section of the tumor, adjoining tissue or associated lymphatics should be made, and all diagnostic punctures by aspirating needle or the various harpoons have been tabooed.

Recorded cases illustrating recurrence by grafting are too numerous to admit of any doubt of the practical value of this point, but in all cases the recurrence seems to have arisen from the cut surface of the removed tumor having been brought into contact with healthy parts left behind and there being thus left in the healing wound a part of the original tumor.

To avoid this danger an exploratory operation should possess several details as to technic. First, all tissues exposed to infection by the incision must subsequently be removed in case malignancy is not excluded. Second, the instruments used for the section of the tumor should be laid aside or resterilized before proceeding with the operation. Third, all lymphatic connections of the tumor should be cut or interrupted before making the tumor section.

With these precautions it is difficult to see how grafting can occur, and it seems probable that the fear of this accident has hindered the proper use of an exploratory operation.

The third point noted above is in conflict with the practice of some of our leading surgeons, but has considerable theoretical and experimental foundation to support it.

There seems little question that the section of a malignant growth in situ can by the merest pressure used, force cancer cells into the neighboring lymphatics and nodes. Experimentally, any one can repeat for himself the procedure first used by Gerster, I think, in 1883, of injecting an emulsion of lampblack into and around the tumor, and, after incising and removing the tumor and axillary contents, studying the removed tissues histologically with the invariable result of finding lampblack in the axillary nodes.

Dr. Abbe was to have presented a paper before this Section at the New Orleans session, afterward published in the *Medical Record*, which is so at variance from the above in its teachings and conclusions that it seems proper to discuss it somewhat at length, for if its conclusions are correct many of the best pathologists in the surgical world are badly at fault.

Dr. Abbe speaks of mammary cysts, basing his conclusions on the record of forty-one cases seen in his office, and comparing them with fifty-six cases of scirrhus seen under the same conditions. He opens the question of the importance of the discussion of mammary cysts by stating: 1. They are much more numerous than is supposed. 2. The forty-one cases were all referred to him as cancer and that the patients expected to lose their breasts. 3. Many surgeons erroneously advise amputation when the breast contains a cyst because same is likely to become malignant.

He discusses at length the clinical features of cysts as shown by his forty-one cases, only two of which were in patients under 35, and only 25 per cent. of which showed more than one cyst and none over four, and only two of which showed papillomatous ingrowths, and concludes, that, while many cysts are difficult to diagnose on account of deep position and tenseness we have in the aspirator needle an unfailing means of diagnosis and at the same time cure. All his cases were cured by simple aspiration, hence, he says, "It stands proved that

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

no case of mammary cyst capable of careful and complete aspiration should ever be subjected to any further treatment. It will be cured by that method permanently. It becomes the duty then of every surgeon to test the nature of each doubtful hard tumor of the breast by an aspirating needle thrust quickly into its very center, sterilizing the skin by a moment's friction with alcohol."

Is this correct and safe teaching? I think not. First, it is remarkable that all of Dr. Abbe's cysts should be simple cysts except the two which contained papillomata, and that he observed no cancer cysts, no cystic adenomata, and especially no cases of chronic cystic mastitis with multiple cysts.

At Johns Hopkins, Bloodgood states that out of 510 hospital patients admitted with breast disease only 32 had simple cysts, 8 cysts with intracystic growths, 5 cystic adenomata and 2 dermoid cysts, 24 adenocarcinoma arising from cystic adenoma, and 8 cancer cysts, the simple cysts being less than 50 per cent., and that it was found impossible to diagnose many of the cysts without an exploratory incision. In contrast to Dr. Abbe's 40 per cent. of simple cysts observed, this gives less than 7 per cent. in the 510 cases.

Microscopic study of these tumors has shown without any possible doubt that a certain proportion of cysts with intracystic growths are malignant, and that a larger number of clinical cysts, including the cystic adenomata and cancer cysts, are also malignant.

In view of these pathologic facts and the admitted danger of inoculation when a malignant growth is aspirated, can the aspirator be advised either as a means of diagnosis or cure? Certainly not.

From this point of view it must seem that the publication of such brilliant clinical success by an eminent surgeon like Dr. Abbe can not fail to do immense harm by justifying the general practitioner in the adoption of a method which, used as Dr. Abbe advises, must result in fatal delay and dangerous dissemination in all malignant cases so treated. The question is certainly a vital one and worthy of careful discussion.

During the past year two pathologic studies of cystic disease of the breast have appeared, both basing their conclusions on microscopic research and coming to conclusions diametrically opposed to those of Dr. Abbe. The more elaborate paper of the two, by Drs. Greenough and Hartwell,[1] Boston, on "Chronic Cystic Mastitis," gives a study of 30 cases, out of which three, which are clinically and macroscopically indistinguishable from the others, showed microscopic cancer, while all showed adenomatous proliferation of the cyst lining suggestive of beginning adenocarcinoma.

Their conclusions as far as pertain to this paper are: That transition to adenocarcinoma occurs in a limited number of cases of chronic cystic mastitis. That the danger of the transition of chronic cystic mastitis to adenocarcinoma is sufficient to make the removal of the whole gland advisable in all except very early, slight degrees of the affection. That the operation to be advised is the subcutaneous resection of the entire gland without the removal of the nipple, a surgical procedure which it would seem has in its favor only the cosmetic beauty of a nipple planted on the thoracic wall, and has the radical objection that no access is given to the axilla.

The second article, "Cystic Degeneration of the Mamma, Showing Transformation into Scirrhus Carcinoma," by Dr. A. G. Ellis, Philadelphia,[2] gives the clinical history and histologic details of a cystic breast similar to the 30 discussed in the first paper, which gave distinct histologic evidence of having become scirrhus carcinoma.

Can there be any doubt what the clinical result would have been if this last case and the three clearly malignant cases noted in the Boston paper had been aspirated and sent home "cured"? The fact that a large percentage of the cysts are not malignant does not in any way excuse our basing our treatment on methods which exclude the few malignant ones which can not be diagnosed by clinical examination. These few are the most important and our methods should be directed to them to afford the patients the best chance to escape death from cancer.

Bloodgood has well said that the law principle that a prisoner is innocent until found guilty must be reversed when considering tumors, and that all tumors must be considered and treated as malignant until absolutely proven to be benign. This certainly applies to tumors of the breast in patients over 40, and it is fortunate that the part involved is functionally useless, and hence, radical operative treatment is not contraindicated by the necessity of preserving important organs.

The technic of an exploratory operation to be used in all cases of doubtful tumors of the breast involves either a direct section of the tumor, as used at Johns Hopkins with good results, but against which the objection may be raised that such manipulation may in some cases disseminate the cells of a malignant growth; or, amputation of the breast in all cases, with the clamping by forceps of a pedicle containing all lymphatics leading to the axilla, until the tumor has been examined.

In the latter case the incision should be so planned as to best permit of a Halsted operation in case of malignancy, and as a matter of convenience the breast should be cut loose after doubly clamping the pedicle, the section of the pedicle being made with the actual cautery to avoid infection, or a piece of gauze being stitched over the cut axillary end of the pedicle during the remainder of the operation. By this technic the only tissues which by any chance can be infected with cancer are afterward removed when the larger operation is completed.

Too much importance can not be attached to the naked eye diagnosis of the tumor exposed by the exploratory operation, as on the surgeon's proficiency in this must depend the benefit to the patient of such procedures.

CHRONIC CYSTIC MASTITIS SIMULATING EARLY CARCINOMA.

CASE 1.—Mrs. H., married, American, aged 48. The patient has always been perfectly well, and has never had any trouble with her breast until she discovered, one month ago, a small, hard lump in the left breast. She has nursed a number of children, but has never suffered from an abscess or other complications.

Examination.—An irregular mass, three-quarters of an inch in diameter, was found in the outer and upper quadrant of the left breast. The tumor was hard and freely movable, and the breast was movable on the chest. There seemed slight fixation of the skin covering the tumor, but there was no atrophy of the subcutaneous fat. The axillary nodes were not palpable.

The diagnosis made was a probable adenoma or cyst, but in view of her age and the slight fixation of the skin over the tumor the possibility of cancer was stated and an extensive operation advised.

Operation.—Nov. 4, 1903. The breast was loosened from

1. Journal of Medical Research, June, 1903.

2. Annals of Surgery, September, 1903.

the chest by an oval incision, extended to the arm, and the axillary contents were exposed. The pedicle leading to the axilla was then doubly clamped, and the breast was cut loose and examined by section. The hard mass felt on examination was found to be a deeply-situated tense cyst, and the other parts of the breast were studded with similar smaller cysts, none of which were palpable until the breast was removed. There was some induration of the breast tissue adjoining the larger cyst, and the axilla showed, when opened, several palpable lymphnodes. Accordingly, it was deemed best to remove the axillary contents and also the fascia from the pectoralis major.

Microscopic Examination.—The lymph nodes were normal and there was great increase of connective tissue throughout the breast, arranged mainly in bands surrounding remnants of gland tissue which were fairly normal. There were also numerous areas of round cell infiltration, especially noticeable just outside of the walls of the larger cysts. Quite a number of the breast acini were dilated, forming single cysts, and in a few areas multilocular cysts closely related to each other had been formed. The lining of the cysts consisted of cuboidal epithelium, usually two layers deep, and in many of the cysts the lining was raised to form polypoid ingrowths. In the smaller cysts there was commonly only one of these papillomatous growths, but in the larger cysts they were quite numerous. Many of them had a central stem of connective tissue and blood vessels, but some could be demonstrated by serial sections to be entirely composed of epithelium, thus corresponding to the type of adenomatous overgrowth of the cyst lining, described by recent authors as the precursor of adenocarcinoma.

ADENOCARCINOMA WITH BENIGN HISTORY.

Case 2.—Mrs. C., aged 42, American, a patient of my colleague, Dr. J. E. Moore, gave the following history:

History.—General health has always been good. She has never been pregnant and had no breast disease or injury. About five years ago she first noticed an induration in the left breast which has slowly increased in size. There has been no pain nor tenderness, but during the past few months she has felt some discomfort and uneasiness in her breast.

Examination.—An examination showed a hard, irregular tumor, roughly one and one-half by one inch in size, situated in the outer and lower quadrant of the left breast and running up slightly into the outer and upper quadrant near the nipple. The tumor was not attached to the skin, nor apparently to the chest wall, and the nipple was not retracted. There was moderate enlargement of the axillary lymph nodes.

The patient's age, axillary involvement, and the fact that the tumor was increasing in size, put this tumor into the doubtful class and she was advised to submit to an extensive operation.

Operation.—The operation consisted of an amputation of the breast, clamping of the pedicle leading to the axilla, removal of the breast and examination by section.

This showed an irregular white tumor, with no definite capsule, which was infiltrating along the lower surface of the breast and pectoral fascia. On this indication of malignancy, the operation was completed by removing the outer one-half of pectoralis major, with the fascia of the whole musele, and the axillary contents up to the clavicle.

Microscopic Examination.—An ordinary fibroadenoma of the breast. Except at the lower part, where there was much overgrowth of new epithelium and infiltration into the connective tissue by the new cells, showing a distinct tendency to adenocarcinoma. The axillary nodes were normal.

These two cases illustrate very well two conditions under which the surgeon may rightfully doubt as to the diagnosis and the proper operation unless he is aided by a properly performed exploratory procedure.

CONCLUSIONS.

1. There is a lamentable and unnecessary difference of opinion among surgeons as to the treatment of doubtful tumors of the breast.

2. All tumors of the breast in patients over 40 must be considered malignant until proven benign.

3. Most of such tumors demand amputation of the breast with exploration of the tumor, and a complete Halsted operation if there is then doubt as to benignancy.

4. An exploratory procedure should be planned to avoid contact of cut lymphatics with any tissues left behind, and any chance of dissemination of cancer cells by pressure before the removal of the breast.

5. *X*-ray treatment, aspiration, or any but radical treatment is objectionable as causing delay and dissemination.

DISCUSSION.

Dr. William Jepson, Sioux City, Iowa—The use of the microscope is very important in these cases, as the symptomatology of benign and malignant growths overlap one another so much. A large number of benign growths are really benign temporarily. One-half of the sarcomata are cystic. The growth is a solid one, but it is not necessarily malignant any more than benign. Is it so essential that we should attempt to make this differential diagnosis in order that we may save a breast now and then from being removed on the supposition that it is malignant when it is benign? Should we put our patients through a long operative procedure when the microscope might decide it? Only a few are benign; most of them are malignant, as shown by statistics. I therefore agree with the essayist that a growth in at least nine out of ten involuted breasts must be looked on as malignant. The day is not far distant when it will be good surgery to begin operative interference at once in every breast that is the seat of a growth, and this operative interference will be entire extirpation.

Dr. Joseph C. Bloodgood, Baltimore—Improvement in the ultimate cure after operations for the different varieties of tumors depends more on early recognition and treatment than on operative technic. The most promising time for the operative removal of the tumor is the moment it is observed by the patient. The laity and the general profession must be impressed with this fact. In the surgical clinic of Dr. Halsted in the Johns Hopkins Hospital, from June, 1889, to 1902, a period of thirteen years, there have been observed 169 patients suffering from benign tumors or inflammations, and 341 with malignant tumors of the breast. In June, 1902, it was found that 47.2 per cent. of patients operated on for malignant tumors of the breast remained well for three years or more. After three years regionary recurrence, chiefly in the mediastinum, has been observed up to eight years after operation. For this reason it is difficult to state as yet what period of apparent freedom should be considered a basis on which to prognosticate an ultimate cure. The statistics at the present time are not completed. During the last few years the relative number of benign tumors of the breast is increasing, and most fortunately, the number of patients who seek advice very quickly after the appearance of a malignant tumor is becoming greater. In the course of the last year I have seen four tumors of the breast within a few days after they were first observed by the patient. Two of these proved to be cancer: in one the axillary glands were free; in the other metastasis had occurred. In my opinion every single tumor of the breast should be immediately explored, the positive diagnosis made at this exploration and followed by an immediate operation, the extent of which is indicated by the pathology of the tumor. The removal of the tumor is sufficient in intracanalicular myxoma, adenofibroma and cystic adenoma. In tuberculosis and simple cysts the entire breast should be removed. In cancer the complete operation first advocated by Halsted should be performed. Exploratory incision, of course, is unnecessary and should not be done in any tumor which can be recognized clinically as malignant. However, the early stage of a malignant tumor frequently can not be differentiated clinically from a benign tumor, and for this reason an exploratory incision into the tumor must be made. The differential diagnosis with the naked eye is not difficult. The earlier the individual seeks sur-

gical advice after the appearance of the tumor the more frequently will an exploratory incision be necessary to make the diagnosis. Among 277 malignant tumors subjected to operation in Dr. Halsted's clinic in 28 an exploratory incision was made; 26 of these patients are living and apparently well today, the majority having passed the three-year stage; two patients are dead; both cancer cysts, in both the glands of the axilla and neck, were extensively involved. From these facts there is apparently no contraindication to an exploratory incision into tumors in which a clinical diagnosis can not be made. In young women under 30 years of age with multiple tumors in one or both breasts there is no indication for operation; these tumors are intracanalicular myxomata. The multiple tumors in one or both breasts in older women are the so-called simple cysts. These cysts are part of a pathologic process which I have called senile atypical parenchymatous hypertrophy. One or both breasts should be completely removed. Our experience has demonstrated that in about 10 per cent. malignant epithelial changes are present. These cysts should never be aspirated for this reason. However, there seems to be a tendency for this cystic disease to recover. In five patients who refused operation the induration has apparently disappeared.

DR. ROBERT T. MORRIS, New York—There is one point that helps in simplifying this question. When it is difficult to determine whether a neoplasm is malignant or not, many patients will postpone operation until the surgeon finds ground for stronger conviction. By this time the malignant neoplasms may be beyond the stage of satisfactory removal. We can usually get consent to immediate operation by telling the patient that she will be prepared for a complete operation, but that a small operation for removal of the section for spot diagnosis by frozen section will first be made. We say to her that if the frozen section, made in five minutes on the spot, shows the growth to be benign, she will be allowed to escape without extensive operation, but if maligant disease is discovered, a timely and proper operation will be particularly successful. I find patients very ready to adopt this plan of procedure. The element of curiosity on the part of the patient is an important point, and she is usually anxious to know definitely the nature of the neoplasm.

DR. WILLY MEYER, New York—The incision I employ in operating for cancer of the breast is as follows: Starting at the insertion of the tendon of the pectoralis major muscle in the humerus, it runs about an inch and a half above the lower border of that muscle, to a point somewhat beyond the middle line of the body, over the sternum, encircling the breast at its base. Two large flaps, an upper and a lower one, are formed in this way. The additional incision of the upper flap, originally advised by me, which ran up to the middle of the clavicle and which was lengthened, in case of need, into the supraclavicular space for the removal of enlarged glands in that region, I no longer practice. First, the lower flap is turned down until the border of the latissimus dorsi muscle is exposed in the axillary cavity and further inward the chest wall, care being taken not to injure the bundles of the serratus anticus major muscle. As much fat as possible remains attached to the breast. Then the upper flap is turned upward carefully in such a way that the pectoralis fascia remains attached to the pectoralis major muscle as much as possible until the cephalic vein, clavicle and sternoclavicular articulation are exposed. Along the lower border of the cephalic vein the division between pectoralis major and deltoid muscles is followed up to the humerus. The tendon of the pectoralis major having been reached, the lower border of the muscle adjoining the axilla is quickly cleared and the tendon, being grasped with one finger, cut off with curved scissors close to the humerus. The cut end of the muscle is reflected and pulled down by sharp retractors. The lower border of the cephalic vein is followed inward toward the clavicle and the pectoralis major muscle cut off alongside and close to the bone. Sharp retractors pull down the belly of the muscle. The pectoralis minor muscle is then bared in its upper portion and its tendon divided at the coracoid process. The fascia, covering vessels and nerves, having been horizontally divided, the axillary vessels are now within reach and the lower border of the vein is brought into view. Then make perpendicular division of the fat entering the bicipital sulcus of the arm from the axillary cavity. This can be safely done as the vein above remains in view. Starting at this point, the fat and glands of the axillary cavity are severed step by step from the lower aspect of the axillary and subclavian vein, all vessels being caught between two clamps before they are cut, up to the spot where the subclavian vein dips under the clavicle. Now the first assistant takes hold of this mass and the surgeon, directing the blade of his knife toward the chest wall, *not* toward the subscapular space, and assisting with his left hand by gently pushing up the mass from the thorax, cuts off the pectoralis major muscle from the thoracic wall with short, quick cuts, the perforantes arteries and their concomitant veins having been first caught and divided between two forceps. In this way at last a pedicle is formed which remains attached to the sternum only. Here it is cut off with large curved scissors and the operation is finished.

From this description it will be seen that the tumor itself is not invaded during the entire operation. Furthermore, all vessels being first doubly clamped and then cut near their origin or entrance, hemorrhage is reduced to a minimum. In order to reduce the size of the always resulting skin defect, I have of late adopted the plan of preserving as much as possible of the belly of the pectoralis minor muscle in order to suture to it by a continuous catgut suture the skin, bordering the defect. This also furnishes a smooth surface for the subsequent grafting process which is always immediately added. I do not hesitate about leaving this part of the muscle behind, since it has been shown that it is never invaded by the disease, except in far advanced, rather in operable cases. I am used to seeing all grafts take at once. The first change of dressing is done usually on the sixth day; the second on the eighth, when the patient will be out of bed.

The time consumed by this operation, including grafting and dressing, is on an average two hours. I have, however, been able to do it in one hour and twenty minutes. The time of the operation as such, i. e., from the beginning of the incision until the tumor has been cut off from the sternum, is from twenty-five to thirty minutes, although I have done it in nineteen minutes, in one instance. Of course, thoroughness is not sacrificed to celerity. No ligature is applied during the entire operation; all vessels are clamped, the larger ones doubly, and cut in between. After the main vessels have been secured near the large axillary and subclavian vessels, the clamps first applied can generally be removed and, if necessary, be used again toward the completion of the operation. It is necessary to have 72 clamps at hand. The operation carried out in this way is anatomic, blood saving, thorough, safe, and can be done in a comparatively short time. So far as I can see, its technic can not be improved on, except it were to make a temporary resection of the clavicle at the place where the subclavian vein disappears under it, in order to thoroughly remove the glands of the supraclavicular space. However, it has been my experience that if cancerous glands are present in this region, the patient is invariably beyond surgical help. I know of no case in which a permanent cure was effected when these glands had become involved. This operation was conceived by me in the early part of the year 1894, and first carried out in September of the same year, and by a peculiar coincidence, almost simultaneously published with that of Halsted. As will be seen, it materially differs from that of Halsted's operation. The distinct feature of this method is, that it works its way from above and outward, downward and inward, instead of the opposite way, as Halsted does. Thus the muscles are first divided at their insertion and the trunk of the vessels primarily secured.

DR. J. CLARK STEWART—My idea as to the dangers of an exploratory operation done with the breast *in situ* is largely based on theory, but there certainly are strong theoretical objections to its use. While I must admit Dr. Bloodgood's statement as to the results of this variety of exploratory procedure at Johns Hopkins, he can certainly be accused of inconsistency in this matter, as when I last visited that hospital

the rule was that only one person could examine a case of malignant disease of the breast for fear that, by the manipulation, the disease might be spread to the axilla. Certainly if there is so much danger of involving the axilla by an ordinary examination there must be equal or greater danger by the direct pressure of the knife and other manipulation in the exploratory operation as practiced by him. The idea of my paper was to encourage simplicity and uniformity of procedure, as, if it were generally admitted that any tumor in the involuting breast justified amputation of the breast, then the matter of diagnosis would be very greatly simplified. Certainly, aspiration of doubtful tumors must, in light of our present knowledge, be an unwise procedure, and Dr. Abbe's advice to country practitioners that in the use of the aspirator they have done their duty by their patients with doubtful tumors of the breast, is certainly to be condemned.

HYPERIDROSIS PEDUM AND ITS TREATMENT BY BATHS OF PERMANGANATE OF POTASH.*

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DEFINITION.

By hyperidrosis we understand an excessive production of sweat due primarily to anomalies of the nerve centers influencing the sweat secretion; and secondarily, to circulatory disturbances depending on the altered state of the vasomotor nerves.

The definition tries to embrace the two main central causes of overactivity of the sudoriparous glands. It will be shown later that there are also peripheral causes for hyperidrosis. It is impossible to determine how much the other follicular secretions—those of the sebaceous glands and the hair follicles—contribute to the volume of exuded material. We have no reliable method of separating both kinds of secretions from each other. Already Meissner[1] maintained that the coil glands serve as fatty lubricators, and more recently Unna[2] tried to prove that the sebaceous glands contribute only in a small degree to the function of lubricating the skin with fatty material, and that the coil glands mainly perform this office. The secretion of the sebaceous glands, he asserts, serve mostly to grease the hairs within their follicles. Kaposi,[3] Ziemssen,[4] Torok,[5] and others, while not denying the fact that the coil glands contain fat cells, yet uphold the theory dear to us all, that the coil glands are the main sources of the sweat.

PHYSIOLOGY OF PERSPIRATION.

Perspiration is a secretory and excretory process of the system. It is to be regarded as a supplementary respiration through the skin and, if not paramount to the lung respiration, yet in certain co-ordination to it. When the perspiration becomes condensed because it is secreted too voluminously to be evaporated speedily, we call it sweat, and the process of doing so "sweating." This is a more correct term to express fluid accumulation on the skin than the word "perspiration," which really means only skin breathing by evaporation. But its usage, although not correct, is sanctioned by custom.

The net-work of capillaries of the skin is the origin of a perpetual exhaling process, an evaporation of moisture which takes place almost unnoticed and unfelt, and called, therefore, *perspiratio insensibilis*. It consists of a carbonic dioxid gas as an end-product of oxygen burning-up, which takes place in the capillaries of the lungs as well as in those of the skin.

The so-called *materia perspiratoria* as it appears on the skin, is derived mainly from the coil glands, and in a minor part it is the result of a transudation from the papillary vessels and intracellular sap-channels of the epidermis. Both components of this excretion appear in the mouth of the sweat-pore, as sweat. The sweat, therefore, is a complex mixture of different origin and sources, and presupposes a healthy, well-working, follicular apparatus and nerve influence. The sweat secretion stands mainly under the influence of the central nervous system; in a minor degree it depends from the circulation and the blood pressure in the capillaries, which again is influenced by the impulses which govern the state of the vasomotor nerves. This influence may be of central (psychic, sensory, etc) or peripheral origin. (Irritation of different kinds, caloric influences, etc.)

For instance, I have repeatedly noticed excessive sweating in patients treated with electricity. That reflex irritation influences the sweat secretion is shown also by the fact that even an amputated limb could be made to sweat when irritated by electricity. This goes to show that the vasomotor nerves carry also sweat-secretory filaments. Coyne[6] has found peripheral ganglia of the sweat glands. The coil glands, therefore, or the glomeruli of which they consist, must be looked on as so many minute central organs open to central as well as to peripheral influences. Luchsinger[7] thinks that the sweat nerves are solely of sympathetic origin. Adamkiewitz[8] attributes to them a spinal origin also. Strange and unexplained, however, for the present are the contradictory phenomena of excessive as well as retarded sweating, due to the identical influences. Parts affected with paralysis may show sweating, as do also those parts irritated or excited. For instance, facial paralysis and facial neuralgia. Vulpian[9] explains this by assuming that, beside the excito-sudoral filaments of the sympathicus, there are also inhibitory filaments running alongside, which influence sweat secretion. This would then represent the central and, by the way, the most common influence, while the fine network of nerves running from the ganglia to the glomeruli of the coil glands would represent the stations or entrance for the peripheral influences governing the different enunciations of sweat secretions. That cerebral centers for the sweat secretion can also be assumed to exist has been shown by Bloch[10] ("Unilateral Perspiration After Fracture of Temporal Bone"); Bouveret[11] ("Gumma of the Brain"), and Adamkiewitz[12] ("Ataxia of the Arms Due to Cortical Lesions").

Hyperidrosis has been reported to exist where depressions of the brain prevail. In the comatose conditions of acute infectious diseases; in systemic intoxications,

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

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10. Thèse de Paris, 1880.
11. Des Sueurs Morbides, Thèse de Paris, 1889.
12. Ziemssen: Ibid., 277.

like chronic lead poisoning; in the depressive state of acute alcoholism, in calculous and toxic nephritis. From these idiopathic hyperidroses, we may distinguish the symptomatic ones: The critical sweats in pneumonia and typhoid; the profuse acid perspiration in rheumatism, the colliquative sweat in phthisis and in pyemia, hysteria, neurasthenia, anxiety, sometimes cause general hyperidrosis due probably to spinal irritation.

Peripheral influences, like too warm dressing, hot baths, overexercise, hot beverages, cause heat accumulation. It seems that in these instances the capillary hyperemia stimulates the coil glands to a more active secretion.

Very little is known about the structural changes of the coil glands in connection with hyperidrosis. According to Mracek,[13] only in one instance has such an examination been made by Virchow, who found fatty degeneration of the epithelium of the coil glands in a phthisical patient.

Beside general and local, unilateral and crossed hyperidrosis, there are also qualitative changes of the sweat secretion. It may contain products of metabolism in more than the usual minimal proportions. In anuria, the skin has been found covered with a dew-like film of urea crystals. At times the fatty acids, salts and other organic and inorganic substances had been found in disproportionately large quantities. Such a perspiration will already be secreted with an odor: osmidrosis or odorous sweat. It differs from bromidrosis, where the disagreeable odor is due to a decomposition of the sweat after it had been secreted. Other qualitative anomalies of sweat secretion are chromidrosis, hematoidrosis, etc.

The prototype of bromidrosis is the excessive perspiration of the feet. This underestimated ailment may be the source of the greatest unhappiness to its bearer. The penetrant odor, in spite of the most scrupulous cleanliness, remains insuppressible. It makes the bearer a nuisance to his surroundings, stamps him socially impossible, encroaches on his earning and producing capacity, and transforms the sunniest disposition into a recluse—or to an obtrusive individual.

ETIOLOGY.

The etiology of hyperidrosis pedum is not clear in every case. It may be inherited. Wilson[14] reports a case in a gentleman whose mother was similarly affected; his two brothers were similarly troubled, but his two sisters escaped it. In other cases faulty circulation, due either to active or passive congestion in the capillaries, is the cause. Patients of the latter class will exhibit the symptoms of chloranemia, cold hands and feet, lividity of the toes, fingers and other vasomotor disturbances. In another series of cases an overactivity of the coil glands seemed to be the causative factor. Sometimes the etiology is entirely wanting.

CAUSES.

The causes of excessive perspiration of the feet coincide, as far as pathologic changes are concerned, with the etiology. But there exist contributive external causes which, to a great extent, act as an excitant to the loathsome ailment. Foremost among them is the absolutely irrational footgear of civilized beings. Those who will live in centuries yet to come, where fashion will, it is expected, be subordinate to hygiene, will look on some mistakes of our environment and habilim nts, especially footwear, in amazement and pity.

To mention a few instances: The dry and dust-laden heating of our houses by our antediluvian furnaces, so eminently favorable to catarrhal diseases; the enveloping of our heads with starched felt, called hats, and causing more or less developed "full-moons" in seven-eighths of men; the squeezing in of the thorax and epigastrium of our women into an armored cuirass, called corset, interfering with respiration and causing the well-known corset furrow or groove of the liver; and last but not least, the encasing of our feet into a water and air-tight, narrow, unyielding compartment, called a shoe, causing the finest corns, bunions, calosities, a selection of malimposed and superimposed toes, and a genuine sweatbath, even in those not inclined to perspire freely. This picture is not overdrawn. But the remedy, simple as it is, will not come to pass so soon. The ancients have shown us what practical footgear is. Their sandals permitted evaporation of their foot perspiration—we civilized beings permit it to be retained. The Japanese gather the contents of their nose secretion in paper handkerchiefs, to be thrown away after use. We of the civilized ones, carefully fold the bacteria-teeming linen handkerchief, preserving its contagious treasury in our pockets and endanger the laundry woman next Monday. At the same time we disseminate, broadcast, instructions on how to avoid infection. The Chinese wear a half-open, permeable, porous shoe; so do the Japanese; and on inquiry I was told that foot-sweats are infrequent with them. Look at a Chinaman. The cleanest part of his economy is his feet, with the snow-white stocking visible and clean.

SYMPTOMS.

The symptoms of hyperidrosis of the feet vary with the intensity of the affection. In milder cases the feet are moist, dewy and overheated. In severe cases the contact surfaces, the tips and the furrows between the backward-bended toes and soles become fissured and painful. In the severest cases the soles look parboiled, whitish, with red inflammatory areas between them; an exceedingly painful condition.

Moderate perspiration of the feet is a normal condition. It assumes a pathologic aspect only when the sweat secretion becomes augmented and when this increased secretion is not evaporated quickly enough, and this it can not do with our footgear. The sweat, as such, even when secreted in increased quantities, is in most cases devoid of any odor. This is plainly evidenced by hyperidrosis of the palms of the hands, where there are only sweat and no sebaceous glands present. This surface produces, so to say, the purest and unadulterated perspiration. Being uncovered, evaporation from the palms is also unhampered. On the contrary, there are many points which make the feet predestined to fetid perspiration. Foremost is the increased and pent-up sweat secretion, which undeniably contains fat. Contributive to this is the admixture of sebaceous material from the sebaceous glands so abundantly present on the foot; third, the decomposition of both secretions through moisture and warmth; fourth, the almost absolute lack of evaporation; fifth, the admixture of macerated, softened epidermis, débris; sixth, the persistent motion of the feet, acting as a peripheral stimulant to the sudoriferous glands; seventh, the condensation of vapor—with which the atmosphere surrounding the feet is so highly charged—into fluid perspiration, and finally retarded circulation in the compressed foot and deficient oxygenation of the recurrent blood. Lesser,[15] in Leipsic, has

13. Handb. d. Hautkr., Wien., 1901, vol. I, p. 293.
14. Diseases of the Skin, p. 204.
15. Schweissfuss u. Platfuss., Deutsche med. Woch., 1893, No. 44, p. 1070.

especially drawn our attention to the coincidence of sweating feet and talipes, already emphasized by Trendelenburg,[16] that talipes, even in the incipient stage, predisposes to enlargement of the small cutaneous veins, which in turn act as a stimulant to the secreting epithelium of the coil glands. As soon as the varicosity becomes pronounced, atrophy of the skin and of the coil glands takes place. The hypothesis seems to me a feasible one. I have found analogous conditions in cases of local hyperidrosis of the nose tip, that is, of the skin covering the cartilaginous part. In all such cases there was present a strumous condition, manifesting itself by a thick, quite enlarged organ due to venous stasis, and with abundant sweat secretion. Here also increased amount of carbonic dioxid of the blood seems to generate excessive perspiration.

TREATMENT.

While we may expect some results from systemic treatment in general or unilateral hyperidrosis, by trying to influence the underlying causes, and by the administration, on general principles, of atropin sulphate 1/100 of a grain, once or twice a day, or by agaricin ⅛ to 1 grain t. i. d., and a host of other mostly ineffective remedies, we are pretty powerless with general treatment as regards local hyperidrosis.

In excessive perspiration of the axillæ, palm of hands, inguinal folds, but especially in that of the feet, local remedies only are promising of results, which in most cases are only temporary ones. Like in all intractable affections, the number of so-called "sure cures" is in inverse ratio to their effectiveness. The local treatment of hyperidrosis pedum could be divided into a feasible and unfeasible mode of treatment. It is a seemingly strange division, but a rather apt one. The question is, shall the reign of irrational and unhygienic footgear remain supreme forever, or not? If the former is the case —and I fear it will be—let us abdicate and be content to attain only temporary cures. Permanent cures will only be possible when our footgear becomes rational, natural and hygienic, as was that of the ancients. As this is not intended to be a symposium on shoes, the intricacies of which the author professes neither to understand nor to exploit, these rudimentary remarks should only give the hint that a rational treatment of excessive footsweat should of necessity begin with a reform of the useful commodity of footwear. But, in spite of all the disadvantages, I do not hope for a reform, and under the circumstances we will have to confine ourselves to the second or feasible part of interference, i. e., to treat the perspiring foot as best we can, with the irrational footwear as an impediment.

Before enumerating, partly at least, the different external remedies, I will dwell, cursorily only, on the old question: Is there reason to fear suppression, and should excessive perspiration of the feet be treated? From time immemorial, it was held that suppression of the cutaneous exhalation causes the accumulation of deleterious waste products and manifold illnesses. The experiments of shaving and varnishing guinea-pigs and rabbits proved deleterious to these animals. In larger animals whose evaporative surface and weight are more proportionate, the consequences are less stormy; but urea in the urine was increased by this experiment. The tarred patients of Hebra did not show any pathologic symptoms besides those of absorption of tar products through the lungs and through the skin. Senator's varnished patients did not exhibit any symptoms at all. To me it seems that Nature, having provided the soles with about 2,600 (Zulch) sweat glands to the square inch against 400 on other regions, and about 640 on the dorsum of the foot up to 1,111 on the palm of the hand (Kölliker), has clearly shown her intention of utilizing this vast apparatus for the purpose of excretion. We find that the skin exhales from 3 to 30 grams of carbon dioxid gas and excretes about (Seguin) 917 grams= 1/64 of the body weight—a day of fluid secretion. The urea is present only in very small quantities and with other organic and inorganic salts, the sweat is by no means an indifferent product. Different opinions to the contrary, it is not a simple transudation, but a real secretion, and the coil glands, therefore, must be regarded as excretory organs also. It is therefore obvious that the old contention about the danger of suppresion of footsweats has some foundation; but the fabulous tales of the dire consequences are the results of misconstrued humoral-pathologic doctrines. Already Barensprung[17] and Hebra[18] have held that suppressed perspiration is not the cause but the consequence of some illness, i. e., the anemia resulting from it. The thousands of other sweat glands and the kidneys will be able to cope with the excretory demand of the system. Hyperidrosis must be regarded as a pathologic overactivity, and as such may be combated with impunity, as we do seborrhea or polyuria. Unfortunately, we are as yet unable to cure excessive perspiration of the feet permanently, and therefore, those who do feel inclined to dread suppression need not be uneasy.

The external or local treatment is the only available means then, in hyperidrosis pedum. The number of remedies is legion, and they are employed mainly for their exsiccating influence on the epidermis. I may be permitted to forego a classification and enumeration of them. I will only casually mention alcoholic lotions of resorcin, salicylic acid, tanin (1 in 200), also bichlorid (1 in 400 water), Burow's solution, boric acid, alum, soda solutions, vinegar water, naphthol (10 to 200) which may benefit mild cases. In severe cases more powerful remedies are employed. For the fissures, a 5 to 10 per cent. solution of nitrate of silver application is used. Kuster[19] recommended salicyclic acid as a lotion and as a dusting powder. Heussner[20] recommends balsam of Peru 1.0, acid formicum 5.0, chloralhydrate 5.0, alcohol 100.0, to be applied with cotton. He thinks that the formic acid acts as an inhibitory agent, and that the nascent formic and other rancid acids contained in profuse perspiration, when eliminated too quickly, permit the sweat to become of alkalin reaction. The bacterium found by Thin,[21] called bacterium fetidum, which bears strong resemblance to the bacterium coli commune, will, in patients not scrupulously clean, change the urea in the sweat into carbonate of ammonia, thus rendering the sweat alkalin and easily decomposed. This formic acid is also the active principle of chloral employed in 5 per cent. solution in alcohol. It develops hydrochloric and trichloracetic acid and splits into chloroform and formic acid. On this principle are based the most patent remedies for this ailment. Recently formalin and tannoform have been recommended on the same principle. The former is a very serviceable but painful remedy, especially when fissures are present. Its fumes irritate the mucous membranes. I would not recommend

16. Verhandl. d. Deutsch. Ges. f. Chir., April, 1892, I. p. 52.

17 and 18. See their text-books.

19. Allg. med. Centralzeitung, 1876, No. 82.

20. Deut. med. Woch., 1895, p. 730.

21. Proceedings of the Royal Society, 1880.

its use in a stronger than a 5 per cent. solution. Fredrique,[22] Adler,[23] Richter[24] and others recommended tartaric acid. It is used as a spray in a 10 to 20 per cent. strength; after evaporation a fine, white, dust-like deposit remains on the skin. It is also used as a dusting powder.

The best known among these remedies is salicylic acid. It was the official remedy for sweating feet in the German army. The formula is: Acid salicylici, 3.0; amyli, 10.0; talci, 87.0. Kobert[25] recommends: Talci, 100.0; aluminis usti, 20.0, and praises this combination as dehydrating, astringent and devoid of danger, in contrast to the much-used chromic acid, which is employed in 5 per cent. solutions. The soles are painted with it on three consecutive days, and after drying a dusting powder is applied. In one or two weeks the epidermis becomes detached in large horny layers. It leaves a very sensitive, thin and soft new skin underneath. It is a good but very dangerous remedy. Its absorption in form of a chromic salt through the blood may cause nephritis, hydrops and different ulcerations. Kobert would admit its use only in war, when an efficient infantry is imperative; else, other less dangerous remedies should be used.

As to the well-known Hebra's cure, it consists in the application of his diachylon ointment, spread on coarse linen and renewed every twenty four hours. This is kept up for two weeks. Soon the epidermis comes off in large yellowish layers. The new epidermis then appears white, soft but somewhat sensitive. The disadvantages of this method are: that while it may be employed with the patient about, yet, to be successful, it is better for him to enjoin rest in bed. Beside, it is an unclean and uncomfortable method and ill-adapted to our climate.

The treatment I advocate is devoid of all dangers and lacks the unpleasantness of the remedies just enumerated. It is not a new remedy; no unutterable synthetic formula gives it the dubious glory of supplying a long-felt want. It is an unassuming friend, our old honest permanganate of potash. Neither is its employment in regard to foot-sweats new. All I claim as original with me is the manner and its concentration in which I employ it. It is applicable in every stage of the disease, and fissures between the toes are no contraindication to its use. The theory of its employment is a threefold one. First, its facility to give up its oxygen in the presence of organic matter; second, its precipitation on the skin as manganese dioxid in a layer proportionate to its concentration; third, the exsiccating and in stronger percentages its keratotic action on the epidermis. It imbibes itself in the epidermis cells, percolates through them, acts as an astringent to the papillary vessels and is taken up by the mouths of the pores and follicles. In his histologic researches on reductive substances used in skin affections, like tar, anthrarobin, etc., Lutato[26] has shown, as did Unna,[27] with ichthyol and resorcin; Buck[28] with pyrogallol and Hodara[29] with salicylic acid and chrysarobin, that they act differently according to concentration, mode and durance of application, and cause artificial reduction of living tissues. Mild percentages cause a thickening and hornification of the epidermis, inhibit the growth of prickle cells, narrow and close the lymph channels, and act as astringent to the papillary vessels. In stronger concentration the epidermis becomes macerated, the prickle layer undergoes disintegration and softening of the collagen tissue takes place. To avoid this latter eventuality so common with chromic acid, there is, in my opinion, no better substance than permanganate of potash. Its action is not strong enough to macerate the skin, but it will harden and toughen it without rendering the underlying new skin congested and sensitive.

Permanganate of potash, diluted solutions of which are of rose color, stain the skin a yellow brown; concentrated solutions, which are of a deep violet-red color, will stain the skin a deep brown. In its highest concentration (6 per cent.) it stains almost ebony color. This color scale, although not exact, serves as a good practical index for estimating the strength of the solutions. It is interesting to note the way the different parts of the immersed foot stain. The horny substances, nails and corns take the stain almost at once and hold it to the last. The lunulæ of the nails remain unstained for a few days, making a rather striking appearance of color differentiation. Next come the callous places, then the heels, ankles and dorsum of the leg and the interphalangeal spaces. At those places on which the body weight rests and on those which are in apposition to each other and to the shoe, the stain becomes effaced until the next bath, but finally retains the stain, especially when the highest concentrations are used. These places are the skin over the achilles tendon, the flexor parts of the toes and the cushion-shaped metatarsal region. Finally, after a few days' use of the stronger solutions, the whole foot becomes stained and takes on a deep mahogany and the nails an almost ebony color. The treatment begins with taking a footbath before retiring. We start with a warm footbath of borax water and soap, followed by a thorough scrubbing and careful drying. With a cotton pledget soaked in benzine the foot is now thoroughly cleansed from all epithelial débris. No more cleansing footbaths are taken until cessation of treatment.

These preliminaries finished, we immediately commence treatment. Irrespective of the severity of the case we start with a 1 per cent. solution or 10 grams to 1,000, equal to 2 drams to quart of water, temperature 104 degrees. It is best to use a china wash bowl and preferably a separate one for each foot. The fluid should be ankle-deep; duration of immersion fifteen minutes. This done, the foot is placed on some old toweling to drain and not rubbed off, but left to dry, which is accomplished in a remarkably short time. The patient now goes to bed, covering his feet only lightly. A pleasant feeling of dryness is felt in contrast to the accustomed damp sensation. Next morning the whole foot is slightly dusted with the following powder: Potasse permanganatis, 13.0; aluminis, 1.0; talci, 50.0; zinci oxydi, lapidis calaminaris, aa 18.0. The interphalangeal spaces must also be dusted and separated with absorbent cotton. Daily change of stockings and shoes is desirable.

The next evening the permanganate bath is again taken. We will soon notice a scum floating on the surface. This is due to the oxydation of organic matter which has accumulated since the last footbath. As the cure progresses this scum will be noticed to become less, finally appearing only on the surface of the red fluid as a faint light streak of flotsam. After fifteen minutes the foot is taken out, allowed to dry and the patient goes to

22. Annal. de la Soc. Med. de Gand., 1886, No. 9.
23. Prager. med. Woch., 1896, p. 434.
24. Allg. med. Centralzeitung, 1897, No. 73.
25. Fortschr. d. Med., 1890, viii, p. 36.
26. Monatsh. f. Pract. Dermat., 1904, vol. xxxviii, No. 6, p. 257.
27. Dermatol. Studien, 1886.
28. Monatsh. f. Pract. Dermat., 1895, vol. xxi, No. 12.
29. Ibid., 1896, vol. xxiii, No. 3, and 1900, vol. xxx, No. 2.

bed. The baths are thus taken for a fortnight or three weeks in increased strength. The average duration of a treatment is two weeks. Most conspicuous and encouraging to the patient is the immediate absence of odor and sensation of comfort as the dryness of the feet and interphalangeal spaces become established. Another noteworthy and pleasing effect of the permanganate baths consists in the painless healing of the interdigital fissures and inflammation around the nailbed caused by pressure of superimposed toes. The disappearance of these concomitant and unpleasant symptoms, which add so much to the discomfort of the patient as to make it noticeable in his gait and distressed facial expression, turns the patient a most willing helpmate to attain a cure. After the third bath the strength of the solution is increased to 2 per cent., i. e., 20 grams to 1,000, equal to 4 drams to one quart of water for each bath. It should be rather warm now, as the permanganate dissolves easier. In the beginning of the second week the footbaths should be taken, 30 grams to 1,000, i. e., one ounce to a quart of very warm—as hot as can be borne—water. The last three baths should be taken full strength: 60 grams to 1,000 or two ounces to a quart of water, temperature as before. As the presence of alum enhances the liberation of oxygen, one dram of it may be added to the permanganate.

I will add here that neither the weak, medium nor saturated solutions cause the slightest pain, burning or caustic sensation. The fissures by this time have filled up with a fine precipitate of manganese dioxid, under the cover of which healing has taken place. The foot, which until now has been stained a dark mahogany color, will assume under the influence of this concentrated solution an almost jetblack hue. The precipitation on the surface of the skin is now so copious that it looks as if varnished, and accordingly the drying takes place almost immediately as the foot is taken out of the bath. In a week after cessation of treatment, the skin commences to desquamate slightly; first on the dorsum, then in the interdigital spaces, and finally on the sole and heels; the nails, as I said before, retaining the stain for months. It may be mentioned as an unintended but welcome consequence that the stained corns become friable and are easily removed.

By this time the sweating has ceased, the cotton between the interdigits showing only the slightest perceptible trace of dampness but no fluid accumulation. The last-named incident serves as a criterion for the cessation of treatment. In every other place the fluid perspiration has already ceased days before the interdigital spaces have become dry. When this latter state is reached, cure has been obtained and treatment may be abandoned. The dusting is now to be continued morning and evening, and pledgets of cotton be worn only through the daytime. It is advisable to wear blotting-paper between sole and shoe and have it changed daily. Every drug store sells some kind or other of cut and shaped paper soles, for a trifle. Low-cut shoes and thin hose are imperative as long as weather permits.

The foot is now left alone. Some tightness of the skin is now felt, and the pleasing sensation of dryness, ability to walk unmolested, the grateful impression of a dry, odorless stocking when undressing, a foot devoid of dampness and malodorous emanation, a pleasing sense of cleanliness which could not be obtained by the most vigorous washing, make the patient feel happy, contented and socially again possible.

The only disadvantage, if such it is, is the staining. But this is the case also with tannoform and chromic acid, the permanganate sharing none of their other unpleasant properties. As the staining carries with it the exsiccating and curative properties, its removal is of course contraindicated. If for any reason discolorization is desired, a diluted solution of oxalic acid, or better yet, the following formula will serve excellently: natrium subsulfurosum, 120.0; aquæ, 250.0; acid hydrochlorici diluti, 60.0. Use with a pad of absorbent cotton. This mixture develops free sulphuric, which is bleaching.

The advantages of this treatment are:

1. The remedy employed is absolutely devoid of any danger, is painless and heals the dreaded fissures without the previous painful application of silver nitrate.

2. It can be employed in every stage and form of sweating feet.

3. Relapses are less common than with any other method and rarely appear before the third month.

4. The use of the dusting powder has in some cases made the interval even longer.

5. Its action consists in its reducing power and consequent keratisation of the epidermis. It stands to reason that it penetrates into the secretory cells of the coil glands, inhibiting or decreasing their physiologic overactivity.

6. After desquamation the new epidermis is not sensitive, and walking is not impaired as after the use of chromic acid.

7. The mode of employment—medicated footbaths—is a pleasant one.

616 Madison Avenue.

DISCUSSION.

Dr. L. Duncan Bulkley, New York City—I have had a good many cases of hyperidrosis of the feet and have found it a very troublesome affection. I have not used permanganate of potash in the way suggested, but I have generally found fair results from foot baths of white oak bark and the rather free use of salicylic acid in the stockings; the acid, thoroughly powdered, may be mixed with starch and chalk. Two per cent. to 5 per cent. of the acid suffices, and generally this proves to be a very satisfactory mode of treatment. I should like to remind the gentlemen present of the value of permanganate of potash in other conditions. I do not know how much it is being used to relieve itching, but I am employing it continually in chronic eczema, especially about the groin and legs. A 2 or 3 per cent. solution of permanganate of potash is a very efficient antipruritic. I learned it from a patient, I think, of Dr. Montgomery of San Francisco.

Dr. E. C. Hay, Hot Springs, Ark.—I have used salicylic acid in alcohol in this condition with excellent results. I had one case in a physician, a friend, who after trying everything else, used two drams of salicylic acid in eight ounces of alcohol. For six or seven years I have invariably prescribed this and have never had it fail. It is absolutely painless. I have the patient take a foothath on retiring at night, and then apply this solution to the soles of the feet, being careful not to get it on the hands; it is applied between the toes with a brush. Three or four applications will destroy the odor, and its use is continued until the trouble entirely subsides.

Dr. A. Ravogli, Cincinnati—Hyperidrosis is an interesting subject. In armies, especially in the infantry, men are subject to hyperidrosis, which makes them incapable of taking long marches. Formalin has been used recently in the armies to prevent and also to cure hyperidrosis of the feet. Formalin has a very good astringent action on the secretion of perspiration. It diminishes this secretion, and destroys the odor resulting from the excessive perspiration. Formalin, 2 to 5 per cent., is used for the bath, and is also used to paint the feet of the infantry. In Switzerland a 40 per cent. solution is applied on the normal skin and the feet washed immediately. Also a

few drops of a 40 per cent. solution of formalin are put into the soldiers' shoes, and it has been found that in this way they are able to stand marches and also suffer less from this excessive perspiration.

DR. LUDWIG WEISS—I know of these remedies and they are good. Salicylic acid has been used in the German army, but I have found that it leaves such an irritated, inflamed skin behind as to make walking painful. I would warn against the use of formalin; it is exceedingly painful, especially when there are fissures, and patients get inflammations which prevent them from walking and confine them to the house. I would again plead for the extended use of permanganate of potash as an innocent, painless and very effective remedy.

X-RAY THERAPY IN SKIN DISEASES.*

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PHILADELPHIA.

As a basis for this paper, I have selected a few cases which seem to be instructive and illustrative in the treatment of nevus, lupus involving the nares and the interior surface of the lips, morphea, and acne, with hypertrichosis, and epithelioma of the lip.

CASE 1.—Miss B., aged 15, has had a birthmark on the left side of the nose, near the inner canthus of the left eye. During the year preceding treatment it seemed to be increasing in size. It was not elevated and was about the size of a dime.

Treatment.—X-ray treatment was begun Jan. 28, 1903. A soft tube was used for a period of ten minutes, at a distance of eight inches, with five amperes of current. Eight such exposures were given during a period of six weeks. At the end of that time a distinct dermatitis was produced, but not to the extent of vesiculation. This was followed by desquamation and disappearance of the lesion. There has been no recurrence after a year.

CASE 2.—Miss M., aged 39, was referred to me by Dr. B. F. Hawley of Philadelphia. She has had a very extensive birthmark, covering almost the entire face, the right side of the chest and the right hand. There had been some increase in the extent of the area involved since birth. Here and there on the forehead and left cheek there are a few small patches of nearly normal skin. On the right anterior portion of the face the affected area is uniformly elevated and thickened. The remainder is not elevated above the level of the surface of the skin. The color was port-wine.

The congestion is increased by cold and by emotional excitement. Under such circumstances it became a distinct purple. Over a great part of the area separate venules could be seen which are closely interwoven.

Treatment.—On account of the uncertainty of the outcome and the extensive area involved, treatment was begun only on the hand, March 12, 1903. The same technic was used as in the previous case. Thirty-six exposures were given to the hand during a period of three months. The first effect noticed was a change of color from a port-wine to a deep red. This later faded to a pink, and now is not noticeably different from the surrounding skin except when exposed to cold or during emotional excitement. Another early effect noticed after twelve treatments was the tardy return of blood when it was pressed out of the affected area. The nails became brittle, but these have recovered to a great extent. There has been no treatment of the hand for a year.

Treatment of the face, on account of the extensive area involved, has not at any time been forced. I treated the face three times a week for two months, then twice a week for a month, and once a week for eight months. She has had sixty treatments in all on the face, during a period of fourteen months. As a result, the color has been changed from a port-wine to a pink, and when the patient is quiet the areas are scarcely noticeable. The thickening of the skin on the right cheek is much less marked, and when the blood is pressed from the affected area it returns less quickly.

Jutassy[1] reports good results after producing a dermatitis to the extent of ulceration. Pusey[2] reports permanent improvement after producing an acute dermatitis.

From this method of treatment of nevi, I believe we can expect very marked improvement, but not absolute cure, except when the treatment is carried to the extent of producing ulceration, which is not always advisable.

The improvement will consist of some atrophy and a change of color approaching that of normal skin. This improvement will occur more quickly if a distinct reaction is produced. The boldness with which we may produce a reaction will depend on the location and the extent of the area involved.

CASE 3.—Dr. L. M., aged 40. Referred by Dr. John V. Shoemaker. He has had lupus vulgaris five years, involving the chin, the lips and both sides of the nose, also the inner surface of the lips and the interior of the nose. He had been treated

Fig. 1. Fig. 2.

Fig. 1.—Case 3. Lupus vulgaris. Before treatment.
Fig. 2.—Case 3. After thirty treatments in eight months.

by various measures, principally caustics. It improved at times, but never disappeared.

Treatment.—X-ray treatment was begun Oct. 1, 1903. At this time the disease was active on the lips, with a few nodules on the chin, and distinct disease on either side of the nose and on the interior of the nose. The inner surface of the upper lip was also affected. Photograph No. 1 gives a fairly good idea of the extent of the external involvement. Thirteen treatments were given in eight weeks. A soft tube was used on each side of the nose for about eight minutes, at a distance of ten inches, using about four amperes of current.

Results.—At the end of eight weeks decided improvement was noted, and induration only remained at the inner canthus of the left eye and at the right ala of the nose. Since this time he has been treated nearly once a week, with the result that the lupus seems to have disappeared both from the surface and from the interior of the nose, except a small tubercle at the alæ of the nose.

During the course of treatment a bone-like projection appeared at the inner canthus of the left eye and was thought to be an exostosis. This disappeared completely under treatment.

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

1. Jutassy: Pest. med. Chir. Presse, 1900, xxxvi, p. 73.
2. Pusey: The Roentgen Rays in Therapeutics and Diagnosis, 1903.

In addition to the disappearance of the active lesions, the scar tissue, which was quite thick and stiff, has nearly disappeared. Thirty treatments in all have been given during eight months. (Fig. 2.)

The treatment was several times carried to the point of a mild dermatitis, such as is shown by an erythema.

The points of special interest in this case were: 1. The disappearance of the lesions within the nose and beneath the lips. 2. The development of what appeared to be an exostosis at the inner canthus of the left eye, which disappeared under treatment. 3. This spicule of bone developed during the course of treatment, but in the protection of the eye this portion had been covered.

Case 4.—Mr. G. R., aged 41. Eleven years ago he had what he called a fever blister on the lower lip, which lasted two months. Two years ago a similar sore developed on the lower lip, which has progressively increased in size. It had been treated with caustics by a layman.

Treatment.—*X*-ray treatment was begun April 25, 1903. At this time he had an epithelioma on the lower lip about the size of a walnut, which had ulcerated. The submaxillary glands on both sides were enlarged and hard. He had lost weight and was somewhat cachectic. (Fig. 3.)

Fig. 3.

Fig. 4.

Fig. 3.—Case 4. Epithelioma of the lip.
Fig. 4.—Case 4. After operation and *x*-ray treatment.

The *x*-rays were applied to the growth and to the submaxillary glands. He was given ten treatments during the first month, lasting ten minutes each, with the tube ten inches distant, a two-inch vacuum, and about five amperes of current.

At the end of the first month the growth seemed to be smaller, and the glands were smaller. During the second and third months ten treatments were given. At the end of the third month the growth had shown some decrease in size, and there seemed to be a tendency to heal at the edges. During the fourth and fifth months he received twelve treatments. The submaxillary glands had disappeared, but the growth had not changed. He was showing signs of sepsis (chills, fever and sweats), with increase in emaciation and prostration. He was strongly urged to have the remainder removed by operation. At the end of the sixth month he consented, and Dr. Ernest Laplace removed the growth, leaving the wound open to heal by granulation under the influence of the rays. The rays were applied the next day after the operation, and twelve treatments were given within a month. At the end of this time the wound was healed, and no signs of cancer were present. It has remained well since, which is seven months. (Fig. 4.)

This case was considered inoperable on account of the glandular involvement in both submaxillary regions. These enlarged glands disappeared under the influence of the *x*-ray.

I believe that had either the x-ray or the surgical measures been depended on alone the case would have been a failure, and I think that in all cases of epithelioma of the lip, surgery and the *x*-ray should be combined.

Case 5.—Miss J. M., aged 25, a case of morphea. An uncle had some new growth on the neck; otherwise the family history is negative. Without any previous symptoms the patient discovered that an area of the skin about a half inch in diameter was a little darker in color and slightly raised above the surface of the surrounding skin at the side of the chest. There was no pain and no itching. Very little attention was paid to it for about two years, when it began to ulcerate. She then visited the skin dispensary of the University Hospital, where she was seen and photographed by Dr. M. B. Hartzell.

Later she came to the skin dispensary of the Medico-Chirurgical Hospital, where she was seen by Dr. E. S. Gans and referred for operation to Dr. W. L. Rodman. Dr. Rodman did not think an operation advisable, and referred her to the *x*-ray department for treatment.

Treatment.—*X*-ray treatment was begun Nov. 14, 1902.

Fig. 5.

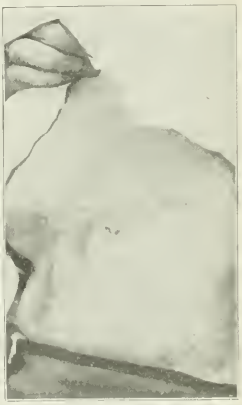

Fig. 6.

Fig. 5.—Case 5. Morphea. Before treatment.
Fig. 6.—Case 5. After eighteen months and eighty treatments.

The disease had then existed four years, and the affected area was three and one-half inches in length and one and one-half inches in width. The center was an ulcer which showed no tendency to heal. This was an inch and a half in length and a half inch in width. Surrounding this ulcerated area was an area of scar-like tissue. She had a sensation of soreness at this point, but no other pain. There was a sero-purulent discharge present, and at times bleeding. She was treated three times a week, ten minutes at each exposure, with a vacuum corresponding to a 2 to 3-inch air gap, at a distance of six to twelve inches. After the fourth treatment there was less discharge. After twenty-five treatments and two months' time, the ulcer had healed, but an indurated scar one and one-half inches in length and a half inch in width remained in the center. After forty-five treatments and eight months' time the scar in the center was still hard. In other portions the skin seemed to be normal.

The patient left the city at this point and the treatment was interrupted for three and a half months. She returned Sept. 30, 1903. At this time the central scar was still present. In addition there was a small tubercle about one-eighth of an inch

in diameter noticed lying posterior to and entirely outside of the previously affected area. In the previous treatments the surrounding skin was protected, and this tubercle developed beneath this protection. Treatment was again instituted, but the patient was very irregular in attendance, and only eleven treatments were given in five months.

At the beginning of March, 1904, the tubercle had increased in size and a smaller one developed anteriorly. Dr. M. B. Hartzell very kindly excised the larger tubercle and examined it. He says: "The sections showed comparatively little departure from the normal. The chief changes consisted in a flattening out of the papillary layer of the corium, and a diminution in size and number of the blood vessels. There was absolutely no indication of epithelial overgrowth."

Following this, treatment was given more actively. Thirty-five treatments were given in two months. At the present time, one month after treatment, nothing remains but a scar one inch in length and a fourth of an inch in width. The wound of the excised tubercle healed promptly and the tubercle lying anteriorly to the old lesion disappeared.

This case was shown a number of times before the Dermatological Society of Philadelphia, where the diagnosis of morphea was made. It was suggested, too, that a carcinomatous change might be taking place. This was cleared up by Dr. Hartzell's examination. The patient had for a number of years refused to allow a portion to be excised.

Results.—The results obtained by treatment in this case have been fairly good, but far from brilliant. It has required eighteen months and eighty treatments to change a patch of morphea three inches in length and one and a half inches in width to a scar one inch in length and one-fourth inch in width. While the results have not been all that I had hoped for, they are better than were obtained by any other measures.

After the excellent work of Campbell,[3] Jutassy,[4] Pusey,[5] Stelwagon,[6] Engman,[7] and others, I shall not take up your time in reporting cases of acne, and will mention but one case on account of the heavy growth of down.

CASE 6.—Miss M. G. was referred to me by Dr. E. S. Gans. She had had acne twenty years. She was treated by all ordinary methods. After twenty-two treatments and three months' time the lesions had all disappeared, leaving the skin smooth and soft. The down which was present at the beginning of the treatment was less noticeable, but was still objectionable. The patient insisted on continuation of the treatment for the removal of the down. Thirty additional treatments were given in seven months. During this time it had been removed three times, and recurred twice. I shall treat her once a month for a few times to prevent recurrence.

Ordinarily, I would not advise the *x*-ray for the removal of down. I believe, however, that it can be done successfully, but will require repeated removals.

CONCLUSIONS REGARDING ACNE.

As to the treatment of acne with the *x*-ray, I think we can draw the following conclusions:

1. It meets the indications more satisfactorily than anything else.

2. Relapse is not frequent as in older methods, and is slight.

3. No burns of any serious degree are necessary during the treatment.

4. If the treatment is not forced to the extent of a burn, there is probably no danger of atrophy of the skin.

5. No reaction should be produced beyond a mild erythema, and this degree should be reached slowly.

6. It is not necessary to produce an erythema, but if the treatment is carried to this degree the results will be hastened.

7. The hair, eyes and eyebrows must be carefully protected.

8. A tube with a vacuum which will back up a two-and-one-half inch air gap, at a distance of ten to twelve inches, with a current of two to five amperes for five to ten minutes on the area treated, will probably give the best results.

9. In the average case, about three months' time and twenty to thirty treatments will be required to produce a cure.

DISCUSSION.

DR. M. B. HARTZELL, Philadelphia—I saw the case before it had been treated. While the case is reported as morphea there may be some doubt about the diagnosis. It may be that this was one of the morphea-like flat epitheliomata which occasionally are observed. An examination of the small lesion left on the outside of the patch would seem to confirm the diagnosis of morphea; if this lesion is a part of the disease the diagnosis is fully established by microscopic examination. The case is extremely interesting both from the point of view of diagnosis and the excellent results following treatment by the *x*-ray.

DR. J. C. PRICE, Scranton, Pa.—I think that the time of exposure, distance of tube from the patient and amount of current used is very important in our reports of cases, because of the various kinds of apparatus that are used for the production of *x*-ray. One man will give an exposure of ten minutes, one an exposure of five minutes, and without saying anything about the probable strength of current that goes through his tube or the vacuum of his tube. If you put a ten-ampere current through a primary of a coil and have a low vacuum tube you can burn a patient very quickly. If the men who are doing this work intelligently send out detailed reports, the many physicians who buy a static machine without having any idea of the physics of the apparatus, will be less apt to use the *x*-ray indiscriminately. If they have some data of that kind to go on, they may take enough interest to look the matter up and find out what they are doing. I think the *x*-ray has a wide field in the treatment of skin diseases, but it is surely going to get a black eye unless it is used intelligently. I see they are putting on the market an anometer that will measure the current from a static machine or secondary of a coil. If this is successful it will be of advantage in that we can then give exact doses. Anyone familiar with the physics of coils and static machines knows that no two coils will produce exactly the same secondary discharge with the same amount of current going through the primary, and that no static machine will produce the same amount of current from day to day, but varies widely with the varying conditions, so any instrument that will accurately measure the current going through the tubes will simplify matters greatly. We have some men who advise a static machine in preference to a coil for these treatments; it seems to me that when we come down to an exact dosage a coil is more reliable than a static machine. I wish to report a case of sarcoma treated by the *x*-ray: It was operated on by a surgeon in September, and referred to me for recurrence in January. The tumor had been sent to New York to be examined in a pathologic laboratory and it was reported to be a small round-celled sarcoma with some pigmentation. There was recurrence as large as a hickory nut. I intended to ray the growth a few times and then have it removed, but the patient's family objected to further surgery and I kept on with the ray. I can now report, fifteen months after she was referred to me, that it has absolutely cleared up. Patient is 16 years old and is now in good health.

DR. A. W. BRAYTON, Indianapolis—I have no *x*-ray installation myself; I am kept busy, however, repairing the injuries made by the *x*-ray machines in my vicinity. If I were to seek cheap electrical apparatus, I know of nothing I could buy

3. Campbell: THE JOURNAL A. M. A., Aug. 9, 1902.
4. Jutassy: Fortschritte a. d. Geb. d. Roentgenstr., vol. III, No. 3, p. 119.
5. Pusey: Journal of Cutaneous Diseases, New York, August, 1903.
6. Stelwagon: Journal of Cutaneous Diseases, New York August, 1903.
7. Enman: Interstate Medical Journal, April, 1904.

cheaper of physicians than automobiles and *x*-ray machines. Seriously, however, I have had two cases within three months of diffuse symmetrical scleroderma; one is passing into the atrophic stage, another is in the condition of elastic edema. Neither of the women can dress themselves; one is 28, the other 35. I do not know whether it would be worth while to refer these two distressing cases of symmetrical scleroderma to an *x*-ray therapist for treatment. I know many of them, according to Crocker and Stelwagon, get well spontaneously. There is also a case of xeroderma pigmentosa 12 years of age that I have had under observation from the time of her birth. Her sister, 28 years of age, died from the disease. She developed a sarcomatous tumor of the hand, which grew to the size of her head. If this little girl, who is now in the stage of tumor formation, can be helped by the *x*-ray, I would like to know of it. I also have a case of Darier's disease under observation which is far more extensive and distressing than the one reported by Dr. Lieberthal. If in these rare diseases the *x*-ray is of known curative power, I would be pleased to know it. I have also a case of blastomycetic dermatitis under observation which has had 65 applications of the *x*-ray without apparent benefit. I have readily cured four other cases by the cautery and by erasure. I think the *x*-ray has a very limited sphere in dermatology.

DR. C. W. ALLEN, New York City—In regard to the first cases I have had no personal experience, but I have had remarkably good results in the case of a young lady who has had lifelong ichthyosis, which is similar in character. In regard to xeroderma pigmentosa, I have had a patient under treatment for nearly three years. He has lost one eye; the cancer involving the globe, primarily the cornea, and his physician thought it better to enucleate the globe. Now the condition involves the opposite globe, and just for the present his family physician has put him in the hospital to try something new on the cancer of the opposite globe. The individual skin lesions will disappear. I have cured the man of at least fifteen cancers of the face, but others keep coming, although the ray in a measure keeps them down.

DR. BRAYTON—They will drop off of themselves, or you can take them off with your fingers or a spoon, as large as a walnut. How do you know that the *x*-ray has anything to do with this clearing off that is common in xeroderma pigmentosa?

DR. ALLEN—My personal impression is that the ray does something that the nature of the affection would not account for in the disappearance of the cancerous lesions. My assistant, Dr. Stern, is treating a subject of Darier's disease in his uptown dispensary, and he tells me he is getting very marked results and that his patient is gettting well.

DR. L. DUNCAN BULKLEY, New York City—I reported a case of Darier's disease affected very favorably by the *x*-ray. The patient had been in the hospital for six months and was bedridden for several months. The disease on the feet was completely cleared up, though it remained about the margin of the hair and on the wrists, which places were not thus treated.

THE CUTANEOUS MANIFESTATIONS IN DIABETES INSIPIDUS.

REPORTS OF THREE CASES.*

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INDIANAPOLIS.

Diabetes insipidus is a chronic disease characterized by the passage of large quantities of normal urine of low specific gravity. It should be distinguished from the polyuria of hysteria and chronic interstitial nephritis, and also from the diuresis in connection with meningitis and tumors at the base of the brain.

Since Willis, in 1674, distinguished between the saccharine and the non-saccharine form of diabetes, it has been known that a low specific gravity and the absence of sugar readily separates diabetes insipidus from diabetes mellitus. The hysterical form of polyuria sometimes closely simulates diabetes insipidus, but its transitory nature, taken with its other protean but characteristic symptoms, renders the diagnosis comparatively simple.

Diabetes insipidus is a rare affection of unknown nature, and with no constant anatomic symptoms. As to its rarity, Dr. Osler states that but three cases occurred in twelve years out of a total of 329,000 patients treated in the Johns Hopkins Hospital and dispensary up to 1901, the date of the last edition of his work on "Practice of Medicine." Dr. Futcher of Baltimore, however, reported seven cases in the medical wards of Johns Hopkins, or one in each 50,000 patients, in a paper on this disease read before the May meeting of the Association of American Physicians at Washington the present year.

The occurrence of the disease in youth is shown by the fact that in the 85 cases collected from the literature by Strauss, 36 cases were between 10 and 25 years of age.

As to causation, the consensus of opinion is that the disease results from a vasomotor disturbance of the renal vessels, due to local irritation resulting from various causes. In the secondary or symptomatic form, these vasomotor irritants may be aortic aneurism, abdominal tumors or tubercular peritonitis. Diabetes of either form is especially apt to occur where there is disease of the medulla, as was first illustrated experimentally by Bernard's famous discovery that certain injuries of the floor of the fourth ventricle in rabbits produced an abundant, pale and sugary urine. Probably the majority of the cases originate in lesions of the base of the brain, notably the lesions due to syphilis, as is shown in the fact that four of the Johns Hopkins cases had suffered from syphilis, and that the seven cases seen by Dr. Tyson in consultation were ameliorated by iodid of potash. Cerebral syphilis is not infrequently attended by polyuria and polydipsia.

Dr. A. Jacobi, discussing Dr. Futcher's paper, thought most cases of the insipid form occur in young children seen in family practice; the diabetes followed cholera, anemia or whooping cough. He had seen cases in boys of 7 to 14, from falls on the occiput; these may have been due to tumors resulting from the fall. Some of Dr. Jacobi's cases were no doubt secondary or symptomatic, rather than primary or "idiopathic," as we say of those chronic cases having no discoverable nervous origin. Fright, injury, sunstroke, debauchery and malnutrition may precede diabetes insipidus.

Heredity plays a part, as is shown by Weil's cases. Of 91 members in four generations, 23 had persistent polyuria without any deterioration in health. Trousseau stated that the parents of children with diabetes insipidus frequently had glycosuria or albuminuria.

Diabetes insipidus presents some striking analogies with diabetes mellitus in both etiology and symptomatology, and still more by the fact that the one disease sometimes merges into the other. We know that in the diagnosis of diabetes mellitus we must keep in mind the symptomatic condition known as glycosuria, which is a more or less temporary phenomenon, occurring under the most varied conditions.

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

There is always sugar in the blood. Under many conditions, as an excess of glucose in the food, or functional disease of the liver, the blood becomes overloaded, sugar is excreted by the kidneys, and we have transient glycosuria, a very different condition from true diabetes mellitus, and which need not necessarily interfere with after good health or with life insurance.

There is a similar distinction between diabetes insipidus and polyuria. The ingestion of large amounts of beer or water; diseases of the medulla or cerebellum, chronic hydrocephalus and hysteria may all increase the flow of urine, but this increase is symptomatic and transitory, and is not the chronic, rare disease here considered.

Diabetes insipidus is a much milder disease than diabetes mellitus. The notable symptoms of diabetes mellitus, such as muscular weakness, rapid emaciation in the young, uncontrollable thirst, excessive hunger and loss of sexual power are not observed in the insipid form.

Nor is the non-saccharine diabetes followed by the notable complications which lead us to seek for sugar in the urine. Boils and carbuncles suggest diabetes mellitus, and the disease is frequently the background for pruritus and chronic eczema. Diabetic gangrene of the extremities is a common occurrence in the course of this disease. Balanitis in the male, eczema of the scrotum, troublesome and intractable pruritus pudendi of the female, due to the decomposition of saccharine urine, are among the cutaneous incidents of diabetes mellitus. On the contrary, the skin manifestations of diabetes insipidus are of minor importance, and yet may be the cause for which the patient seeks relief.

Such was the case with the second patient noted in this report. He came to me because of a general but mild pruritus. Questioned as to his urine, I found that he was drinking water inordinately at night and passing several quarts of water between retiring and rising. This was of specific gravity 1003 to 1005. He does not perspire enough to wilt his linen in hot weather, or when subjected to extreme muscular effort. The same is true of the third case who, from boyhood, has had an excessive thirst, has passed much urine, and has always an abnormally dry skin. And my first case, affected from his 50th to his 90th year, did not sensibly perspire and had more or less general pruritus.

The pneumonia and lung gangrene of saccharine diabetes; the nervous symptoms, such as coma, neuritis and symptoms of locomotor ataxia, have not been recorded in the complications of diabetes insipidus.

Indeed, when we compare the effects of the two diseases, the disparity of symptoms and complications is great, and all in favor of diabetes insipidus. Both present mysterious problems, the solution of which has not been discovered postmortem, though the histopathology and chemistry have been studied industriously and faithfully. It is not, at this time, possible to go into the theoretical discussion of the nature of diabetes of either form. Each is a pathologic entity, related in large part to affections of the nervous system. Both are very chronic diseases; one is very common and very fatal; the other is rare, and not infrequently overlooked both by the patient and the clinician.

In diabetes insipidus the dryness of the skin, the absence of sensible perspiration and the pruritus may lead the patient to the dermatologist; the thirst, the large quantity of urine passed, the inconvenience of water drinking and the frequent demands to empty the bladder may lead the patient to consult his family physician. He may pass from 20 to 40 pints of urine daily of a specific gravity of 1000 to 1005, but containing the normal amount and variety of soluble ingredients.

The patient may be well nourished and healthy and with ordinary appetite, or he may even have an enormous appetite, as is the frequent condition in diabetes mellitus. Such was the case of one of Trousseau's patients who inspired such terror in the keeper of one of those Parisian eating houses, where as much bread was allowed without extra charge as each patron wanted, that he gave this victim of diabetes insipidus money to prevent him coming back to dine. The tolerance for alcohol has in some cases been as marked as in cases of diabetes mellitus.

When a patient comes to us complaining of dry mouth and scanty saliva, with a harsh and irritable skin, with a generalized pruritus intensified at night, and also complains of night thirst, we may find on examination of his urine that it is of low specific gravity and great quantity, and that he is not suffering from diabetes mellitus, but from the much rarer and more innocent, but not less chronic disease, diabetes insipidus.

The future course of such a patient will depend largely on the nature of his primary trouble. If organic disease is the cause, whether of the nervous system or of the circulatory or abdominal organs, sooner or later we may expect to find the patient's health giving way, with increasing emaciation and loss of strength, but if the case is of the idiopathic type, we may assure him that it is comparatively inconsequential, for this affection has been known to continue half a century, and death to result from intercurrent disease or even from senile exhaustion.

Such was the history of one of my three cases—an old physician whom I had under observation for fifteen years, and who died after his 90th birthday. He often assured me that the same conditions had maintained in his case since he left the practice of medicine over forty years before—ingestion of abnormal quantities of water, the passage of abundant urine of low specific gravity, a dry, harsh skin and mouth, with more or less of pruritus and discomfort, and all these symptoms increased at night as compared with the day. And yet he worked a half day in his garden for over forty years, and remained a teacher in the employ of the state until his 87th year, passing into a most beautiful and painless senescence, and to the last with so even a balance of functions that when he passed away I could find no organ or system to accuse of failure more than another; and for once, the much-abused phrase, "senile exhaustion," which we give as a death return in cases of diagnostic disability, was written in the confidence that no better term could be devised or employed.

My second case is that of a man of 50 past, who for two years has suffered from diabetes insipidus with great thirst intensified at night; and at night the pruritus from which he suffers is also intensified. Otherwise he is apparently well. He gives no history of syphilis; his life has been exemplary; his labor severe and exacting. But following the success of Dr. Tyson with iodid of potassium in his seven cases, I shall offer him the chances of this treatment.

Our authors assure us that the treatment by drugs is, on the whole, unsatisfactory. Opium, codein and ergot have been recommended; also the preparations of valerian, the latter, on the whole, having the preference of the therapists. We are advised not to forbid the patient to assuage his imperative thirst, even if that were possible. The skin should be well cared for by baths and

frictions, and the general health and vigor promoted by nourishing food, outdoor life and the avoidance of worry.

The third case of diabetes insipidus under my observation I have known as a patient for some fifteen years. As a boy of 12 he was afflicted with alopecia areata of the scalp, including also the eyelashes and eyebrows. These attacks were recurrent for some eight or ten years, but have ceased, and his hair is now normal. He has been a great drinker of water, and has passed more water than the normal, as he says "ever since he can remember." He now fills an ordinary chamber vessel every night, passing more proportionally in the night than during the working hours. His skin is dry; he does not perspire under the hottest Cuban sun; his mouth and throat are dry. This is in part due to the excessive use of Cuban cigarettes and cigars. He has a pruritus intensified at night, as is the usual case with this affection from whatever cause produced. His urine is never above 1005; the solid ingredients are normal for his weight, diet and exercise. His habits are sedentary; his business is clerical. I find no other disease or aberrancy. Like the other two cases, the heart is rapid—always about 90 beats to the minute. His appetite is somewhat excessive; his digestion fairly good, except when exhausted by unusual office labor and the depression of a southern climate.

In no one of these cases has there been apprehension, despondency, abnormal introspection or impairment of sexual capacity. They collectively illustrate the benignancy of a pathologic condition rare in occurrence, of unknown nature, and without discoverable organic lesions, or constant morbid anatomy, but undoubtedly connected with changes in the central nerve axis, the sympathetic nervous ganglion, or of the afferent or efferent nerves—most probably a vasomotor ataxia.

The condition may be far more frequent than the scanty statistics indicate, as the symptoms presented, namely, thirst, polyuria and dryness of the skin with pruritus, may not be sufficient to lead the sufferers to seek medical advice; or when they do seek such advice for the resulting manifestations the consultant may, if negligent in examining the urine as an essential step in his routine of diagnosis, overlook the cause and so fail to find the background of diabetes insipidus.

The reports of these three cases may be of value in relating some case of pruritus to the overexcreting function of the kidneys, even if the consultant is unable to determine the cause of this extreme exercise of their normal function.

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THE PHYSIOLOGY OF THE MIDDLE EAR.*

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CHICAGO.

The scope of this paper embraces the following parts: 1, the drum cavity; 2, the attic; 3, the aditus ad antrum; 4, the mastoid antrum; 5, the mastoid cells; 6, the eustachian tube.

The function of the eustachian tube is, first, to ventilate the middle ear, and secondly, to drain the secretions from the middle ear into the nasopharynx. So far as the function is concerned, the tube seems to be the best known of all the parts of the middle ear, yet there is controversy whether the tube drains secretions, since in postmortems it is always found empty. Only two years ago Dr. Lindt in Bern inserted an instrument similar to a cystoscope into the nose of a patient, and with it he could see and demonstrate and photograph the secretions emanating from the orifice of the tube, either as a thin thread of mucus or as masses of large bubbles.

The mastoid cells, the mastoid antrum and the aditus ad antrum belong anatomically and functionally together, and may, therefore, be treated as one. They are totally absent in the new-born. They develop during childhood, and have not even reached their full extent at puberty. This may be taken as evidence that these are not essential parts for the function of the ear. The opposite is known to be the fact with the ossicles and the labyrinth. They have reached their full form and size at birth, and do not change. The total volume of the antrum and cells is small during childhood compared with the adult, and it is reasonable to suppose that there may be a relation of cause and effect between this and the enormous frequency of inflammations of the middle ear during childhood. The aditus ad antrum and the antrum, together with the cells, act as a reserve air tank for the middle ear. The air is normally renewed only at intervals by swallowing or blowing the nose, etc., which explains the necessity of the reserve tank. Clinical observations support this view. In several patients, with the highest degree of retraction of the drumhead, air could be inflated into the middle ear by very low pressure, and the membrane brought to its normal position. After a very short time, a few minutes only, the retraction was as bad as ever. In all these cases I found on palpation an extremely small mastoid process, which contained few and small cells, as I had a chance to see in one case which had to be operated on. The tube was patulous, and still the air did not pass because the volume of the cells was too small to create sufficient negative pressure, and the retracted drumhead filled the drum cavity.

The function of these parts of the middle ear being explained, the attic and the drum cavity will occupy more time. They contain the drumhead and the ossicles, mallet, incus and stirrup with their muscles, the tensor tympani and the stapedius. It might be very interesting to study the mechanism and function of each of these parts, but such is not the purpose of this paper. We consider them as a whole, and call them the middle-ear apparatus. The theories of Helmholtz on its function are well known and widely accepted. Still there are serious objections, of which we mention only two: We find many ears where suppurations of the middle ear have left large holes in the drumhead. Nevertheless, the hearing for whisper is often very little impaired. A lady from Colorado whom I examined had no trace of the membranes left in either ear, and the handle of the mallet hung free into the cavum tympani. She heard a whisper at a distance of 12 mm., and would have heard it farther had we been able to procure a larger room. More than that, otologists sometimes remove the ossicles, the mallet and incus and even the stirrup in order to improve the hearing.

Another very well-put objection is this: If the ossicles serve to conduct the sound, why have they joints? Why are they not ankylosed as in whales or a single columella as in crocodiles and birds? A straight rod will certainly conduct anything—heat, electricity or sound—much better than a chain. This and many other considerations have led some authors to look for other explanations of the function of the middle ear.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

G. Zimmermann[1] of Dresden states: "The chain of ossicles does not serve to conduct the sound to the labyrinth and thereby bring it to perception. It does not take part in the ordinary conduction of sound, but only acts when it becomes necessary to reduce and to check vibrations of the resounding fibers which would be too strong and too persistent. It is to a certain extent a safety valve, such as even the most ordinary steam boiler needs. The heating is done through the walls of the boiler, and the steam can only escape at one certain spot. In the same manner the sound enters the inner ear directly through the surrounding bone, and all the resounding waves of the fluid of the labyrinth recede at the round window. To continue our comparison, the pressure in the labyrinth is regulated by the chain of ossicles, just as the pressure in the boiler is regulated by the safety valve, allowing the resounding fibers to vibrate only to such an extent as is most favorable for perception." This theory is certainly very clear and simple. It was hailed and accepted by a great number of authors—physiologists as well as otologists. In this country, too, it has many friends. The objections to it have been numerous, but Zimmermann has refuted most of them very cleverly.

The question, therefore, gentlemen, rests with you, the physiologists and otologists, to decide which theory shall stand or fall; whether in the future we shall consider the whole middle ear, with its complicated anatomy, as an important adjuvant in hearing, or as a decidedly secondary regulating mechanism, without which we may very well get along, or which might at least have been devised more simply in order to act more accurately. It has become my conviction from literature, as well as from personal experience, that a great number of otologists of this country belong to the latter category, inasmuch as the rule has been made, and is widely followed, to remove the mallet and incus and if possible the stirrup in radical operation in all cases of chronic suppuration of the middle ear that do not readily yield to treatment. The operators admit that a considerable loss of hearing usually follows, but that is of minor or at least incidental importance, since they say "we do not know anything about the function of the bones in the ear." Our decision in this question is, therefore, of great importance. To draw conclusions, we first ask: What have the opponents to say? Second: How does Zimmermann answer? Third: What do experiments teach.

As to No. 1, Eschweiler says, when a sudden loud noise strikes the ear, the stirrup is pressed ad maximum into the oval window, the membrane of the round window is stretched ad maximum of its elasticity and bulges into the middle ear. This membrane is not soft and tender, but rather tense and tough, and if it is stretched ad maximum, it will not be able to respond to fine vibrations of the fluid of the labyrinth caused by the resounding vibrations of the fibers of the membrana basilaris. In other words, according to Zimmermann's theories, it is hard to explain that we can hear loud and soft sounds at the same time. To this Zimmermann answers that we have to distinguish between the elasticity and the natural solidity ("natuerliche Festigkeit") of a membrane. Although the membrane of the round window may be stretched ad maximum, the fine vibrations of the labyrinthic fluid caused by the resounding fibers are received by the "natuerliche Festigkeit." He must admit that it is possible to hear at the same time very loud and soft tones, but in order to fit this in his theory he has to take refuge in the explanation that a membrane which is stretched ad maximum is still able to react to impulses, the force of which is extremely small compared with the energy of the stretching mechanism. Yet Zimmermann admits that a free and easy mobility of the membrane of the round window is a condition *sine qua non* for accurate functionating of the labyrinth. A comparison will make this point clearer. To stop the resounding of the cords of a piano, dampers of only a few grams in weight are sufficient. The action of the tensor tympani muscle forces the stirrup into the oval window and will act in the same way as the dampers in the piano. But in the piano each cord has its own damper, the weight of which varies according to the length of the cord, and is only a small fraction of the weight of the cord itself. In the ear the same force acts as a damper at the same time on all cords, and this force is a very great one compared with the cords, because the tensor tympani muscle is more than a half cm. in diameter. The theory that the chain of ossicles acts as a regulating mechanism for the pressure in the labyrinth leads us to any number of physical impossibilities.

The whole controversy so far is old, and I would not have called your attention to it if there had not been developments which throw light on the past. Bezold last December published a paper on hearing-tests with tuning-forks in one-sided deafness, and the conclusions which may be drawn therefrom on the bone conduction and on the function of the sound-conducting apparatus. He reasons thus: "If hearing is done without the middle-ear apparatus directly through the bone, and if, as a matter of fact, the bone conducts sound much better than air, we should expect improvement of hearing if we conduct the sound to the labyrinth through the bone from the median side." Bezold experimented with four patients who had each one normal ear, while the other, middle ear as well as labyrinth, was completely destroyed, so that a funnel-shaped cavity reached from the concha into the head to nearly the middle line, thus offering very favorable conditions for receiving and conducting the sound through the bones of the base of the skull directly to the labyrinth of the good ear. To produce sound, Bezold used low tuning-forks which were free from overtones, because high sounds and high overtones are carried much farther by the air, so that the usual way of hearing them through the air can not be excluded. He found that none of the lower parts of the sound scale could be heard by any of the four patients from the side of the destroyed ear, while from the other side, at a distance several times the thickness of the head, some forks could still be heard. To this Zimmermann answers that Bezold experimented with the weakest and not with the strongest sound waves. He ought to have used a kettledrum or organ whistle or only the piano. Furthermore, he states that it is wrong that tones of high pitch carry farther than those of very low pitch. Professor Bezold and Professor Edelmann worked together for ten years to construct instruments with which to produce sounds without overtones. It was one of their uniform experiences that low sounds without overtones do not carry far. Anyone can verify this by holding one of Edelmann's low forks close to the ear. The sound is very strong, so that people who hear it for the first time often become frightened, while at a

1. G. Zimmerman, Dresden: The Mechanism of Hearing and Its Anomalies, p. 75.

distance of only a few inches to a foot nothing can be heard. Zimmermann writes that he does not see any theoretical reason for this, and therefore simply denies this fact. Had he ever made the simple experiment himself, he would know better. He ought to know that organ whistles, kettledrums and other musical instruments with low pitch have overtones which make them carry far. To compare the results obtained with them to the results obtained with Edelmann's forks, is the same as if you compare chemical experiments with impure chemicals to results obtained with chemically pure materials, or base important decisions on bacteriologic examinations made with unsterilized culture media in dirty glasses. Worse than that, Zimmermann admits himself that he has not experimented at all, and to results that have been established by most careful experimenting through decades, he answers, "they can not theoretically be justified." Bezold's experiments must be upheld. The first point of Zimmermann's theories, that all sounds are conducted to the labyrinth directly through the bone, is, for the low sounds, not true. The second point, that the middle-ear apparatus is merely a pressure-regulating mechanism, leads us to the physical impossibility that a membrane which is stretched at its maximum should still freely react to finest and weakest impulses. Such are the foundations on which methods of operating have been built, which have partly or even entirely deprived many patients of their hearing.

So much for the negative part of my paper. A number of pathologic conditions give positive information about the function of the middle-ear apparatus. The lower two to three octaves of the sound scale can not be heard in all conditions where the free mobility of the ossicles is interfered with. The most typical example of this is the bony fixation of the stirrup in the oval window. In many cases of this kind the nervous apparatus of the labyrinth also suffered from the disease, as microscopic examination after death revealed. Still there is a small number of these patients who can not hear the low tuning-forks through the air while they can hear, not only feel them when the handle of the fork rests on the vertex. Furthermore, in occlusion of the eustachian tube the retracted drumhead is the cause of immobility of the ossicles, and here, too, the low tones can not be heard. Another experiment is this: You can not hear the mighty roar of the waves, but only a noise as though little pieces of ice were rubbing against each other, when you promenade on the surf while having a cold which closes the eustachian tubes, or if you are able to draw the air out of the middle ear with negative Valsalva's test. The lower sounds are lost to the ear when the chain of ossicles can not transmit them. It is more than only "theoretically justified"; it is experimentally proved that the middle-ear apparatus alone transmits the low sounds from the air to the labyrinth. This is certainly its main function, but whether it is the only one is a question yet to be answered, because in all changes of its normal condition we find diminution of the normal hearing. Even the lady before mentioned, whose drumheads were destroyed, had good but not normal hearing. It is no contradiction to say that a great many high sounds may pass directly through the bone to the labyrinth, but for the low sounds this is certainly not true, as experiments on patients with only one labyrinth prove.

Physiology has always been the playground for theories and speculations. The fact that the works of Zimmermann found so many supporters proves that we have not passed that stage and have to be careful. Functional tests in connection with pathologic examinations of the normal compared with the acquired and congenitally hard of hearing, the deaf or deaf mutes, have put us in a position to draw accurate conclusions from the changes of the function on the diagnosis in a given case. We will not allow that the result of careful work of decades be swept away by speculations.

DISCUSSION.

Dr. Winfield S. Hall, Chicago—The theory, as set forth by Dr. Holinger in the last pages of his paper, provides for two physiologic processes in the year: First, a protective apparatus, and second, a transmission of sound waves. If I understood Dr. Holinger correctly the stapedius and tensor tympani muscles of the ear by their tonus serve as a sort of protective apparatus to maintain as near as possible an even tension of the parts and so facilitate the better transmission of sound; while a stronger contraction serves to protect the delicate structures of the tympanum and labyrinth from the concussion of loud noises. In the second place the easily movable and very delicately balanced ossicles of the tympanum serve to transmit sounds, particularly those of low pitch, i. e., those that have a longer period of vibration. I think that the main difficulty with Helmholtz's theory was that he set forth the lever action of these bones only; while we have to do also with a molecular vibration of the chain of bones.

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ANOTHER MEMBER OF THE DYSENTERY GROUP.*

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Until the more recent work of Martini and Lentz, the bacillus discovered by Shiga as the cause of Japanese dysentery, the bacillus isolated later by Flexner and Strong in the Philippines, Kruse in Germany and Vedder and myself in this country were thought to be culturally identical, except for the minor inconstant differences as shown in the ordinary media then employed, which differences might be expected of individuals of the same species. Martini and Lentz, employing a mannite medium, discovered that certain of these isolations would ferment and others fail to ferment with acid production on this alcohol. Still more recent studies by workers in this country have determined other cultural differences between various isolations in their action on certain special sugars.

These cultural distinctions between the bacilli are in conformity with variations in agglutination reaction; based on these important differences, we now speak of members or strains of the dysentery group. This knowledge of types or strains of the dysentery group has led me of late to carefully test the biochemical reactions of

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every dysentery-like organism found in cases of acute dysentery and infantile diarrhea, with the view of determining whether or not there are still other unrecognized members of the group.

In all probability the bacillus which I am about to describe is another member or subdivision of the dysentery group represented by the "Fermenters on Mannite."

In my paper I shall give a brief description of the case, method of isolation, morphology, cultural features and agglutination reaction of the bacillus.

The organism was isolated in large numbers from the contents and scrapings of the gut in a fatal case of dysentery occurring in an adult. The autopsy showed that the lower portion of the colon was the site of infection. A pseudomembrane was present, and the mucosa gave evidence of many small necrotic areas. The intestinal contents were semi-liquid, muco-fecal in character, with large quantities of blood-stained mucus.

METHOD OF ISOLATION.

Scrapings from the mucosa and the blood-streaked mucus from the gut contents were suspended separately in tubes of sterile saline solution. The tubes were well shaken and set aside to allow the washed mucous flakes and solid particles to settle, which left a perceptible bacterial cloud in the upper two-thirds of the tubes. A series of twenty-four agar-gelatin plates were inoculated, using one loop of the suspension for each plate. By seeding the plates in this manner I obtained a uniform number of colonies on each plate.

The plating material used was similar to the His plate medium for typhoid, except for the leaving out of the beef extract and the addition of 1 per cent. peptone. Preparing the medium without using beef extract makes a clear and transparent plate medium, on which the superficial dysentery colonies can be readily differentiated from the colonies by the naked eye. Apart from the dysentery colony being smaller, its dull pearl-gray color is in marked contrast to the glistening cream color of the colon. Peptone in the plate medium is essential as a nutrient, since one of the cultural peculiarities of the dysentery colony is its frequent late appearance on the plates.

The smaller "pearl gray" superficial colonies were selected from the plates and stab inoculations made into the semi-solid medium described by His. This medium is far superior to the old glucose agar, in that organisms of the colon and typhoid groups are quickly distinguished from the dysentery group. Organisms producing gas do so rapidly in the semi-solid medium when incubated at 37 C. A few hours serve to exclude the colon. By introducing a sterile platinum needle into the tube and stirring the stab growth, myriads of gas bubbles immediately appear if the growth is colon. The typhoid and other actively motile organisms, as pointed out by His, rapidly cloud the medium uniformly. The growth of the dysentery group of bacilli is confined to the track of the needle and rarely clouds the medium, though occasionally a fresh isolation of dysentery will produce a slight haze extending some distance around the stab growth. Such cultures, when examined in hanging-drop preparation, are sluggishly motile, a property which is soon lost after a second or third generation.

In the case I am here reporting, all colonies that failed to produce gas or uniform clouding in the semi-solid medium were further studied culturally and the agglutination reaction tested; of this I will speak later.

MORPHOLOGY.

The organism isolated from this fatal case of dysentery is a fairly short bacillus, with rounded ends, ranging from 1 to 3 microns in length, often coccoid in form and occurring singly and in pairs. The bacillus stains with the anilin dyes, but all the bacilli in a preparation do not stain with equal intensity. The organism is readily decolorized by Gram's method. It is non-motile under ordinary conditions. Spores have not been noted. Flagella may be demonstrated by the modified Van Ermengen method, as described by Vedder and myself.

In general, the morphology and staining reaction of the bacillus is that of *B. dysenteriæ* (Shiga). I have never been able to note constant differences in morphology and staining reaction of the various dysentery cultures. Any variation that might be noted for a given isolation is wholly unreliable from the standpoint of differentiation. Some investigators hold that the Flexner-Harris culture is less coccid than the Kruse, Shiga and New Haven cultures. Again, His and Russell state that their "Y" organism corresponds more closely to the Kruse culture than to the Flexner-Harris culture. In my opinion, one culture can not be distinguished from another in morphologic differences. There is a wide variation in morphology, governed by the age of the culture, kind and reaction of medium, and the temperature at which the organism is growing.

CULTURAL CHARACTERISTICS.

The bacillus grows well on the ordinary culture media and corresponds on these in every respect to *B. dysenteriæ* (Shiga), with one exception—the reaction on neutral litmus milk. Like the Shiga culture, the organism produces the initial acidity in litmus milk, as indicated by the lilac color. At forty-eight hours the milk is still acid, but it is evident that a gradual change back to the orginal color of the medium has set in. After three to four days the milk regains its original blue color, which color remains for four to six days, when a second acid change occurs in the medium much more marked than the initial acidity. This second acid change in the milk is permanent. The tube remains always distinctly red, and at no period is there any tendency toward coagulation. In my hands none of the known cultures of the dysentery group produces this peculiar reaction in neutral litmus milk.

A study of the bacillus in litmus serum water media to which 1 per cent. mannite, dextrose, dextrin, galactose, saccharose and inulin have been added, shows a complete correspondence with the so-called "Fermenter on Mannite," as represented by the Flexner-Harris and the Baltimore summer diarrhea cultures. All of these cultures split the mannite, dextrose, dextrin and galactose as indicated, by first a change to pink and later coagulation of the medium. The saccharose and inulin media remain unchanged. In litmus serum water medium, to which 1 per cent. of chemically pure lactose is added, the bacillus ferments with acid production. The medium first changes to a pink color, and later is converted into a solid coagulum.

The ability of the bacillus to split lactose, and the production of a second marked acid change in neutral litmus milk are cultural peculiarities not possessed by any of the heretofore described strains of *B. dysenteriæ*.

AGGLUTINATION REACTIONS.

The bacillus gave a positive agglutination reaction with the patient's blood in dilution 1/400. The Flexner-Harris culture was positive in dilution 1/200. Shiga's

culture did not react in any dilution. *B. typhosus* was positive in dilution 1/80. Paratyphoid cultures were uniformly negative.

The bacillus of typhoid reacting with the patient's blood led me to test my organism with the blood of patients suffering from typhoid fever, since this case was clinically dysentery, with no previous history of typhoid. Again the autopsy showed no evidence of typhoid lesions, and the plates were free from colonies of typhoid bacilli.

The blood of fifteen cases of typhoid fever were tested; in each case the typhoid bacillus reacted in dilutions not less than 1/80, and in a number as high as 1/2,000.

In every case my bacillus was agglutinated with the typhoid serum. In many of the cases clumping occurred in as high dilution as with the typhoid bacilli. For example, the blood of a typhoid patient in the third week of the disease gave a positive reaction for the typhoid, and my organism in dilution 1/2,000. Shiga's and Flexner's cultures were negative 1/25.

In but two of the fifteen bloods did the Flexner-Harris culture give a positive reaction, and then only in relatively low dilution.

The organism, when tested with the antidysenteric serum from a horse immunized against the Harris strain of *B. dysenteriæ*, reacted in fairly high dilution, but not so high as the immunizing bacillus.

Rabbits immunized against *B. typhosus* and my organism produce common agglutinins for both cultures. The blood of a rabbit immunized against the Flexner-Harris organism was positive to my bacillus, but negative to *B. typhosus*.

RESUME.

I have in this paper given a brief description of a bacillus in all probability another member of the *B. dysenteræ group*. The organism differs from all hitherto described strains of the dysentery group, in its action on lactose and litmus milk. These distinctions in cultural features are in conformity with the variations in agglutination reaction. The bacillus is identical in morphology and in its action on mannite, dextrose, dextrin and the more common culture media with the Flexner-Harris strain of *B. dysenteriæ*. The bacillus is agglutinated in high dilution with the blood of typhoid fever patients, also with the blood of rabbits immunized against typhoid. Likewise, *B. typhosus* is agglutinated with the blood of rabbits immunized to this organism. The production of common agglutinins shows a close relationship between this organism and the typhoid bacillus. Though this bacillus possesses properties in common with the typhoid bacillus, it has, however, more in common with the dysentery. Therefore, in my opinion, it is rightly considered another member of the dysentery group.

DISCUSSION.

Dr. E. Libman, New York City—It is rather interesting to note the tendency that exists to group together the organisms which are found in cases of dysentery, notwithstanding the fact that, for instance, this last interesting organism described by Dr. Duval is closer to the colon group than those previously described. One can not help thinking that it would be better to believe that dysentery may be due to a variety of organisms, although the disease is probably in a great number of cases and in certain epidemics due to one particular organism.

Dr. Henry A. Christian, Boston—It seems to me that the studies that have been made in the last few years on the organisms occurring in the gastrointestinal tract are of especial interest, because they have taught us the occurrence of so many forms of bacilli which grade gradually into each other; in other words there are transitions, so to speak, between organisms of the two extremes. If there is any relation in the origin of these various bacilli that come from the intestinal tract in disease, it is the finding and study of such intermediate forms that may possibly clear up, later on, the relation of these organisms to each other in their development. In other words, they might be regarded as a sort of missing link in these organisms. This organism, then, is of particular interest because it shows such a striking similarity in certain characteristics on the one hand to the dysentery organism, and on the other hand to the typhoid organism.

Dr. C. W. Duval—The bacillus was isolated from a case of acute dysentery occurring this spring at the Boston City Hospital, in a 17-year-old boy. I have also isolated the organism from a number of cases of infantile diarrhea. There is every reason to believe that workers have encountered, but failed to recognize, this new member of the dysentery group, because a complete study of the various isolations has not been carried out. It is only on the special media that this organism can be distinguished culturally from the fermenter on Mannit or Flexner's "Harris" strain.

THE VITAL ACTION OF THE DENTAL PULP.*

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I had the honor, several years ago, of reading a paper before this section on "The Embryology of the Dental Pulp." This paper gave a minute description of the various processes taking place during the development of the tooth, from its formative pulp. I propose in the present essay to consider the nature of the mature pulp and to call your attention to its vital action after the tooth is formed. I shall consider the pulp within the pulp chamber and its myriad fibrils, for these fibrils are as much a part of the pulp as any portion of it, and are the channels by which its vital functions are carried on. These canals are slightly undulating and radiate from the pulp chamber to the outer surface of the dentin. Each canal contains a fiber bathed in a fluid, and this fiber is an arm of the pulp. Branches from this fiber anastomose with others through the dentin matrix. They form a delicate network in the substance of the crown near the enamel.

In the region of the cementum they anastomose with the fibers of the granular layer of the root. When the tooth is fully formed, the principal function of the pulp is for the vitalization of the substance of the dentin by means of its fibrils, which permeate into every portion of the matrix of the dentin. Its function is not only to vitalize, but it may again assume its formative function whenever causes for repair demand this action.

One of the difficulties we find in our research work on the mature pulp is the fact that we can not look on its tissue in life. We can not see these vital processes while they are going on, but must make our deductions on freshly-extracted normal teeth and pulps that are as near the life period as possible. But it is always dead tissue that we have to examine. We draw our conclusions from what is shown to have taken place when the tissue was alive; we know that the living pulp, with its blood vessels and nerves, nourishes the dentin; that vital changes do take place, and that this pulp is the source of vital action. It is a living organ, subject to any physiologic or pathologic process, which may act on any

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living matter; therefore, we may expect to find its connection with the general economy similar to that of other tissues. It will respond to the action of returning health, and caries which have commenced have been arrested by this vital action. They appear as polished blotches on the teeth and are not uncommon. Professor Miller, in his work on "Micro-organisms of the Human Mouth," calls this condition a spontaneous healing of dental decay. The dentin, which had become softened, has become hard again, and the decaying process is stopped. This change also takes place in the temporary teeth. The healed dentin retains its discolored appearance, but becomes nearly as dense as normal dentin. These changes have been brought about by vital action, and this action came from the agency of the pulp.

The histologic structure of the normal pulp, at the time of the full formation of the tooth, as has already been described in a former paper, is as follows: At the periphery we have the pear-shaped cells, then the spindle-shaped conjugation layer of cells, then the spindle-shaped and irregularly-shaped cells with their anastomosing processes, and lastly, the connective tissue elements in the central portion of the pulp, which seem to be scant in protoplasm. These cells are not very numerous, and are in a jelly-like matrix. The blood vessels enter at the apex, the trunk vessels resting near the center of the pulp. Sometimes as many as three arteries are seen to enter the apical foramen. They then divide into innumerable branches and form an extensive network of capillaries near the layer of the pear-shaped cells next the formed dentin. There are numerous veins also found, but these are somewhat larger than the arteries. Black tells us that the blood vessels of the pulp are remarkable for the thinness of their walls, and that the smaller veins seem to be nothing more than endothelial cells which are placed edge on edge, or margin on margin. The arteries have a circular and longitudinal layer of muscular fibers, but these are very thinly distributed.

There is always an effort on the part of the pulp to protect the dentin from destruction, from whatever cause. A microscopic examination shows us how misleading it is to call this organ a nerve. Its matrix is a mass of connective tissue, in the substance of which we find nerve-fibers, medullated and non-medullated. These enter the pulp through the apical foramen in bundles of various sizes. As they pass into the pulp they break into branches and form a rich network, a delicate plexus of fine nerve filaments, next the outer pear-shaped cells. It is not certainly known how they communicate with the fibril. It has been suggested that the finer fibers may pass between the pear-shaped cells, winding themselves around the dentinal fibrils and thus pass into the dentinal canal. There is also a rich capillary network of blood vessels near these pear-shaped cells in the newly formed tooth, and when we inject these and examine them under the microscope there seems to be little room left for other tissues there. When the dentin is irritated by infection or its surface is uncovered by a break, there immediately follows a period of vital activity. If we examine sections of a tooth made when these changes are taking place, we shall see that the formative cells in that portion of the pulp nearest the point of repair are filling up with glistening globular bodies, and the tissue about it is showing an increased vascularity, as though an active formative action were taking place; and in the canals opening toward the area of irritation, within the dentin matrix we find minute glistening granules, which are being carried outwardly toward the point of lesion. These glistening particles have the appearance of being minute calco-spherites. In studying this condition, some years ago, I satisfied myself that these appearances were the result of the vital action of the pulp in its efforts to repair the tissue, and that the minute glistening particles within the canals were in many ways similar to the minute globular bodies found in the tissues while the dentin matrix was developing. They are being forced into and through the canals of the matrix to the point of irritation, and I have seen long lines of them in the canals, nearly filling them up. In favorabe cases, the canals against the irritation do become filled and a formative process goes on within the pulp chamber, until a calcified barrier is formed there, corresponding to the part disturbed or destroyed. When this change takes place the consolidated dentin in this area becomes slightly darker in color than normal tooth structure, and might easily be mistaken for decay.

In carious pits and fissures of the bicuspids and molars the organisms of infection proceed inward through the dentinal canals toward the pulp. As it nears the pulp this protecting barrier is formed, and under normal conditions the infection is retarded, changes its course and moves in the next weaker direction toward the approximal surface, usually without exposing the pulp—if taken in time. We also find the protecting consolidation in teeth that are worn down, usually in the mouth of old people, and when this change has taken place these teeth are not liable to decay again, except under very unfavorable circumstances. This protecting process forms that tissue known as the zone of resistance; the hyaline appearance of this zone tissue under the microscope is caused by the lime globules consolidating the canals that are in the substance of the zone. These changes are due, in a large measure, to normal conditions, as regards the vitality of the individual. But in cases where the constitutional condition is below the normal, even where they seem favorable to decay, there is always an attempt made to retard the infection. Under certain conditions of environment and infection, penetrating decay is so rapid that the vital action of the pulp is overwhelmed, and the pulp becomes exposed, and is in a pathologic condition even before the breaking away of the cavity walls.

The pulp is the central and largest source of vitality to the tooth, and it acts through its myriads of fibrils. Sometimes the ends of the fibrils are seen to be running slightly into the enamel substance. In the root portion they anastamose with the fibrils of the granular layer near the cement, and a communication is seen, in many cases, to be continued through the cementum by means of the lacuna and their fibrils, and in a few cases I have traced them out to the pericementum. Pain of the dentin, following the touch of an instrument, or from any irritation, is expressed through the agency of these fibrils, and we become conscious of the sensation through them. When irritation is caused by wear, erosion, or a break exposing the dentin, a section under the microscope will show that secondary dentin has been formed within the pulp chamber, and this corresponds to the loss of substance of the dentin which has been affected. This secondary dentin is a tissue that has been called dentin of repair, and this is a manifestation of the vital action of the pulp. It is formed within the pulp chamber and is always an addition to the already formed dentin. It forms against the portion of the pulp cavity next to the fibrils which have been affected by the lesion. The enamel might wear or break indefinitely, and we shall find

no compensation of any kind occurring until it reaches the surface of the dentin, whereon the vital power of the pulp is aroused and an action of repair progresses in proportion to the extent of the injury. Some have thought these changes occur only in the teeth of old people, but such is not the case. They may occur at any age, and this process of repair has been found to have taken place in the tissues of a temporary tooth. These changes are all characteristic of the vital action of the pulp. The dentin is and was meant at all times to be a living tissue. As I have shown, it receives impressions of injuries and responds by processes of repair. Some of the ablest men in the profession have questioned the further value of the tooth pulp after the full formation of the tooth has taken place. They look on it as simply a formative organ and consider its mission closed with the formation of the tooth. It is, therefore, in their judgment quite as well to destroy it, take it out and fill its chamber. The microscopic appearance of dentin, after the pulp is removed, shows that a large amount of dead organic tissue is left within the canals that can not be taken out, and this dead tissue is a source of considerable danger to the health and vitality of the pericementum.

The subject of vitality, tissue repair, and compensation for injury on the part of the pulp, should suggest a lesson for us all. The whole phenomena of vital action shows that the pulp is, under proper conditions, always helpful in bringing about successful results, if properly attended to. The restoration to a healthy condition of an irritated and troublesome pulp, is among the highest acts of professional skill. It is unfortunte that so many pulps have to be destroyed. It is fortunate that so many teeth remain quiet and apparently healthy after pulp extirpation and treatment. With the death of the pulp we lose not only sensation in the dentin, but also all the changes which vitality give to an organ, such as nutrition and recuperation. These can never by any possible means be revived. The main mass of the dentin of the tooth is dead. Myrids of lifeless fibrils are in its canals. It is true that the cementum, which was not formed from the pulp tissue, does furnish a limited amount of vitality and nourishment to the root, which is covered by the pericementum; but the health of the pericementum is threatened by the dead tissue which is locked up in the canals within the dentin matrix. In vigorous health pulpless teeth have been successfully treated and remain serviceable for years. In cases of a lessened vitality, we may expect more or less pericementumal trouble, a darkening of the tooth, a recession of the gums, and an absorbing of the alveola processes. The tooth is beyond the influence of any systematic process, and there is no probability of a change for the better. Abscess and necrosis may supervene, and extraction is the last resort. I conclude by quoting an extract from a paper written in 1874 by Dr. J. E. Craven, who says:

Here is an organ formed of a delicate tissue as is the eye, and because some agent of decay threatens its ivory walls, the ruthless hand of a blissful ignorance pours on its devoted head such destroying angels as carbolic acid, creosote, cobalt, and arsenous acid. Poor little pulp, you have been caught, and the destructive genius at the chair wills that you be deprived of your previous life. Why not lay aside those substances that blister and crisp the tissue, until its life is enfeebled or lost, and, instead, resort to milder agents whose influence tends to cool the fevered part and allay the pain, reduce the inflammation, and use the food that nature herself would suggest to replace the covering the pulp has lost by decay?

PULP DEGENERATION.*†

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There are two forms of pulp degeneration, physiologic and pathologic. The physiologic is along the line of evolution and under the general law of economy of growth or use and disuse of structures. Physiologic degeneration was discussed in a paper, "The Evolution of Pulp."[1] It was shown that structures nourishing the placoid scales were larger than the scales themselves. Later, in some sharks, toothed birds, elephants, etc., the circumscribed pulp is as large as the tooth; in the horse and cow it is smaller, while in the anthropoid apes and man the pulp grows smaller and smaller until, in adult life, the apical end is so small that only one or two small arteries and nerves enter the root of the tooth. I demonstrated the vasomotor system of the pulp with nerve endings in a paper on the "Vasomotor System of the Pulp,"[2] still later in 'Constitutional Causes of Tooth Decay."[3] I also demonstrated nerve degeneration and inflammation resulting in abscess of the pulp by disease of the body in connection with the vasomotor system and nerve degeneracy.

A pulp with such a record as I have demonstrated could hardly avoid pathogenic degeneration. Scarcely a pulp is exempt from influences of this, due to diseases of the body, external violence or pathologic changes. In the very nature of events, physiologic degeneration must necessarily result in pathogenic degeneration under the law of economy of growth and the struggle for existence between organs, influenced by bodily defects. Before taking up the different degeneracies, the nature of the pulp must be briefly considered.

The number of nerves, arteries and veins entering the apical foramina depends on the age of the individual and the tooth itself. A larger number enters early in tooth development than later in life, when the foramina is exceedingly small. Age and exostosis naturally reduce the size of the opening. Only one or two arteries enter the pulp chamber from the main trunk. These divide and subdivide, forming many branches and loops.

Because of the small opening at the apical end of the root, collateral circulation is impossible: hence, with end nerves and arteries, the pulp is an excellent illustration of an end organ. This constitutes its susceptibility to disease. The pulp enclosed within bony walls is without an opportunity for expansion in arterial dilation and sclerosis; it has only one or two small trunk arteries and veins for supply and waste. The blood likewise increases disease susceptibility. The vasomotor system makes the pulp to respond to any disease to which the general system may be subjected. Diapedesis follows. Thermal changes from without also modify the circulation of the pulp. Sudduth, and later Miller, are of opinion that there are no lymphatics in the pulp. If they be not present, still the pulp has great predisposition to degeneration, since Wedl, Tomes, Smale and Colyer and many others, as well as myself, have found large spaces, without walls, whose lymphatic nature has not been deter-

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. E. A. Bogue, Alice M. Steeves and M. L. Rhein.

† This paper is one of a series read before this Section for a number of years and was referred to in my paper on "The Constitutional Causes of Tooth Decay."

1. The Journal A. M. A., Aug. 2, 1902.
2. The Journal A. M. A., Dec. 19, 1903.
3. Dental Digest, December, 1903.

mined. That débris and waste products may be carried from the pulp through the veins seems probable.

One influence but little considered in relation to pulp degeneration or tooth structure in general, and one that exerts a marked consequence on tooth decay, is the factor of interstitial gingivitis, abrasion and erosion, which are degenerative conditions that take place at the fourth period of stress, at the senile stage or period of evolution at from forty to forty-five years of age. Not infrequently the senile stage occurs prematurely in neurotics and degenerates. At this period all excretory organs are weakening, faulty metobolism results, and the vasomotor system does not respond quickly. Marked disturbances take place in all the structures of the body, including the alveolar process as well as the pulp. Wedl in 1872 first called attention to the senile condition of tooth structures shown by their discoloration.

Morbid change in the pulp other than nerve end degeneration, inflammation resulting in abscess, as already discussed, may be summed up as arterosclerosis, endarteritis obliterans, thrombosis and embolism, cloudy swelling, fatty degeneration, mucoid, colloid, hyaline, amyloid degeneration, pulp stones, neoplasm and fibroma.

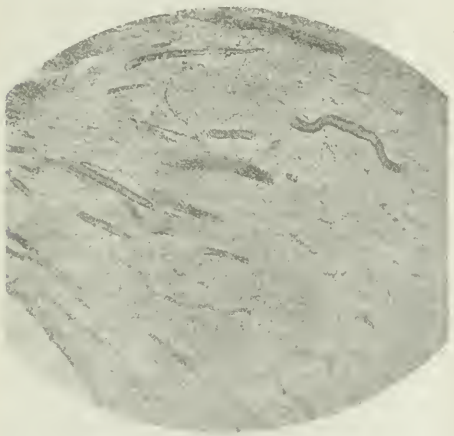

Fig. 1.—Thrombosis of capillaries of pulp and inflammation. (×137). Arteries and capillaries closed. Thrombus. Acute inflammation, showing there has been a hyperemic condition.

Some of these have been discussed by Wedl, Tomes, Smale and Colyer, Hopewell-Smith, Black, Boedecker, Arkovy, Andrews, Römer, Morgenstein, Caush, Latham and many others, and can be studied more at length in the original monograph.

Here it is not my intention to study each morbid condition, but to show that the pulp is susceptible to them (individually and collectively), resulting in tooth degeneration.

Among vascular changes and circulatory disturbances, thrombosis in the blood vessels of the pulp is not uncommon. From the present knowledge of pathology and the pathogenic condition of the pulp, it is evident how thrombosis must occasionally result. The pulp, an end organ without anastomosis and collateral circulation, the blood returning through a single vein, creates an anatomic predisposition for formation of a thrombus. The many degenerations and retrogressive changes which take place in the pulp make it susceptible to this morbid state. The spontaneous death of the pulp which sometimes follows disease can be thus accounted for. Formation of different calcic deposits causes the current to become slower and the leucocytes to be retarded in their progress from and to the apical end of the root canal. In time the blood plates separate from the blood current and are caught at the apical end of the pulp canal. Sudden blindness occurs under similar conditions. The vessels become injured or abnormal, due to calcic deposits and other retrogressive changes and stasis take place, eventually furnishing a basis for future thrombosis and inflammation (Fig. 1).

A thrombus may be located in any part of the arterial system, but more especially the heart. Simple or septic fragments may become dislodged and carried through the blood streams to or into the pulp of the tooth. Having entered this cavity, its return is almost impossible.

Embolism consists of various structures, such as fat drops, tissue fragments, tumor cells, air, etc. These follow the blood current. The size of the body regulates

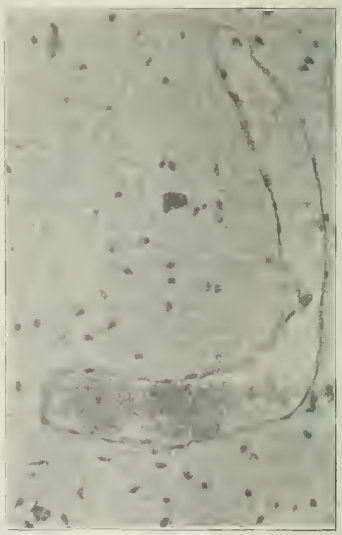

Fig. 2.—Dilated vessel. Diapedesis and embolus. (×280.)

the distance to which an embolus may travel. It stops in vessels whose lumen prevents its passage. More frequently it is arrested at the bifurcation of the artery. The pulp is especially adapted for this purpose, since it is an end organ, with numerous loops terminating in one or more veins for exit.

Emboli, according to Hektoen, act in two ways, mechanically, clogging the circulation, and specific, depending on the nature of the embolus, whether infected or sterile, whether composed of dead or living cells, capable of further proliferation. The circulation may be mechanically obstructed. If septic material has lodged in a blood vessel, inflammation may extend to the surrounding tissues (Fig. 2).

Endarteritis Obliterans and Arterio-sclerosis.—In flammation of the arterial coats in the pulp is very common. This is due, in a degree, to pulp embryogeny, anatomy, environment and to its end-organ nature, as already stated. The diseases most commonly observed are endarteritis obliterans, arteriosclerosis. While it is

not uncommon for each coat of the artery to take on a special type of inflammation, yet all frequently become involved.

Endarteritis obliterans is an inflammation of the inner coat of the artery, usually of a chronic type. The inflammation may arise from an irritant in the blood cur-

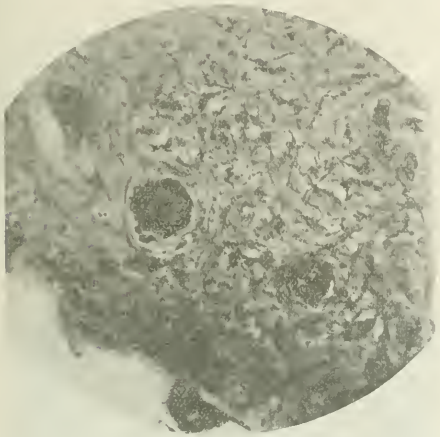

Fig. 3.—The wall in one artery is thickened (endarteritis) and almost occluded by inflammatory products. In the smaller artery the intima contains round-celled infiltration almost occluding it. The pulp tissues show the myxomatous character very well, branched spindle and round nucleated cells in many places. (×225.)

rent from the main current, through the vaso vasorum or through the lymphatics. The first is the most usual; in the alveolar process all three may occur. In the pulp, irritation in the blood stream is the most common method. Proliferation of the endothelium results.

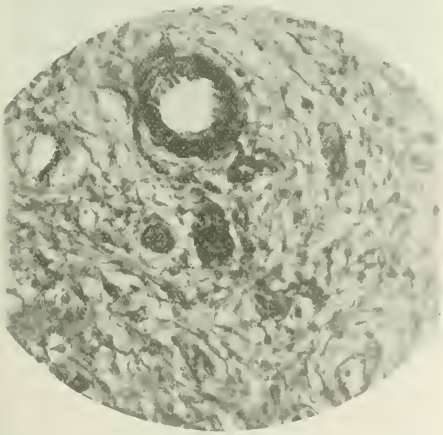

Fig. 4.—An enlarged artery in an early stage of thickening, the small vessels plugged up, well marked myxomatous pulp tissue. (×225.)

Bands of fibrous tissue develop. The blood vessels become obstructed and finally obliterated, impeding the circulation (Fig. 3).

The structure pulp, made up of loops of blood vessels and situated within bony walls, with only one or two arteries and veins for the passage of blood, renders it a unique end organ, and its arteries susceptible to arteriosclerosis. This, together with endarteritis obliterans, predispose the arteries to degeneration and necrosis. This is a thickening of the arterial walls, especially of the intima. It is secondary, according to Hektoen, to certain inflammatory or degenerative changes in the media. This is seldom observed early in life. It is commonly found after puberty, but more frequently at the senile stage, from forty years on. The causes producing arteriosclerosis in other parts of the body produce it in the pulp arteries.

The causes are usually auto-intoxication and drugs taken into the system, which likewise become irritants. Beside the distensive force and change in composition of the blood, local irritation on the arterial wall is an active cause. In diseases such as syphilis, gout, rheumatism, Bright's disease, alcoholism and chronic mercurial, lead, brass, arsenic and bromide poisoning, the

Fig. 5.—Pulp stones scattered throughout, here and there a form of round-celled infiltration, longitudinal nerve trunks, few degenerated vessels surrounded by hyaline degeneration in the middle of nerve trunk. Early sclerosis and cloudy swelling or granular degeneration. Adontoblasts *in situ*. (×21.)

walls become irritated, resulting in thickening of the arterial coats.

"The inebriate, whose brain and body after death exhibit a confused mass of wreckage, which the pathologist is often unable to trace back to the exact causes and conditions, has, according to Crothers, always sclerotic conditions of the large and small arteries, together with atrophic and hyperatrophic states of the heart, kidneys and liver, with fatty degeneration and calcification of the coats of the arteries. These organic changes are so frequently present in inebriates that they constitute a marked pathology which is traceable to the use of alcohol."

These irritants, acting through the vasomotor system and increasing the arterial pressure, finally cause paralysis and diminution of the caliber of the arteries and capillaries, producing stasis of blood (Fig. 4). This

morbid state of the arteries tends to produce any or all of the other degenerations previously referred to.

The inflammatory process of the intima was first charged to direct irritation of material floating in the blood. Rokitansky and Thoma are of opinion that it is secondary and dependent on the degenerative changes of the middle coat. This view I can not accept, since

Fig. 6.—Fatty degeneration, acute pulpitis, sclerosis of nerves. Nerve degeneration, dilatation of vessels, faint outline of degenerated adontoblasts. (×137.)

auto-intoxic states produce irritation in the blood streams.

Many degenerations of the pulp are the result of arterio-sclerosis, endarteritis obliterans and nerve degeneration. These degenerations occur in connection

Fig. 7.—Shows pulp stones and their close relation to the vascular channels. Dilated vessels with amyloid deposit. (×62.)

with each other; in other words, sometimes, two, three and even more are to be found in the same pulp. The causes producing these degenerations are not understood.

Retrogressive Changes.—One direct result of arterio-sclerosis and endarteritis obliterans is cloudy swelling and fatty degeneration. These conditions are observed in connection with such diseases as typhoid fever, septicemia and other acute infections and toxic diseases. The tissues present a whitish or shiny appearance, without fibrous structures. Under the microscope the tissues present an opaque mass and do not take stain. The cells are quite large and swollen (Fig. 5).

"When a tissue, as for instance the heart muscle, receives a diminished quantity of blood on account of the narrowing of the lumen of the arteries due to thrombosis, embolism or disease accompanied by thickening of the intima, albuminous and fatty changing, remarks Hektoen, usually result. In the case of the different forms of anemias, degenerations with fat production are found in the liver, heart, kidneys and muscles. In such conditions there is not enough oxygen and other nutritive material to maintain the function of the cells. In actual starvation there is first absorption of all the fat in the body, accompanied by a marked diminution of the struc-

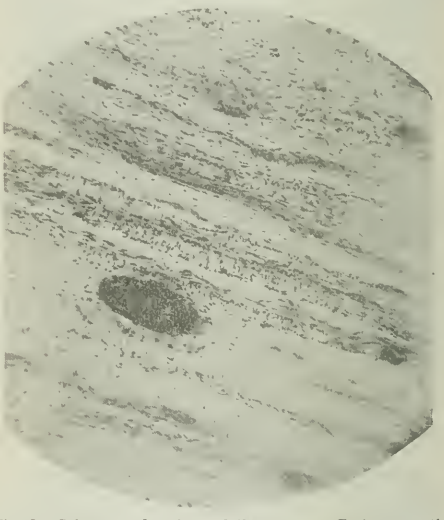

Fig. 8.—Calcareous deposit, medullary nerve. Early connective cell formation. (×225.)

ture. In the later stages, albumin and fatty degeneration take place. Albuminal and fatty changes are very common in febrile diseases. They occur in practically infectious diseases and in a large number of the intoxications, such as the drug poisons. They are also found in abnormal metabolism, due to direct action of poisons and the abnormal process of oxidation." Owing to the pulp's peculiar structure and environment, fatty degeneration is commonly found in its tissue (Fig. 6).

Amyloid degeneration is a peculiar degeneration of the connective tissue, causing an albuminous substance to be deposited in the surrounding tissue. The walls of the blood vessels also become involved. It presents a shiny appearance and differs from other tissues in that it turns a dark red color with iodin. The morbid state is found in syphilis, tuberculosis, chronic dysentery, etc. (Fig. 7). Almost every structure in the body may be involved.

Hyaline degeneration (Fig. 8) is, according to Stengle, closely allied with amyloid, mucoid and colloid degeneration, and all can pass into each other. It can occur in tis-

sues during infectious and septic processes, following traumatism, in autointoxications such as drug poison, hemorrhages in cicatrices, in senile blood vessels, arteriosclerosis, endarteritis obliterans and in the nervous system. It can also occur in connective tissue which has undergone a change by inflammation. This morbid state depends for its action on local or general nutritive disturbances. The pulp, therefore, is susceptible to it. The intima, as well as the entire walls of the small blood vessels in the pulp, easily become involved. Some investigators believe that fat connective tissue cells so arrange themselves as to undergo a change into myalin substances (Fig. 9). These ultimately lead to calcification. This raises the question of calcic deposits or so-called pulp stones. Pathologists know that tissues elsewhere in the body (which have necrosed or degenerated) are the localities where lime salts are deposited. Dying tissue which has undergone more or less change possesses, according to Ziegler, a kind of attraction for the lime salts in solution in the body. The tissues, to which

Fig. 9. This shows medullary nerve fibers and internodes, axis cylinders, myolin degeneration. (×280.)

attention has been called, are especially susceptible to calcic changes; hyaline and fatty degeneration, tissues involved in disease or drug poisoning, already mentioned here and elsewhere. Regions affected by slight degeneration and in structures like the pulp, a constricted end organ, are predisposed to deposits of lime salts. Calcic deposits have different shapes and location in the pulp tissue. Circumscribed structures appear solid under the microscope, to the naked eye or to the touch, are not pulp stones or calcic deposits, but in a large percentage of cases belong to other retrogressive changes. These deposits (Fig. 10) are, no doubt, due to degeneration of pulp tissue, especially in structures undergoing hyaline or fatty degeneration. Large masses of deposits in the form of spherules often occur. Bone formations are sometimes observed. These deposits, both in pulp stones and spherules, take on a dirty, bluish-violet color, with hematoxylin. These Dr. Latham and I have observed many times. Crystals may sometimes occur.

"This applies, however, as Ziegler remarks, only to deposits of lime carbonates and phosphates and not to those of lime oxalate." These deposits may take place at

Fig. 10.—Shows medullary nerve fibers slightly thickened. The connective tissue is degenerating and hyaline adontoblasts show well on both surfaces. (×156.)

any time, but are most likely at the senile or fourth period of stress.

I shall not consider neoplasm at length in this paper, since Dr. Latham has this subject under discussion, but

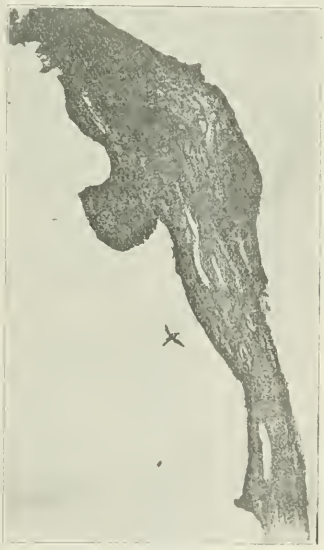

Fig. 11.—Shows interstitial fibrosis with acute inflammatory cells. Odontoblasts have been destroyed. (×22.)

will only refer to fibroid degeneration in closing. Fibroid growth of the pulp may be both rapid or slow. Inflammatory reaction in fibrous pulps is rare, although when followed by infection or exposure, it may take place.

Various degeneracies like those already mentioned are liable to occur, especially those in which connective tissue in general is predisposed. The fibers are observed in bundles, closely packed together, with many connective tissue corpuscles shown at intervals. Fibroid degeneration is easily distinguished from the other degeneracies of the pulp (Fig 11).

In these cases, the blood vessels and nerve tissue are relatively few. The blood vessels remaining usually have thickened walls, especially in the external and middle coats. This, of course, narrows the lumen. Not infrequently the blood vessels are entirely obliterated. These fibromas, very common in exposed pulps, are not now under consideration. In nearly if not all of these degenerations the blood vessels are first involved, later nerve tissue.

All these degenerations, including the pathologic processes of evolution, are the direct constitutional causes of tooth decay, erosion and abrasion brought about by diminution of tooth vitality.

Note.—The discussion on the papers of Drs. Andrews, Talbot and Latham will follow the paper of Dr. Latham, which will appear August 20.

TUBERCULOSIS IN THE JEWISH DISTRICT OF CHICAGO.

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CHICAGO.

The Jewish population of Chicago can be estimated at 75,000. This element of population is not as homogeneous as any other of the numerous nationalities found in this city; the ideas, customs and mode of life of Jews differ according to their place of nativity or length of residence in this country. The so-called immunity of the Jewish race from certain diseases varies in degree according to the economic and hygienic conditions in which they live; tuberculosis, for instance, may be comparatively rare among the well-to-do, but is very common among the poor. The same can be said about all kinds of infectious diseases, the spread of which is favored by poverty, overcrowding and its attendant unfavorable conditions of life. Conditions in which the different elements of the Jewish population live influence the degree of prevalence of certain diseases to a much greater extent than any racial characteristics.

THE JEWISH DISTRICT OF CHICAGO; ITS AREA AND POPULATION.

The largest percentage of the Jewish poor of Chicago are found in a district bounded by Canal Street on the east, Blue Island Avenue west, Taylor Street north and Fourteenth Place south (Chart 1). This area measures 244.6 acres and corresponds to one-half of the Ninth and a fraction of the Nineteenth wards of this city.

Its population can be estimated at 31,000, of which 22,500 are Jews. The Russian Jew represents the predominant element; Jews from Austro-Hungary, German Poland, Roumania and other European countries are in the minority.

All trades are represented here to a certain extent. Tailor-trade and work in factories and stores furnish means of subsistence to the greatest number. Of men engaged in outdoor work the largest percentage are peddlers.

Constant emigration from this district of the Americanized and more prosperous Jewish element is compensated by a continuous influx of new immigrants; thus the general aspect of this part of the city remains about the same. The non-Jewish population is found chiefly at the outer belt of this district and consists of Bohemians, Italians, Irish and a small number of Lithuanians and Poles.

HYGIENIC CONDITIONS. MODE OF LIFE.

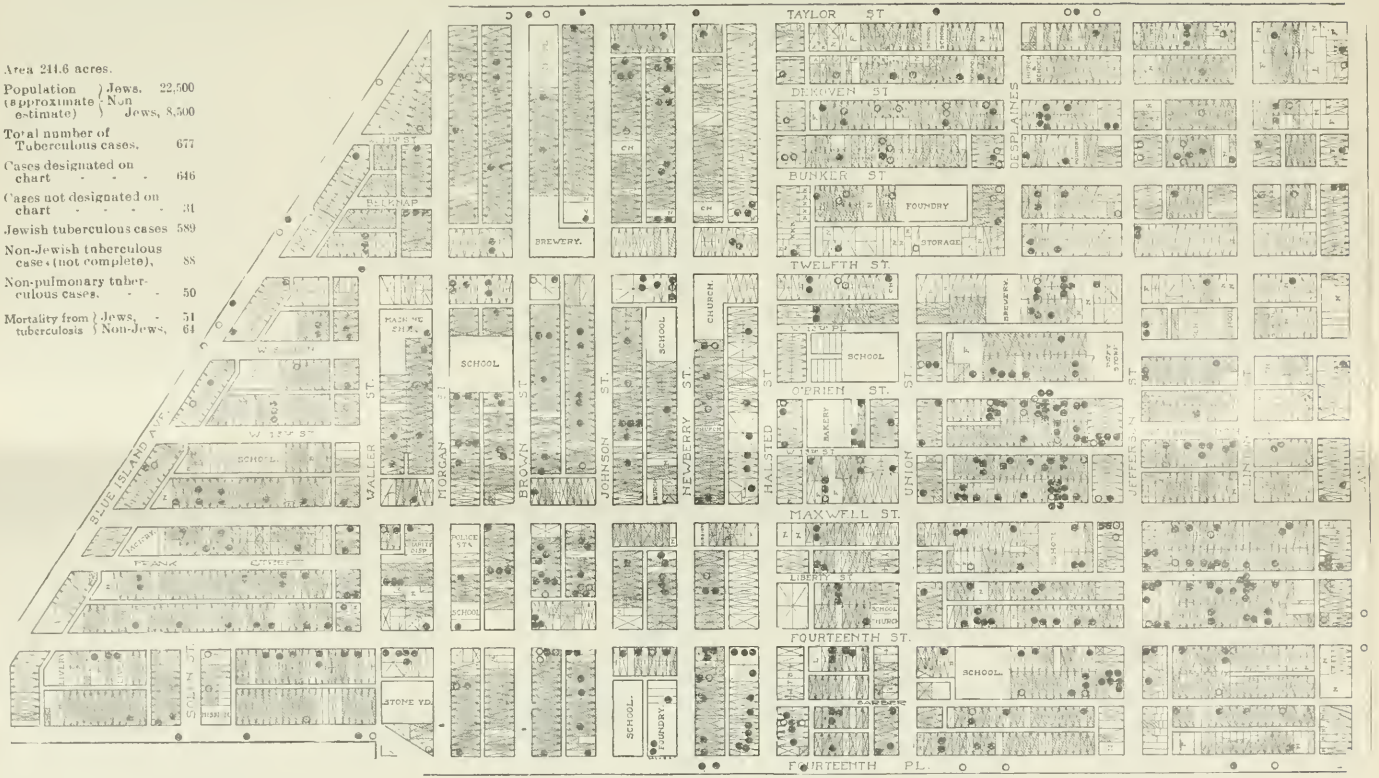
The air in this part of the city is constantly filled with dust and clouds of smoke from the vast number of factories, foundries and railroads of the adjacent river district. It is further polluted by emanations from piles of refuse accumulating in streets and alleys. A large portion of this area is but seldom swept or sprinkled. There is only one small playground and no parks in sight for a distance of three miles. Hunger for pure air is the cry of the neighborhood. A more comprehensive idea of the existing conditions was gained by a detailed study of a square block in the center of this district (Chart 2), in which a house-to-house investigation was made by myself and Miss Bertha Hazard, a resident of the Hull House. This block is bounded by Jefferson street on the east, Union Street west, Maxwell Street south, and O'Brien Street north. West Thirteenth Street, one of the narrowest streets in Chicago, runs through its center. The area measures eight acres and has a population of 2,007 Jews and 214 non-Jews, or about 278 people per acre. Sixty-six per cent. of buildings are two stories high.[1] Forty-five per cent. of population in this square block live in rear flats, rear buildings or basements. The position of buildings is such that very little or no light can enter through the windows on either side. The average family consists of parents and four children. Three or four-room flats are the general rule. Extreme poverty compels a large number of families to utilize only half of their rooms during the cold season. Windows are generally kept closed through the entire winter. The extremely unsanitary conditions in which these people work and live, their abject poverty and overcrowding would naturally lead to a high rate of mortality from all diseases, but the effect of these unfavorable conditions is greatly mitigated by certain features of Jewish life, among which I could mention their early marriages, chastity, rarity of syphilis and alcoholism, easy access to medical aid, tendency to consult a physician for the most trivial ailment, careful selection of meat, its thorough cooking, etc.

MORTALITY FROM TUBERCULOSIS.

From May 1, 1902, till Nov. 1, 1903, 51 Jews died from tuberculosis in the Jewish district of Chicago. This represents an annual death rate of 1.51 per 1,000 living, or 138.5 deaths from this disease in 1,000 mortality from all causes (see Table 1). The corresponding death rate from tuberculosis in the central block (Chart 2) was 2.81 per 1,000 living, or 228.5 deaths from this disease in a total mortality of 1,000. During the same period of time the annual mortality from tuberculosis among the non-Jewish population of the Jewish district was 5.02 per 1,000 living, or 179.7

1. The per cent. of two story dwellings in the entire Jewish district is 90. The greater density of population in the Jewish district of New York (488 per acre) is made possible by the existence of numerous large tenement buildings.

CHART I.- Showing distribution of cases of Tuberculosis in the Jewish district of Chicago. (May 1 1902 to November 1, 1903.)
By DR. THEODORE B. SACHS.



Area 244.6 acres.

Population (approximate estimate)	Jews.	22,500
	Non Jews,	8,500
Total number of Tuberculous cases.		677
Cases designated on chart		646
Cases not designated on chart		31
Jewish tuberculous cases		589
Non-Jewish tuberculous cases (not complete),		88
Non-pulmonary tuberculous cases.		50
Mortality from tuberculosis	Jews,	51
	Non-Jews,	64

Cases of tuberculosis living—designated by solid dots.
" " —dead— " " empty circles.

One story building with a store or shop on the first floor.
Two " " " " " " " " " "
Three " " " " " " " " " "
Four " " " " " " " " " "

One story dwelling.
Two " "
Three " "
Four " "

F—Factory. N—Sheds, etc. B—Bakery. Ch—Church. L—Livery.

deaths from tuberculosis in a total mortality of 1,000.

The annual death rate from tuberculosis in the city of Chicago, according to the United States census for 1900, is 1.78 per 1,000 living, or 110.2 deaths from tuberculosis in a total mortality of 1,000.

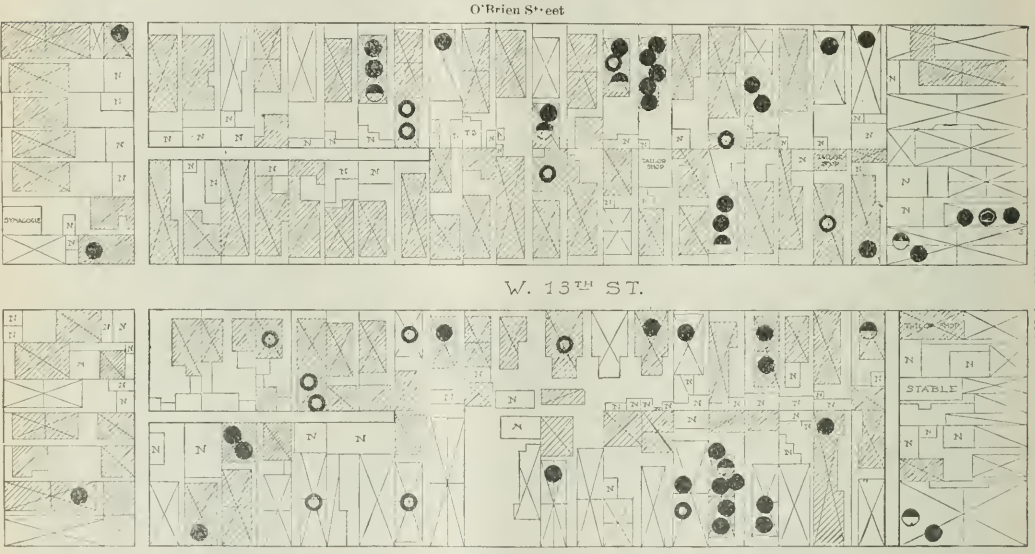
These figures would naturally lead to the conclusion that mortality from tuberculosis among Jews is comparatively low and that Jews enjoy a certain immunity from this disease. Statements of this nature are found in nearly every text-book and apparently conform with the experience of the most careful observers in the profession of this country and Europe.

No deductions on this subject could be drawn from the federal census, as the population is classified only above the average, judging from their occupations and the fact that out of 10,618 families, 6,622 employed from one to three servants, or more.

While this bulletin contains an enormous amount of material collected by experienced statisticians and its value is enhanced by commentaries from one of the foremost medical men in this country, the conclusions concerning rarity of tuberculosis among Jews can not be accepted for the following reasons: 1, the defective method of inquiry; 2, the high economic status of the families investigated, and, 3, the prevailing tendency to conceal tuberculosis as a cause of death.

An extensive study of tuberculosis among the poor and middle-class Jews of New York was recently made

CHART II.—A detailed study of a single block in the centre of the Jewish district of Chicago. By DR. THEODORE B. SACHS and MISS BERTHA HAZARD, resident of Hull House.



Area, 8 acres—Population 2,221.

(A)—Adults	Jews,	961	Number of tuberculous cases	Jews, 53
	Non-Jews,	125		Non-Jews, 1
(C)—Children under 18	Jews,	1053	Deaths from tuberculosis,	Jews, 8
	Non-Jews,	82		Non-Jews, 3
1.—Living in rear flats and rea. buildings	Adults,	479	Case of tuberculosis—living	
	Children,	485	" " " —dead	
2.—Living in basements,	Adults,	13	" " " —moved	
	Children,	22		

Cases of tuberculosis designated on this chart occured in a period of 18 months. (May 1, 1902 to November 1, 1903).

according to the place of nativity. A very large amount of statistical material is found in one of the most extensive investigations of this subject made by Dr. J. S. Billings, who, in Bulletin 19, Federal Census 1890, presents the results of a census of 60,630 Jews. The bulletin gives an astoundingly low annual rate of mortality from tuberculosis among Jews, namely, 0.22 per 1,000 living, or 70.59 deaths from this disease in a total mortality of 1,000. All the data in this census were obtained through special inquiries directed to heads of Jewish families living in widely different parts of this country. The decision as to the cause of death in each case was left to the judgment and fairness of heads of these families. Their economic status was far

by Dr. Maurice Fishberg.[2] He presents the results of a comparative study of the mortality statistics in the different wards of New York City.

Seventh, Tenth, Eleventh and Thirteenth wards, to a greater extent inhabited by Jews, showed in the years 1897-98 and '99 a smaller number of deaths from tuberculosis than any other section of the city. The annual mortality per 1,000 living for each of these wards was 2, 1.4, 1.72, 1.55 and 1.11 respectively, while the ratio for the Fourth Ward, inhabited by Irish and Italian laboring people, was 5.65, the highest in the city. Returns next to the highest came from the Twenty-third

2. The relative infrequency of tuberculosis among Jews. American Medicine, Nov. 2, 1901.

Ward, inhabited by Irish, Germans and Americans (4.95 per 1,000).

Any medical man who was brought into close contact with the Jewish poor of large cities will bear witness to the fact that only a certain proportion of Jewish tuberculous population die in the district in which they have contracted the disease. Their fear of consumption is much greater than among any other nationality and the belief in climate as the only cure for pulmonary disease is so firmly rooted that the first suggestion of anything abnormal with the lungs leads them to immediate preparation for a change to better climatic conditions. Men and women in very destitute circumstances will sell all their belongings and without second thought start on a journey to some of the distant western states. If for some reason they fail to secure financial assistance from some Jewish charity organization, their relatives and friends come to their rescue.

The idea of proper climate as the only cure for any

TABLE 1.

	Annual Death Rate from all Causes per 1000 Living.	Annual Death Rate from Consumption per 1000 Living.	Death Rate from Consumption in 1000 Deaths
New York City (U. S. A. Census 1900)	20 4	2 43	118 8
Chicago (U. S. A. Census 1900)	16 2	1 78	110.2
New York City Jewish District; 7, 10, 11, 13 Wards		1 63	99
Chicago Jewish District	10 5	1 51	138 5
Chicago Jewish District (Central Block)	11 58	2 81	228.5
Dr. J. S. Billings. Census of 60,630 Jews. Bul. 19, Census U. S. A., 1890	6.80	0 22	70.59

chronic cough is so widespread that plans for change of residence are frequently made without consulting a physician, and at times against his advice. A large number will remove to more healthful quarters of the same city. This constant emigration of tuberculous population from the poor districts of the city results in the erroneous conclusion that mortality from tuberculosis even among poor Jews is very low. From my experience as examining physician for the United Hebrew Charities and National Jewish Hospital for Consumptives I am certain that only a fraction of the Jewish tuberculous poor die in the districts in which they contracted the disease, and consequently any conclusions concerning prevalence of tuberculosis among Jews, based only on the rate of mortality, are necessarily erroneous to a considerable extent.

TABLE 2.—Mortality from Tuberculosis and Pneumonia in the Jewish District of Chicago. (May 1, 1902, Nov. 1, 1903.) (Among Jews.)

Ages.	Under 5	5-10	10-15	15-20	20-30	30-40	40-50	50-60	Over 60	Total
Tuberculosis	18	5	3	4	4	6	6	4	1	51
Pneumonia	82	1			1	3	4	2	3	46

The accompanying table of ages of mortality from tuberculosis in the Jewish district of Chicago well illustrates this point (Table 2). Of 51 deaths from this disease, 26 occurred before the age of 15, while in the period of life between 20 and 40 years, or the usual period of greatest mortality, only 10 deaths took place. The reason for a high mortality among children is explained by the frequent occurrence of meningeal tuberculosis. On the other hand, the number of persons that die in the district between 20 and 40 years of age would be very large if not for that constant emigration of tuberculous adults.

It is possible that certain conditions of Jewish life, particularly rarity of alcoholism and their dietary laws, may have some influence on prevalence of this dreadful disease, but the rate of mortality is much greater among them than was so far recorded.

For a period of eighteen months beginning May 1, 1902, an effort was made to record every case of tuberculosis that occurred in the Jewish district of Chicago. This was facilitated by the fact that a large proportion of Jewish tuberculous poor sooner or later apply for admission to the National Jewish Hospital for Consumptives. In addition to that the records of numerous city hospitals were consulted and every authentic case treated by myself and other medical men in this part of the city was added to the entire number. In a large proportion of cases in adults the diagnosis was confirmed by microscopic examination of the sputum and no diagnosis of tuberculosis was made unless based on positive physical findings. The results of this investigation lead to the inevitable conclusion that tuberculosis is very prevalent among the Jewish poor, that unsanitary conditions of home and factory life are chiefly responsible for its widespread occurrence and that tuberculosis mows down its victims regardless of race or nationality.

WIDESPREAD OCCURRENCE OF TUBERCULOSIS IN THE DISTRICT.

In a period of eighteen months 840 Jewish consumptive poor applied for treatment at various hospitals and dispensaries of this city, the majority of them receiving treatment at institutions conducted by United Hebrew Charities. More than one-third of the entire number sought admission to the National Jewish Hospital for Consumptives in Denver. The excellent results obtained by that institution and willingness of the Jewish Charities to extend help to their consumptive poor became widely known, so that gradually the number of applicants increased to such an extent as to create a very difficult problem to deal with.

Of the total number of 840 cases, 589 came from the Jewish district previously described and 129 from an area within a radius of a mile from it.

Classification of ages was as follows:

TABLE 3.

Ages.	Under 5	5-10	10-15	15-20	20-30	30-40	40-50	50-60	Over 60	Unknown	Total
Number of Cases	54	76	62	72	207	176	107	41	19	26	840

Thus one-third of the entire number of cases occurred in children and 60 per cent. between the ages of 20 and 50, or the period of life of greatest usefulness to society.

As shown in Table 4, 80 cases were non-pulmonary; in 61 some other organ besides the lungs was prominently involved. Tubercular meningitis was found almost exclusively in the first three years of life. Seventy-five per cent. of cases of glandular tuberculosis were met in the first two decades of life. Difficulties inherent to differential diagnosis of intestinal diseases in children may explain the apparently small number of cases of intestinal tuberculosis found in the first few years of life.

In 41 cases of the entire number physical signs were not definite enough to make a positive diagnosis; these cases were classed as suspicious.

Of 840 cases, 760 or 90 per cent. were cases of pulmonary tuberculosis. Clinical demonstration of greater frequency of tuberculosis in other organs of the body

could be accomplished only by the use of more exact and accessible methods of diagnosis which we do not possess at the present time. The tuberculin test, not entirely free from harmful effect, was out of question in the

TABLE 4.—Classification of the 840 Cases of Tuberculosis According to Organs Involved.

	Meninges.	Meninges and Lungs.	Glands.	Glands and Lungs.	Joint.	Joint and Lungs.	Spine.	Spine and Lungs.	Intest. and Periton.	Bone.	Skin.	Genito-Urin.	Intest. and Lungs.	Larynx and Lungs.	Suspicious.	Pulmonary.
Under 5	5	7	6	1	5	...	2	....	3	.....	.....	.....	1	.....	.....	.....
5-10	1	...	12	5	7	...	4	.....	.....	2	1	.....	.....	.....	.....	.....
10-20	...	...	7	6	3	3	3	5	5	.....	.....	2	1	1	.....	.....
20-40	...	1	4	2	5	...	1	....	1	3	1	...	9	9	.....	.....
40-60	...	1	3	1	...	...	...	.....	1	.....	.....	1	4	4	.....	.....
Total	6	9	22	15	20	3	10	5	10	7	2	3	15	14	41	658

cases under discussion, as the majority of them were patients treated either at free dispensaries or their homes.

According to occupation these cases were classified as follows:

TABLE 5.

Males.		Females.	
Out door work	65	Women and Girls at Home	210
Indoor work (Factory, Shop etc.)	190	Children (School 58)	99
Store	55	Factory or Shop	26
Teachers and Professional men	9	Store	13
Children (School 70)	103	Unknown	2
Unknown	68		
Total	490	Total	350

Of those employed in factories or shops 50 per cent. were tailors (operators, finishers, cutters, etc.), 15 per cent. cigar or cigarette makers. At least 70 per cent. of the tailors were operators employed in the so-called sweatshops of the Jewish district. Of the 65 engaged in outdoor work 15 were rag peddlers.

Unfavorable conditions inherent to employment could be considered to a great extent responsible for production of 284 cases, the number found in persons employed in factories, shops and stores. Four hundred and twelve, or 50 per cent. of the entire number of cases, occurred in women or children at home. These cases could be traced either to spread of infection in the same family, close association with a tubercular family in the same building, or occupation of premises previously infected by a consumptive.

The 677 cases of tuberculosis (589 among Jews and 88 among non-Jews) found in the Jewish district were distributed among 533 houses. Of this number 428 houses contained 1 case each; 75 houses, 2 cases each; 26 houses, 3 cases each; 1 house, 4 cases; 2 houses, 5 cases each; 1 house, 7 cases.

In 105 houses containing more than one case each, the number of infected families was 175, showing that spread of infection to neighboring families in the same building is probably almost as great as within the tuberculous families themselves.

It would require considerable investigation covering a long period of time in order to determine what proportion of the entire number of cases originated in houses previously infected by consumptives. That premises vacated by tuberculous families served as a frequent source of infection is shown by the fact that tuberculous family history could be elicited only in about one-half of the 412 cases that occurred in women or children at home; the other half could originate either from premises previously infected or close association with neighboring tuberculous patients.

The so-called Jewish district contains 3,996 dwellings; of this number 533 at the time of the investigation included 677 cases of tuberculosis. As statistics mentioned in this paper refer chiefly to the element of population frequenting charitable medical institutions, it would be a conservative estimate to say that at the present time there are at least 1,000 cases of tuberculosis in the district, or 1 case to 30 living, or one dwelling of every five is being infected. If records for the last few years are consulted, it may not be surprising to find that nearly every house in the Jewish district was at some time occupied by a tuberculous patient. Frequent changes of residence lead to continuous infection of new dwellings; still no effort was ever made toward systematic disinfection of premises vacated by consumptives. Medical men throughout the city familiar with the widespread occurrence of tuberculosis among the poor know very well that all these deductions could be applied with equal strength to all parts of the city where our poor live and work.

That the disease is on a constant increase among the poorer classes of population in this city is my earnest conviction. Unfortunately, very little has been done till lately to counteract its spread.

The United Hebrew Charities' West Side Dispensary took cognizance of this fact three years ago, starting a campaign of education in the Jewish district. By individual instruction and distribution of circulars, the members of the medical staff have endeavored to acquaint the Jewish poor with the nature of the disease and means of preventing the spread of infection. A large percentage of cases were kept under constant medical supervision. At the same time the United Hebrew Charities have done their best to ascertain and supply the needs of consumptives in this district. Through an understanding with the National Jewish Hospital for Consumptives in Denver about 60 incipient cases of tuberculosis, in a period of 18 months, were successfully treated in that institution. Of late the number of applicants increased to such an extent that the Jewish charitable organizations are gradually coming to the conclusion that even if selected cases continue to be sent to the Denver hospital, a sanitarium near Chicago ought to be provided for the vast number of Jewish tuberculous poor. The problem of eradicating the widespread occurrence of tuberculosis in the poor districts demands immediate solution, and it may be confidently expected that the Jewish charitable organizations, as usual, will contribute their share toward the solution of this great question of to-day.

No subject of medicine received more attention in the last 20 years than tuberculosis, its etiology and means of prevention. Koch's famous discovery gave an increased impetus to the warfare against this disease that for many centuries was decimating the ranks of humanity. To-day the medical profession stands united in a crusade that means saving of millions of lives every year, but ultimate success can follow only a complete change in conditions of life favoring occurrence and spread of this disease.

In Chicago the first opportunity of a systematic warfare against tuberculosis came with the organization of the Committee for Prevention of Tuberculosis of the

Visiting Nurse Association. During the first year of the existence of this committee the tuberculosis problem has attracted more attention in this city than at any previous time. A large number of tuberculous poor in various parts of the city were reached through its agency, and I am certain its influence is felt already in a higher degree of individual prophylaxis on the part of the public.

Of the many details of the tuberculosis problem, one—the thorough disinfection of houses vacated by consumptives—can be effectively carried on only by the municipal government. The Chicago Medical Society ought to go on record on this question and the Board of Health should be provided with sufficient means to do the work. I know the conscience of the local medical profession and community at large will not tolerate any more the enormous loss of life entailed by continuous reinfection of dwellings in the poor districts of this city.

The mere education of masses on the subject of tuberculosis may help a great deal toward solution of the grave problem confronting us, but any appreciable reduction of the frightful mortality from this disease can follow only a radical change in the hygienic conditions in which our laboring people live and work.

The campaign for better conditions should include: 1, cleaner streets, frequently sprinkled and swept; 2, complete abatement of smoke nuisance; 3, more playgrounds and parks; 4, erection of model dwellings where flats could be rented at a moderate price; 5, better hygienic conditions in factories and stores—in short, all measures designed to improve the conditions of life of the workingman. I may be permitted also to say that no measures of public policy concerning tuberculosis could be carried out to their full extent unless the city of Chicago passes a compulsory notification law.

In regard to hospital accommodations the tuberculous patient has been and remains the most neglected individual in the city of Chicago. Home treatment of tuberculosis in the poorer districts of the city can never be carried out with any degree of success unless the conditions in these districts are completely changed.

The Cook County Hospital for Consumptives, even completely reorganized under the plans of the present County Board, could accommodate only a fraction of our tuberculous poor. As the doors of every hospital in Chicago are at present closed to consumptives, the establishment of a large sanatorium outside the city limits is a need that ought to be fulfilled in the near future.

Before closing this paper I wish to emphasize the following points:

1. The so-called immunity of Jews from tuberculosis is greatly overestimated.

2. As tuberculosis is a social disease, the prevalence of which is determined by unfavorable conditions of life, its eradication can only be accomplished by the combined efforts of the state, laity and medical profession.

3. That better housing conditions, dissemination of knowledge concerning tuberculosis and its prophylaxis, compulsory notification, thorough disinfection of premises previously occupied by consumptives, and establishment of public sanatoria for treatment of this disease would put an end to its present widespread occurrence.

My thanks are due to Miss Bertha Hazard (resident of Hull House), for valuable assistance in the investigation of the central block of the Jewish district, and Dr. Alice Hamilton of Hull House, for examining the records of county institutions and Central Free Dispensary.

THE DIAGNOSIS OF SCARLET FEVER AND SCARLATINOID AFFECTIONS.*

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PHILADELPHIA.

Of all the acute eruptive fevers, scarlatina, in obscure cases, offers the greatest difficulties in diagnosis. In well-pronounced and typical cases the nature of the disease is quite clear. When all the symptoms are well developed an unmistakable syndrome is presented. Who could fail to diagnose a disease characterized by sudden vomiting, high fever, prostration, diffuse punctiform rash, circumoral pallor, red and swollen throat, enlarged glands and strawberry tongue, followed by desquamation, otitis media and albuminuria? But the picture is frequently incomplete.

Those who have had experience with scarlet fever have observed that in very mild cases all the symptoms are commonly poorly marked. When the eruption is intense the throat is usually severely attacked, the tongue is characteristic and the fever is high. When, on the other hand, the general symptoms are very mild, the rash is, as a rule, faint and poorly developed.

It is under the latter circumstances that the diagnosis becomes difficult, for the complex of symptoms on which the foundation of the diagnosis rests is too weak to support it.

How often do we see cases in which the rash is faint, the constitutional symptoms mild, and the throat and tongue uncharacteristic. The evidence appears very slender on which to base the diagnosis of disease which necessitates six or eight weeks of isolation and sundry other inconveniences. Under these circumstances the physician will do best to postpone the pronouncement of a diagnosis until the further course of the disease is watched. In some cases it will remain impossible even in the light of subsequent events to be sure of the scarlatinous nature of the disease. This is a humiliating admission, but the interests of truth demand that the limitations of our knowledge be frankly confessed.

I believe that in no other acute diseases are so many errors of diagnosis made as in scarlet fever. On the one hand, many cases of extremely mild scarlet fever are overlooked, and on the other, rashes from other causes resembling that of scarlet fever are not infrequently diagnosed as the latter disease.

It should be remembered that there is no one symptom of scarlatina which is pathognomonic of the disease.

The rash, the most conspicuous symptom, and the one which has given the affection its name, is not in itself characteristic, inasmuch as a practically identical exanthem may occur in other conditions. Nor does its absence entirely exclude the diagnosis of scarlet fever. Indeed, we may have a scarlatina without eruption (*scarlatina sine eruptione*), without fever (*scarlatina sine febbre*), or without sore throat (*scarlatina sine angina*).

In the formulation of a diagnosis each of the composite symptoms of the disease has a relative value. It may prove of interest to discuss the importance to be attached to some of the manifestations of scarlet fever.

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

ETIOLOGIC EVIDENCE.

The diagnosis in cases of scarlet fever with obscure symptoms is often clarified by the discovery of the disease in a person to whom the patient has been exposed. In institutions for children the existence of an epidemic often clears up an individual diagnosis which would be quite impossible to make under ordinary circumstances. Close inquiry and examination will sometimes discover a desquamating and unrecognized case of scarlet fever to be the origin of an institution epidemic.

The diagnosis of scarlet fever in doubtful cases is sometimes confirmed by the disease being transmitted by the suspected patient to another person.

I recall a recent case which emphasizes the importance of such information. A colored child was admitted to the Polyclinic Hospital suffering from a severe burn. About forty-eight hours after admission the temperature rose to 105 F., and a scarlatiniform rash

Fig. 1.—Epidermal casts from a fatal case of scarlet fever.

appeared on the body. Nothing characteristic was observed in the throat or on the tongue. The symptoms might well have been attributed to an intoxication due to the burn. Nevertheless, the child was isolated and a special nurse assigned to look after it. In about four days this nurse fell ill and passed through a well-pronounced attack of scarlet fever.

DIAGNOSTIC VALUE OF THE SO-CALLED STRAWBERRY TONGUE.

In the very beginning the tongue in scarlet fever is heavily coated with a whitish fur, through which scattered red papillæ are frequently visible. In about forty-eight hours the coating peels off, and there is seen a red tongue studded with enlarged papillæ. This condition of the tongue is certainly a symptom of considerable diagnostic importance, and its presence or absence in doubtful cases should be determined and considered in formulating the diagnosis. But several sources of error must be kept in view. In mild cases of scarlet fever in which the rash and general symptoms leave doubt as to the nature of the disease, the tongue often fails to present its characteristic appearance. I can not agree with McCollom of Boston, who says that the enlargement of the papillæ is present in every case of scarlet fever, if carefully looked for. I have certainly seen a number of children in scarlet fever wards whose tongues have been quite normal in appearance. Most of these children had mild attacks.

On the other hand, the tongue in well persons shows a variable amount of prominence of the lingual papillæ. I have examined the tongues of a large number of people with a view of determining this point. Anyone who repeats this experience may satisfy himself that the tongue under normal conditions exhibits wide variations in the size and prominence of the papillæ. Moreover, there are certain chronic forms of superficial glossitis in which the papillæ are quite large.

It must be remembered, too, that the most typical strawberry tongue may in rare cases occur in affections other than scarlet fever. In a few severe cases of scarlatiniform erythema, occurring during the course of smallpox, I noted very distinct strawberry tongues.

However, these exceptions do not invalidate the force of the statement that the presence of pronounced enlargement of the lingual papillæ in cases suspected of being scarlet fever, is strong confirmatory evidence. The negative value of the absence of the characteristic tongue is of less importance.

THE DIAGNOSTIC VALUE OF DESQUAMATION.

The statement is sometimes made that the occurrence of desquamation after a scarlatiniform eruption proves the scarlatinal nature of the preceding exanthem. Those who have observed cases of scarlatiniform erythema of the desquamative type recognize the fact that exfoliation of the epidermis is not a phenomenon peculiar to scarlet fever.

It is a mistake to regard every diffuse rash that desquamates as scarlet fever. The eruption of scarlet fever is in all probability of toxic origin; there are other toxins which appear to be capable of exciting rashes which resemble that of scarlatina. Scaling is the terminal stage of certain pathologic alterations in the skin and the changes in the skin in scarlatiniform erythema are much the same as those occurring in scarlet fever.

The scaling in certain cases of desquamative scarlatiniform erythema is much more extensive than occurs ordinarily in scarlet fever. The occurrence of well-marked lamellar desquamation has more significance, therefore, in differentiating scarlet fever from other affections than from these exfoliating erythemata.

It may be true that the amount of scaling in a rash of given intensity is more pronounced in scarlet fever than in most rashes which simulate it; but exception must be made of desquamative scarlatiniform erythema, which not infrequently causes an exfoliation of the skin in large areas, leading on the palms and soles, to the throwing off of the epidermis *en masse*. This occurs very rarely in scarlet fever.

Too much importance has been attached to the mere occurrence of desquamation in scarlet fever; the time of the onset of scaling, its mode of progression and its persistence are of more diagnostic importance.

Desquamation in scarlet fever is usually observed first on the face. This is often seen from the fourth to the sixth day. About the sixth day the same process is

noted on the neck and upper portion of the chest. The hands ordinarily begin to desquamate from the twelfth to the fourteenth day. On the feet scaling may not commence until the third week.

Scarlatinoid eruptions, in my experience, begin to scale more quickly, particularly on the hands and feet. I have seen a well-marked scarlatiniform eruption occurring in smallpox lead to exfoliation of large pieces of the palmar and plantar epidermis on the sixth day. I believe also that scarlet fever scaling persists longer than scaling after scarlatinoid rashes. I should not insist on the correctness of this observation, however, as scarlet fever patients are scrutinized more closely and for a longer period than the non-scarlatinal cases; minute desquamation would thus be detected for a long time in scarlet fever and overlooked perhaps in other conditions.

A form of scaling which is commonly seen in scarlet fever, is that which begins just beneath the free border of the finger nails, extending thence down the fingers and exposing to view the new pink epidermis beneath. This appearance is so frequently present as to be suggestive of the disease.

DIFFERENTIAL DIAGNOSIS.

Among the affections which are to be distinguished from scarlet fever, the most important are those grouped under the designation of *erythema scarlatiniforme* or *scarlatinoides*.

This affection, if it may be called such, is characterized by an eruption which may be quite indistinguishable from that of true scarlet fever. It may be diffused over the entire cutaneous surface, and may be punctiform. It is often sudden in its onset, and may be attended with malaise and moderate rise of temperature (100 to 102 F.). Occasionally the initial pyrexia is higher, but under such circumstances it soon declines. The throat may be reddened, but there is no swelling of the tonsils and usually no complaint of sore throat.

The eruption has about the same duration as that of scarlet fever, although it is often briefer. It is followed by a desquamation, which is ordinarily branny, but which may take place in large flakes.

Desquamative scarlatiniform erythema, termed by some writers *acute exfoliative dermatitis*, differs from the above type in degree rather than in kind.

It is characterized by the appearance of an extensive, often punctiform erythema, which rapidly covers the entire body, and is accompanied by more or less febrile disturbance. In the course of three or four days the skin begins to desquamate profusely, being thrown off in large lamellæ or sheets. Epidermal casts of the palms and soles, looking not unlike gloves or slippers, may be exfoliated. The nails may be lost, and in severe cases the hair also. Before the skin has returned to its normal condition a relapse may occur characterized by fever, erythema and a second desquamation. In some cases three or four such relapses may take place.

This type of the disease is peculiarly prone to recurrences, which may appear every six months or a year. Sometimes marked periodicity is exhibited, the recurrent attacks developing with almost calendar precision. Doubtless many of the cases of scarlet fever recorded in the literature of the subject, which are alleged to have recurred five, six or more times, were in reality cases of scarlatiniform erythema of the desquamative type.

These eruptions are due to toxic or septic states, or to the action of drugs or sera. Simple scarlatiniform erythema may occur during the course of various infectious processes, such as rheumatism, septicemia (puerperal or other forms), pyemia, malaria, typhoid fever, etc. An evanescent scarlatiniform rash may appear before the true exanthem of measles, varicella, smallpox and vaccinia.

All grades of scarlatiniform erythema may develop during the stage of decrustation of smallpox.

Diphtheria antitoxin and other sera may produce scarlatiniform rashes, which bear the strongest possible resemblance to scarlet fever.

The drugs which most commonly give rise to scarlatiniform eruptions are quinin, mercury, belladonna and salicylic acid.

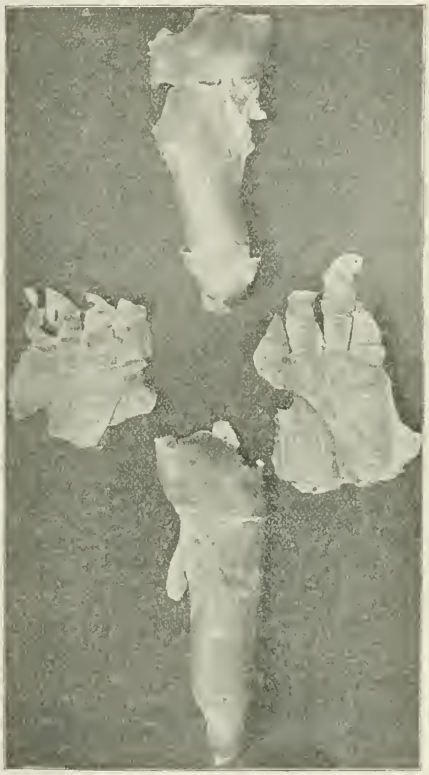

Fig. 2.—Epidermal casts of palms and soles from a case of dermatitis exfoliativa.

Many other medicaments occasionally produce scarlatinoid rashes in susceptible subjects. The eruption resulting from the administration of quinin is the most frequent and the most likely to be confounded with scarlet fever. It may be followed by well-marked desquamation.

It is often a matter of great difficulty to differentiate scarlatiniform erythema from true scarlet fever. In the former the invasive symptoms are often extremely mild; the patient commonly does not complain of feeling ill; the temperature elevation is slight, perhaps 101 or 102 F. The throat may be reddened, but the tonsils and uvula are not swollen, and exudate is not present on the tonsils. The reddened papillated tongue is, as a

rule, absent. The eruption may begin on any portion of the body; it may be patchy or irregular, or it may be diffuse, with or without punctation. The glands at the angles of the jaws are not apt to exhibit any pronounced enlargement; albuminuria is rare and otitis media does not occur.

It is thus seen that scarlatiniform erythema may be readily distinguished from a well-pronounced attack of scarlet fever; but the fact must not be overlooked that there are many mild cases of scarlet fever in which the fever is slight, the eruption poorly marked and the other symptoms correspondingly uncharacteristic.

The significant feature in scarlatiniform erythema, particularly when the rash is well pronounced, is that the intensity of the eruption is out of all proportion to the amount of constitutional disturbance. There is not present the prostration and high fever which would accompany a rash of similar severity in scarlet fever. Furthermore, there is never seen in scarlatiniform erythema a severe sore throat.

Another point of great diagnostic importance is the history as to previous attacks; the tendency to recurrence is a well-recognized feature of scarlatiniform erythema.

It may be remarked, in conclusion, that a proper sense of proportion must be cultivated in formulating the diagnosis of an obscurely developed disease. The various manifestations constituting the composite symptomatology of scarlet fever have each a relative value and their presence or absence must be given due weight in the conclusions that are drawn.

DISCUSSION.

Dr. William T. Corlett, Cleveland—In my experience the strawberry tongue, which is quite characteristic at a certain stage of scarlatina, often develops so late that it is of little value as a diagnostic point. The tongue is often very much coated, and sometimes it has been two days before the coating has been sufficiently removed to make the picture of strawberry tongue complete, and in the meantime the rash has made its appearance. I agree with the essayist as to the difficulty in making a differential diagnosis between false scarlet fever and the true disease, and also in the recognition of many of the less frequent types of scarlet fever.

THE TECHNIC OF WOUNDS INCIDENT TO LAPAROTOMY.*

HENRY O. MARCY, A.M., M.D., LL.D.
BOSTON.

The currents and counter-currents of surgical opinion have nowhere better illustration than in the treatment of wounds. Through the warp and the woof of history there are continually appearing and disappearing, in the experience of the ages, many truths which have their demonstration only in this later day of crucial science. The Egyptians, the Greeks, the Romans, all used antiseptics, in varying degree of value. This we recognize in the balsams, vinous preparations, terebinthinates and mineral oils. More or less obscurely they also recognized the value of drainage and cleanliness in wounds.

After amputations, the application of boiling oil or the actual cautery served an admirable purpose for primary disinfection. To my mind, one of the greatest evidences of the genius and power of Ambroise Paré lies quite as much in his overcoming of conservative prejudice against the introduction of the ligature as a hemostatic as to the value of the discovery itself.

The late Henry J. Bigelow one day, about the beginning of the Civil War, introduced to us the famous Dr. Reuben D. Mussey as the leading exponent of surgery of the previous generation, with the statement that such a master could easily familiarize himself with all the improvements which the generation had contributed to our art, within the short period of three months.

Somewhat recently I have examined my old copy of Heister's Surgery, published in 1750, which served as the text-book of continental Europe for at least three generations, and am surprised at the favorable comparison of this book with the Surgerys of 1850, especially so far as concerns the technic of wounds. My own experience in the war of the rebellion differs not so very materially from that of a surgeon in the Napoleonic campaigns. It is, indeed, true that the surgical history of our late war, as written by my first master, George A. Otis, is the monumental contribution of military surgery, but as I re-read it and review my own military experience, I have only to lament our lack of knowledge as then exemplified in both military and civil surgery.

The immortal McDowell is justly accredited the father of ovariotomy. He has been sometimes called the backwoods surgeon, unhampered by the conservatism of surgical teaching, but such a critic forgets that he probably obtained his inspiration to perform this wonderful service from the Edinburgh school, then dominated by Dr. Young. He tied the pedicle with an Indian tanned deerskin ligature, at that time more or less in common use for the ligation of arteries. The ligature was cut short and the pedicle dropped back into the abdominal cavity.

The subject was taken up with the interest belonging to novelty and its possible importance. The medical journals of this period are replete with contributions, but more especially with dissertations of warning from the seniors who saw little but catastrophe that could result from thus imperiling human life American inventive genius was fertile in expedients with which to meet every complication. The mortality rate was necessarily high and infection the rule rather than the exception. Very naturally the cases operated on presented most formidable complications, since surgery was accepted as a last resort; more commonly, frequent tappings had preceded the operation. Adhesions were the rule rather than the exception, and multiple hemorrhages common. Drainage was usually insisted on, even in the most simple cases. The treatment of the pedicle was emphasized as one of the most important factors of the problem. Since in amputations it was the almost undeviating rule that the vessels should be ligated with heavy silk, tied very tightly, left long to serve the purpose of drainage and subsequent removal, so it naturally followed, as a common practice, to ligate the ovarian pedicle and bring the ligatures, left long, out through the abdominal wound. By the process of sloughing, in both instances, the ligatures were ultimately to suppurate free and be removed.

A notable exception to this rule was a contribution by Dr. J. F. Miner of Buffalo, N. Y. He called it stripping the pedicle, since he had observed that the ovarian cystoma could be removed from its peritoneal envelope almost without hemorrhage, because the vessels were distributed through it and did not penetrate the cyst wall. The obvious purpose of this method was to avoid the ligatures and the resultant sloughing. The pedicle was

* Read at the Fifty fifth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. J. H. Carstens, A. Palmer Dudley and L. H. Dunning.

returned within the abdominal cavity, often without drainage.

A modification of the treatment of the pedicle, as a distinct improvement, was that of Horatio B. Storer of Boston. He called it the pocketing of the pedicle. It consisted of a separate ligation of the vessels and the suturing of the pedicle to the peritoneum, including the free surface of it in the abdominal wound. This, as we see, was an extraperitoneal of the stump *from above*. The advantages claimed for this method were the control of bleeding points within easy reach, if secondary hemorrhage occurred, and the shutting off the peritoneal cavity, with drainage only of the wound in the abdominal wall.

More or less obscurely the surgeons recognized the occult danger of infection, called by them under the general name of inflammation or blood poisoning.

My old master, Dr. Marion Sims, laid special stress on the reddish serum which accumulated within the pelvic peritoneum as a source, or cause, of great danger. Obviously, to his mind, mechanical means must be provided for its removal. This, to many, seemed most easily effected by the introduction of a large glass drainage tube to the bottom of the pelvis, through the abdominal wound, which was to be followed, for a considerable period after the operation, by the withdrawal of the fluid secreted, by means of absorbent cotton, or sponge introduced, at short intervals, on a probe, for its absorption.

For a very long period the best operators in the world used the clamp and the cautery in the treatment of the pedicle, experience having taught them that there was a very considerable danger from hemorrhage, when the ligature alone was relied on. This obtained prominence especially from the teaching of Sir Spencer Wells, whose experience was far greater than any other contemporaneous operator and whose results were equaled or surpassed by no other except, perhaps, Keith of Edinburgh.

SUTURES.

During all this period the abdominal wound was closed by deep through-and-through silk sutures, usually tied very tightly. The profession is indebted to Sir Spencer Wells for especially pointing out the importance of including the peritoneum within the grasp of the suture.

This was the technic until modified by the teachings of antiseptic principles.

It seemed to me a safe deduction, based on the experience of Sir Joseph Lister, that if an artery could be occluded by an animal suture, cut short, and the wound closed, to be followed by primary union, the ligature being absorbed and disappearing, that it would be equally safe and advantageous to close all aseptic wounds with buried absorbable sutures, the subsequent danger chiefly to arise from infection. Given an aseptic wound, no matter how large, well-vitalized structures aseptically closed by aseptic, absorbable sutures, primary repair will follow.

As the result of my studies with Sir Joseph Lister, in 1870, I determined that the above premises were theoretically correct and that the demonstration should apply equally to wounds in all parts of the body. I made a long series of comparative studies on the lower animals, with the demonstration that an absorbable suture thus buried in well-vitalized structures was surrounded by leucocytes, slowly invaded by them, and that, little by little, *pari passu*, as absorption of the material took place, the leucocytes themselves became transposed into connective tissue cells, leaving as a permanent result more or less well-defined vitalized connective tissue structures holding the coapted parts in firm union. It was also demonstrated that a silk suture was surrounded with leucocytes in a somewhat similar way, invaded in a measure by them, but that absorption and disappearance very rarely took place; in a word, *encapsulation* rather than *absorption* occurred. Of course, such teaching was revolutionary. There are still many doubting critics.

The use of silk even as a buried suture, unfortunately, as I think, is still common, although the buried absorbable suture is in daily use in every part of the civilized world. Aseptic methods and buried sutures have necessarily revolutionized the technic of abdominal surgery.

In all aseptic wounds, very naturally the drainage tube, so long maintained as necessary, is now demonstrated as not only useless but dangerous.

The pedicle of an ovarian tumor is sutured only sufficiently tight to control hemorrhage and the divided structures are covered by intrafolded peritoneum.

TUMORS OF THE UTERUS.

The removal of the solid tumors of the uterus presented a much more serious and dangerous problem. As a rule, there was no pedicle which could be treated easily by clamp and cautery as by the earlier, then advised, treatment of the pedicle of ovarian tumors. This, however, was attempted by many operators. In the seventies I recall an operation by the late Dr. Kimball of Lowell, where a fibroid tumor was removed and the stump of the tumor clamped with a large pair of strong forceps which were, advisedly, left for some days extruding through the abdominal wound. Suppuration was abundant and later death followed from tetanus.

It was a safe deduction that the cervical portion of the uterus could be closed over with healthy peritoneum, by means of buried sutures, after the removal of a uterine tumor, and the abdominal wound closed as in ovariotomy, without drainage. This operation was described, in its technic and results, in a paper by me, before the International Medical Congress at London, in 1881. The stump of the uterus was described as closed over by a layer of intrafolded pelvic peritoneum, leaving no open wound within the abdominal cavity, the stump or pedicle being extraperitoneal *from below*.

It would be a work of supererogation to detail to you the currents and counter-currents of opinion in surgical treatment of the pelvic structures during the last fifteen years.

I believe it to be generally accepted that drainage should be limited to septic cases and that here, better than ever, we understand its importance.

In order to avoid adhesions all pelvic lesions should be covered, so far as possible, by healthy peritoneum, which usually lends itself easily to intrafolding by fine, continuous, absorbable sutures.

The future comfort and welfare of the patient is greatly enhanced by the careful closure of the abdominal wall. There are many manifest advantages in the coaptation of the sundered parts by lines of buried sutures. The peritoneum is carefully coapted, including the delicate layer of connective tissue lying behind the recti muscles. The tendinous structures of the linea alba are similarly rejoined, both, preferably, by a double continuous tendon suture. The careful reunion of the combined tendons of the lateral muscles is by far the most important factor in the prevention of ventral hernia. For many years I have used a carefully selected rather

large kangaroo tendon chromicised suture, applied by the use of a needle with eye near point carrying the suture in opposite directions through the stitch hole, the sadler's or shoemaker's continuous sewing. This evenly coapts and holds firmly at rest the thick mass of rejoined structures. Avoid undue constriction. With proper technic ventral hernia does not supervene. A light running, subcuticular tendon suture completes the coaptation of the skin.

The wound is sealed with iodoform collodion, reinforced with a few fibers of absorbent cotton, and the work is completed, for good or ill, before the patient leaves the surgery. For good, since like structures are aseptically rejoined and are restored to their former completeness and strength.

Hemorrhage is scarcely possible, and if the tissues have been maintained aseptic, primary union will follow. It is worse than useless to punish your patient with an abdominal supporter, since the restoration will be complete and permanent. If imperfect coaptation and restoration follow, a bandage can by no means remedy the evil.

If such a wound is infected it is in the worst possible condition for restoration, as bacterial colonization is likely to follow the line of every buried suture, giving wide areas of septic infection. Therefore, the methods above outlined should never be attempted by one who is not the master of modern, aseptic, surgical technic.

DISCUSSION.

DR. A. GOLDSPOHN, Chicago—It is of interest to have our attention called to several very important features in technic that some of us observe to some degree, but that, I am satisfied, are not observed so far as should be. I mean, particularly, the care to close the abdominal incision in layers, that is, reuniting the structures in the position in which they were originally, particularly reuniting the aponeurosis in front of the recti. From that there can be no dissent on correct anatomic grounds. I will challenge anyone to show consistent reasons for neglect to reunite the aponeurosis in front of the recti muscles, do he otherwise what he will in the technic of closing the abdominal wall. On this ventral hernia hinges. If that is attended to properly there will be no hernia, in the absence of long continued drainage, or suppuration. Dr. Marcy made a very good remark when he said that the comfort of the patient will depend very much on this and one other thing; that is, excluding all raw surfaces within the abdominal cavity. What does that mean? What do you see so many good abdominal surgeons do if they have an omentum adherent to a tumor, or in a ventral or other hernia? They dissect and tie it off very carefully, and drop it back; a broad, raw surface, which, in the order of things, must become adherent to something. The correct thing is to carry the peritoneum over this amputated stump of omentum, just as you cover over the stump in the removal of the uterus or its appendages, thus aiming to avoid leaving any surface in the abdominal cavity that is not covered with a serous membrane.

DR. H. W. LONGYEAR, Detroit, Mich.—The question of closing the abdominal wall has been a hobby of mine for years. I wrote a paper on that subject and read it before the American Association of Gynecologists some ten years ago, and preliminary to writing it I corresponded with a number of operators, both in this country and abroad, and asked their opinion as to the causes of post-operative hernia; it was remarkable how few gave the cause as non-union of the aponeurosis. Many said, "Because of non-union of the muscular structures." Others said, "Non-union of the peritoneum and skin," but not more than two or three said that it was due to non-union of the aponeurosis. It seems to me that that is the cardinal point in the entire business. No matter where the incision is, if you do not close it in such a way that the aponeurosis will unite you will be almost certain to get hernia. I use the method Dr. Marcy described, although I have discarded one part of it. I close the layers up to the skin, as he does, then, instead of using the subcuticular buried suture, I sew with very fine catgut, making an external buttonhole stitch cover with gauze and adhesive plaster, leaving a little window in the plaster over the middle of the gauze. This change was made because in a few cases I had some hemorrhage under the collodion seal which clotted and prevented perfect union. I have found this to be exceedingly satisfactory and an ideal method.

DR. W. B. DORSETT, St. Louis, Mo.—I wish to make one point, and it is this: If ligatures are to be used, an animal ligature, and a small ligature, is best. Some of you may be familiar with the report of two cases of tetanus that I lost from the use of kangaroo tendon. Kangaroo tendon above No. 2 or 3 can not be made aseptic. In my cases sections were made of unused kangaroo tendon, and bacteriologic experiments were made on mice and guinea-pigs, and it was demonstrated, beyond a shadow of a doubt, that the kangaroo tendon was infected with tetanus germs. Since then I have been in the habit of using the angiotribe as often as possible. I appreciate the fact that it will often devitalize parts by crushing, but at the same time it is aseptic, and the ribbon of tissue can be turned in with a small catgut ligature. I discarded silk long ago, except for an appendectomy. The matter of position of the parts has been brought up, but the secret lies in the fact that in order to be successful in the closure of the abdominal wound we must unite connective tissue only. Therefore, close the peritoneum first with a small 00 catgut ligature, then the aponeurosis and then the muscle, and the skin will take of itself in a majority of cases. Never tie the sutures tightly, only enough to bring tissues in apposition.

DR. HENRY O. MARCY—We should have few or no broken intraperitoneal spaces. Two years ago I presented a paper on that subject to this Section. I based it on a hundred consecutive hysterectomies done in my private hospital by myself, and under my subsequent supervision. I had four deaths; three were from intestinal obstruction, brought on by the adhesion of the intestines to the intraperitoneal space. I made emphasis of the history of these cases to show that notwithstanding we exercise care, we find room for improvement. If, as Dr. Dorsett said, a very fine suture is used and with the parallel stitch, as I call it, running the needle parallel to the long axis of the wound and a certain distance from it, the unbroken peritoneal spaces are easily infolded and the stitches buried out of sight. The suture will absorb and disappear and union supervenes in a comparatively few hours. I have felt that the kangaroo tendon suture had every recommendation, because it is very seldom infected at the beginning; and yet, so carelessly is it preserved, that out of 100 pounds sent me from Australia, I burned, some time since, over 90 pounds of it at once. The supply houses have not recognized the difference between good and bad material, and, possibly, I have made the mistake myself. I am extremely careful in sterilizing it, and, in my opinion, the best thing to use is formaldehyde. If you use it too strong or too long, you ruin the material, but you can permeate the tendon thoroughly with it and not damage it in the least. Mr. Lister long ago found that by steeping catgut in carbolic solutions for a sufficiently long period it will be sterilized, and that the thicker the suture material the more difficult the sterilization, and, in consequence, advocated and practiced the using of fine suture material. But the tendon suture from any animal, as a rule, should be free from tetanus germs and can be infected only by careless handling. Kangaroo tendon should be kept dry after it has been sun-dried subsequent to its removal from freshly killed animals. If we could get just what we ask for, kangaroo tendon would be cheap and not expensive, safe and not dangerous. Careful handling in its preparation is the first essential. So far, much of it sent here has been very carelessly put up. In reference to dead spaces, do not permit them, if you can prevent it. If you have a dead or open space, and it fills with a clot, it must be kept at rest, and being aseptic, nature will take care of it. If septic, it is a culture chamber

of the greatest danger. Out of 600 consecutive major operations I had 2 per cent. of infected wounds. That is 2 per cent. too many, and theoretically should have been prevented. I welcomed the rubber glove, and last year I showed you my improvements in the fine pebbling of the surface. The hands of your assistants, to say nothing about your own hands, are safe. Everything pertaining to the technic of absolute sterilization must be emphasized. In reference to the suture for the closure of the skin: The subcuticular suture is important; a fine suture being taken through the deep layer of the skin, the suture is absorbed before the skin proliferates. If taken sufficiently deep, the suture being fine and sterile, the so-called stitch abscess will not occur. If you penetrate a sweat duct you may have infection. I have seen this time and again, and I am emphasizing more and more every day the extreme care that is necessary, of using a fine suture, and placing it so deeply that it will not penetrate a sweat duct, this preventing infection from the *Micrococcus pyogenes albus*.. Will you trust a long wound to three or four layers of buried sutures sealed with iodoform collodion? I do it in the great majority of cases, but if the patient is likely to become uneasy, I bandage for two or three days and put on strips of adhesive plaster. It is far safer and you need not worry about the subsequent conduct of the case. I agree that silk is not the best material for sutures, and that the buried absorbable suture tendon preferred, holds a first place in modern aseptic surgery.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART I. A HISTORICAL SKETCH.

(B) DR. WOODWORTH'S ADMINISTRATION, 1871-1879.

(*Continued from page 328.*)

Supervising Surgeon John M. Woodworth was a man of conspicuous ability and untiring energy. He had been appointed assistant surgeon, U. S. Army, in 1862, and had been promoted successively to surgeon and medical director of the Army of the Tennessee.

During the "march to the sea" he was in charge of the ambulance train, and made the remarkable record of bringing his sick and wounded to Savannah without the loss of a man.

He was eminently fitted for the work intrusted to him—the reorganization of the Marine-Hospital Service. He combined the ripe experience of the trained disciplinarian with the energy and enthusiasm of youth, and he used his rare combination of abilities unsparingly in the accomplishment of his work.

He effected the reorganization as provided for by this act with a promptness commensurate with the magnitude of the undertaking. He prepared regulations (1873) based on the act just mentioned, by which the candidates were henceforth to be appointed only after examination before a board of officers, and were liable for general service in any part of the United States. The regulations also provided for the maintenance of discipline on a military basis, and for regular systematic reports and methods of obtaining subsistence supplies. The independent local appointees who presided over the various stations previous to the reorganization were either assimilated into the general service or gradually replaced by regular officers.

In company with Dr. E. M. McClellan, U. S. Army, under a special act of Congress, Dr. Woodworth gathered information relative to the cholera epidemic of 1873. The result of this work, published by Congress, entitled "The Cholera Epidemic of 1873," is one of the most valuable contributions to the literature of the disease.

In 1875 Congress recognized the ability of Dr. Woodworth and the growing importance of the service by changing his title to supervising surgeon general, and providing that the supervising surgeon general should be in future appointed by the President, by and with the advice and consent of the Senate. His salary was increased from $2,000 to $4,000, and was in future to be paid out of the marine-hospital fund.

Dr. Woodworth's interest in sanitary matters was responsible for the issuance of the first circular letter defining the duties of marine-hospital officers in regard to quarantine and the public health. A law passed in 1799, which had become a dead letter, was revived, and thereon, in 1875, Supervising Surgeon-General Woodworth based his circular. The medical officers of the Marine-Hospital Service were directed in this circular to make a special study of local health laws and regulations in force at their respective stations. They were directed also to obey these laws, and render prompt assistance in their enforcement, when requested by the proper authorities.

The head of the service directed his efforts from this time toward securing a more uniform system of inspection of arriving vessels and a shortened period of quarantine detention. He considered the detention of a vessel from an infected port, whether sickness existed aboard or not, barbarous and unjustifiable, when the length of the period of incubation of the disease quarantined against was known. In his annual report for 1875 Supervising Surgeon-General Woodworth said:

> That a vessel arriving at a port between the first day of May and the first day of November from a place where contagious disease existed at the time of departure should be, by law, subjected to a quarantine of thirty days' detention, no matter whether contagious disease has appeared aboard the vessel or not, seems incredible. No stronger argument need be advanced to show that the general government in the exercise of its acknowledged powers—that, for example, to regulate commerce and to provide for the general welfare—should regulate quarantine to such an extent as that the law shall at least keep pace with science.

In a paper read before the International Medical Congress at Philadelphia in 1876, the supervising surgeon-general said:

> From what has preceded, the following conclusions appear to be justified: (1) The supervision of ocean travel ought to be directed to securing good sanitary conditions for vessels at all times, out of, as well as in, port. (2) A system of port sanitation should be adopted and administered for each country or place separately, and should be modified in particular cases by taking into account the liability of the port of infection, the period of incubation of the disease, the length of time consumed in the voyage, and the measures enforced by the vessel en route. (3) In some countries the detention of passengers and crews of ships hailing from infected ports is warranted, but for such time only as is necessary to complete the period of incubation of cholera or of yellow fever, counting from the date of departure from an infected port or of landing from an infected vessel. In no instance should passengers or sailors be held for observation on board an infected vessel, and such vessel should not be detained beyond the period required for inspection and for thorough disinfection and cleansing. (4) Recognizing the fact that the morbific causes of infectious disease may sometimes elude the most vigilant sanitary supervision of shipping, the importance of wisely directed internal sanitary measures can scarcely be overestimated. (5) As far as America is concerned, it is desirable that prompt and authoritative information should be had of the shipment of passengers or goods from districts infected with cholera or yellow fever, thereby insuring the thor-

ough disinfection of infected articles. (6) The endemic homes of cholera and yellow fever are the fields which give the greatest promise of satisfactory results to well directed and energetic sanitary measures, and to this end an international sentiment should be awakened, so strong as to compel the careless and offending people to employ rational means of prevention.

Supervising Surgeon-General Woodworth's enlightened ideas on quarantine measures were largely responsible for the framing of the quarantine law of 1878, and the general principles he advocated were so far in advance of his time that, with slight modification, they would serve to-day. He was the first to recommend inspection at infected foreign ports of American-bound ships, and demonstrated that an intelligent quarantine, maintained in this way, facilitated rather than impeded commerce.

In 1878 he organized the yellow fever commission, which was sent south to gather information in regard to the epidemic of yellow fever which had devastated the southern states. The work of this commission was reported to the American Public Health Association, and Dr. Woodworth was appointed chairman of a special committee of medical men and scientists, which was to continue the investigation of yellow fever in the south and measures to prevent its spread. His sanitary work laid the foundation for the future development of the public-health functions of the service, and by his capacity for organization, the service was completely transformed.

The loosely connected aggregation of local appointees which, previous to 1871, constituted the Marine-Hospital Service, was, by a system of weeding and welding, and by the addition of new material obtained after rigid examination of applicants, converted into a homogeneous corps, whose members were of known efficiency and available for service in any part of the country.

Although the development of the public-health work of the service really began with the administration of Supervising Surgeon-General Woodworth, for more than a century the Secretary of the Treasury has been regarded as the supreme authority in national quarantine matters.

So long ago as May 27, 1796 (1 Stat. L., 474), a law was passed by Congress authorizing the President "to direct the revenue officers and the officers commanding forts and revenue cutters to aid in the execution of quarantine, and also in the execution of the health laws of the state, respectively, in such manner as may to him appear necessary." It will, therefore, be seen that even at that distant day, 108 years ago, the first step toward co-operation of state and national authority in health matters had been taken. An act passed Feb. 25, 1799 (1 Stat. L., 619), repealed the act of 1796, and provided for quarantine of vessels, measures to be taken in case of epidemics, etc., placing maritime quarantine under the Secretary of the Treasury.

The act of May 26, 1866 (14 Stat. L., 357), placed authority to make quarantine regulations for prevention of the introduction of cholera in the hands of the Secretary of the Treasury until January, 1867. During the year 1878 a law was passed establishing a national quarantine, and the Supervising Surgeon-General of the Marine-Hospital Service, under the Secretary of the Treasury, was empowered to frame regulations governing quarantine, but no appropriation was made to carry the act into effect. This act also provided that consuls or other representatives of the United States in foreign ports where contagious diseases existed, should immediately give information of the sailing of vessels from such ports to the Supervising Surgeon General of the Marine-Hospital Service, and that they should also make weekly reports of the sanitary condition of the ports at which they were stationed.

This act of 1878 further provided that the supervising surgeon general should prepare and transmit to officers of the Marine-Hospital Service, to collectors of customs and state and municipal health authorities in the United States weekly abstracts of the consular sanitary reports, and other pertinent information received by him.

During the same year the terrible epidemic of yellow fever occurred in the Mississippi Valley, and in February following Congress passed another law (act approved Feb. 3, 1879) establishing a National Board of Health. The latter act embodied all the essential features of the former, but changed the executive authority by substituting a board (national board) composed of seven members, and carried with it a large appropriation. The act of 1879 was limited to a period of four years, and on its expiration the law of 1878 was revived, and became operative by means of the contingent fund appropriated by Congress to be expended by the President of the United States, in his discretion, in preventing the spread of epidemic diseases and in maintaining quarantine at points of danger. This discretion was used by the President as above indicated, and the work contemplated by the appropriation act was performed through the agency of the Marine-Hospital Service in aid of state and local boards of health, and in accordance with the act of April, 1878.

The public-health work, under the Secretary of the Treasury, devolved, as a matter of course, on the Marine-Hospital Service, and when, owing to the reorganization of the service, an efficient corps of sanitarians came under federal control and under the immediate direction of the Secretary of the Treasury, to whom matters relating to national quarantine or the introduction of epidemic diseases were legally referred, the expansion of the public-health duties of the service was inevitable.

Surgeon-General Woodworth devoted much attention to hospital construction, and his studies led him to prefer and recommend the pavilion style of hospital. With the crude ideas of that day on infection and the imperfect knowledge of the etiologic factors of disease, to eradicate infection from a building or ward seemed difficult, if not impracticable, without destruction of the building. He advocated pavilion hospitals built of wood, one story in height. These buildings were comparatively cheap, and could be burned when infected, after ten or fifteen years' service. This plan was economical, when we consider the knowledge and means of eradicating infection existing at that early day, but with the advance in bacteriologic knowledge and the perfection of disinfecting apparatus such radical measures became unnecessary, and the service again built its hospitals of substantial brick and stone.

During the administration of Surgeon-General Woodworth, the officers of the service investigated and reported on the hygienic conditions surrounding the sailor in his every-day life. Not content with furnishing him relief when sick or disabled, the medical officers entered the realm of preventive medicine and endeavored to improve and make sanitary the conditions responsible for many of his ailments. The annual reports of these early years are replete with interesting articles by service officers on the hygiene of the fore-

castle, and of the sailors' boarding-house, the shelter afforded boatmen on the Mississippi River boats, and other subjects bearing on the prevention of disease among sailors.

(To be continued.)

TRAVEL NOTES.

III.*

SPAIN AND RAMÓN Y CAJAL.
LEWELLYS F. BARKER, M.D.
CHICAGO

BERLIN, June 25, 1904.

If one have the time for it, the pleasant mode of approach to Europe by the southern route has much in its favor. Hard work in America is fitly separated from hard work in Austria, Germany, France or England by a few weeks of relaxation in Spain or Italy, or both.

Landing at Gibraltar, the traveler has fifteen days at his disposal before the next steamer leaves for Naples. In a fortnight it is very easily possible to visit satisfactorily Granada, Seville, Madrid and Toledo, and if the sea trip have made one particularly energetic he may also go to Cadiz and Tangiers. The Alhambra and the Generalife with the tales that cluster about them; the gay, bright, multicolored life of Seville, the superb architecture of Toledo and the magnificent art treasures of the Prado in Madrid combine to afford a very full two weeks of pleasure and instruction. The remains of Moorish palaces and mosques in Granada, Seville and Cordova, the tomb of Columbus in the Seville cathedral, the gloomy vaults in the Escorial breathing still of the sternness of Philip and the inquisitional period, quicken the historical sense and soon stimulate to reading other than one's wont. The opportunity to study Murillo and Velasquez is unparalleled; while great galleries elsewhere are proud to possess a single painting by one of these masters, in Spain they can be enjoyed by the roomful; the display seems prodigal.

For the medical traveler in Spain, however, interest centers in the personality of one great anatomic investigator, Professor Santiago Ramón y Cajal. Since 1888, publication after publication, embodying discovery after discovery in the structure of the nervous system, has appeared under his name. Beginning with the finer structure of the retina and that of the spinal cord of the embryo chick, Ramón y Cajal has worked through the whole nervous system, cerebrospinal and sympathetic, central and peripheral, lavishly enriching knowledge in every part. It was a special pleasure to me to meet the man himself and to see in his laboratory the exquisitely beautiful preparations on which his writings and the well-known illustrations accompanying them are based.

Earnest and forceful, physically strong and vigorous, at the very prime of his powers, Ramón y Cajal makes a personal impression which accords with his works. At the time of my visit he had just perfected his new method for demonstrating the neurofibrils. THE JOURNAL has dealt with the method editorially, so I need not go into the details of it here. The method is so simple and is so widely applicable that he has been able in a very short time to apply it to the examination of the most different parts of the nervous system, human and comparative, adult and embryologic. After the complicated, time-robbing methods of Apathy and Bethe, which were discouraging in use and yielded most inconstant results, it is most gratifying to be provided with this simple method which every one may use and which, together with the new method of Bielschowsky, will doubtless make the study of the neurofibrils a part of every elementary course in histology.

The simplification and improvement of methods has been no unimportant result of Cajal's genius. Thus, it was his introduction of the rapid method of application of the Golgi procedure which gave such vogue to the silver-impregnation studies; it was his modification of Ehrlichs' method of vital staining with methylene blue that gave us first the vitally-stained intracentral axones and their subdivisions, and now it is his device that permits us to make neurofibril preparations at will. And, unlike many of the investigators who have given new methods to their colleagues, Ramón y Cajal has applied his own methods in systematic sequence and with indefatigable energy to the reworking of the whole anatomy of the nervous system. His earlier publications in various anatomic journals have been succeeded by monographs on the spinal cord, on the medulla oblongata, and on various regions of the cerebral cortex, and finally he has given us an epitome of all his studies in his large work in two volumes, just completed, entitled "Textura del sistema nervioso del hombre y de los vertebrados."

The chair which Ramón y Cajal holds is in the medical faculty of the University of Madrid and is entitled "Histology, histochemistry and pathologic anatomy;" the two chairs of descriptive anatomy (including embryology) are occupied by Oláriz and Calleja. Ramón's lectures are given at the laboratory at the medical school in the Calle de Atocha, but his research work is done in a zoologic laboratory some distance away, where he is free from turmoil and interruption. To make his life as restful and undisturbed as possible, he has his house in the country in the environs of Madrid.

In view of the attacks made on the neurone doctrine by Nissl and Bethe in Germany, it was interesting to find that Ramón y Cajal not only holds firmly to the doctrine of morphologic units in the nervous system, but is as yet by no means prepared to admit the existence of organic continuity among these units; in other words, he supports the neurone doctrine as strongly as ever, and in addition, still believes in the "contact theory" which he originally suggested. His newer preparations lead him to assert more vigorously than ever the transference of impulses through a contact relation of the end feet of axones and collaterals to the cell bodies and dendrites of other neurones. And he has shown that the pericellular reticulum which Bethe described as a terminal nervous reticulum and declared to be so important as negativing the conceptions of the neurons-ists, is not a reticulum of nerve fibers at all. It would seem almost the irony of fate that Bethe, who was asked some years ago to write an epitome of the newer neural conceptions and postponed doing so in order to avoid being premature, should have published his book on the neurofibrils on the eve of Ramón y Cajal's new discoveries. But Bethe may console himself with the fact that every new book dealing with fields in which research is active is now out of date when it is published, and besides Bethe, by waiting and experimenting, has been able to present us with a wealth of new observations, for which every neurologist must be deeply thankful. Whatever may be the fate of the theories of the great Spanish investigator, this much is certain, that to him belongs the lion's share of positive contributions to morphologic knowledge of the nervous system in the closing decades of the nineteenth century.

(To be continued.)

* The first article in this series, "Travel as a Means of Post-Graduate Medical Education," by Dr. Nicholas Senn, appeared in THE JOURNAL, July 23, page 261; the second, "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30, page 328.

Fatal Iodism.—P. Ghiso of Buenos Ayres illustrates in the *Semana Medica*, No. 20, 1903, the serious lesions that may be induced by ingestion of potassium iodid. The subject was an Italian woman of 39, who took .8 gm. of potassium iodid on a physician's prescription given on account of edema of the feet persisting for three months. After two doses of the mixture edema and blisters developed in the face and arms, and the eruption was evidently aggravated by two more doses the next day, after which the medicine was discontinued. The eruption, however, continued a progressive fatal course with ulcerations, necrosis, delirium and death in less than three weeks. The prescription called for 2 gm. potassium iodid in 200 gm. distilled water and 20 gm. syrup. She took only four spoonfuls, but the character of the eruption, its abrupt commencement, the general syndrome, the fever and the negative bacteriologic findings all confirmed the diagnosis of an idio syncrasy to the iodid superposed on a kidney affection.

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PHOTOTHERAPY AND SENSIBILIZATION.

The labors of Finsen and his assistants have placed phototherapy on a sound, scientific basis. The results of their interesting investigations have done much to make clear to us the reasons for the biologic and therapeutic effects of various forms of light. We know that the bactericidal and the principal other biologic actions of light are due essentially to the blue-violet and ultra-violet rays, the so-called chemical or "cold" rays, whereas the rays at the red end of the spectrum ordinarily have no such action. The chemical rays are also characterized by greater absorbability and less penetrating power than the red-yellow rays. For these two reasons their application in the services of therapy has so far been limited to certain superficial cutaneous lesions, particularly, of course, lupus. In Finsen's phototherapy, one of the essential steps is to render the part to be treated as bloodless as possible by means of pressure in order to favor the penetration of the blue-violet and ultra-violet rays, which otherwise are quickly absorbed by blood.

At present, perhaps the most important problems in light-biology concern the ways and means of rendering deeper parts accessible to active, chemical rays. The further extension of practical phototherapy depends on the degree of success with which these problems are solved. Clearly the absorption and the action of light will depend not only on the nature of the rays, but also on the qualities of the bodies and tissues exposed to light. It might well be that certain changes in animal tissues would greatly alter their behavior toward various forms of light. The sensibilization of photographic plates, discovered by Vogel in 1873, may be taken as an analogy of the possibility we have in mind. Vogel's sensibilization, which is extensively used in photography in making the so-called orthochromatic plates, consists in adding certain fluorescing pigments to the plates, which then become sensitive to red and yellow light. Among biologic phenomena resembling photographic sensibilization, we have the assimilation by plants of CO_2 under the influence of chlorophyll, also a fluorescing pigment. Experimentally, sensibilization has been studied by Tappeiner and his pupils in Munich, and by Dreyer in Finsen's institute. Tappeiner and his pupils have shown that paramecia are readily injured and killed by daylight when placed in rather dilute solutions of fluorescing pigments, which solutions act much more slowly, if at all, in darkness; that the cilia of ciliated epithelium lose their motion quickly in fluorescing solutions in light; and that sunlight causes necrosis in the ears of white mice previously injected with eosin. The principal results of Dreyer's experiments may be summarized as follows: The infusorium Nassula in dilute solution of erythrosin becomes just as sensitive for the yellow rays as the unsensitized Nassula are for the ultra-violet rays, and the same holds good for *Bacillus prodigiosus*. The tongue of frogs and the ears of rabbits injected with erythrosin show a greatly increased inflammatory reaction to light, which now penetrates much more deeply than in case of the normal tongue or ear, the general conclusion being that sensibilization renders micro-organisms and animal tissues as sensitive or even more so to the yellow and yellow and green rays as to the chemical rays. Apparently, fluorescing and other sensitizing substances have the power in some way of changing the energy of the yellow and green rays into more active (chemical?) energy; however, the mode of action of sensitizing substances has not as yet received any adequate theoretical explanation. But, naturally, the results here outlined hold in hand the hope that by the use of sensibilizators the practical application of phototherapy may become greatly extended. Busck suggests that antimalarial action of quinin, which is a fluorescing substance, may be due to light under the influence of sensibilization by the quinin.

Finally, it is of interest to note that in at least two diseases the skin becomes abnormally sensitive to light, namely, in smallpox, in which Finsen has brought forward considerable evidence to show that exclusion of red rays prevents suppuration ("negative phototherapy") and in poisoning of cattle by buckwheat. In the latter case, light causes a vesicular eruption of the unpigmented areas of the skin, an eruption that does not appear in darkness. That this action of light is due to the development of sensitizing substances, is rendered not unlikely by the fact that in buckwheat has been found a red fluorescing pigment (Busck[1]).

TYPHOID PERFORATION.

While it may be admitted that spontaneous recovery takes place after intestinal perforation in the course of typhoid fever, such an event certainly is exceedingly uncommon. On the other hand, the results of timely operation have been so successful that it is of the highest importance for the clinician to be prepared for the occurrence of the complication and to recognize it as early as possible, in order that prompt surgical intervention may be undertaken.

There is no sign or symptom that can be considered pathognomonic of intestinal perforation, and the decision in the individual case must rest largely on the diagnostic alertness and acumen of the clinician, who

1. Meddelelser fra Finsen's med. Lysinstitut, 1904, viii; see also Ibid., 1903, vii.

will at times be able to recognize the presence of perforation and peritonitis when a mere recital of the clinical phenomena might alone be unconvincing. It must, however, not be inferred that the diagnosis is easy; on the contrary, it may be, and it not rarely is, involved in the greatest uncertainty.

In a recent communication Dr. E. W. Goodall[1] presents some interesting data bearing on the causation, diagnosis and treatment of typhoid perforation, based on the records of a large fever-hospital. Among 1,921 cases of typhoid fever observed between the years 1892 and 1903, perforation occurred in 96 (4.9 per cent.), all of which terminated fatally except two, in one of which operation was performed, and in the other the nature and the course of the symptoms justified the diagnosis. The deaths from all causes among these cases numbered 304. Postmortem examination was made in only 189, including 68 of perforation. Of the 96 cases of perforation, 62 occurred in males and 34 in females; 8 occurred in children under the age of 10 years, the youngest patient being 6 years old; 7 occurred in patients over 40 years of age, the oldest patient being 63; 52 occurred in patients between 10 and 24. Of 82 cases in which the data were available, perforation occurred during the second week in 5, the earliest day being the tenth; in 64 it occurred during the third, fourth and fifth weeks; in 9 during the sixth week, in 3 during the seventh week and in 1 during the eighth week. In 13 of the last, and also in 2 in the fifth week, it occurred during a relapse. Of the 56 cases in which postmortem examination was made, sloughs were noted as still present in 41. It was observed that a large proportion of the cases in which perforation occurs are severe cases, the ulceration being extensive and deep in the large majority of those submitted to postmortem examination. Of all of the cases of perforation, hemorrhage occurred as an antecedent condition in 20. The opinion is expressed, on the basis of both clinical and pathologic observation, that by far the most common cause of perforation is the mere extension of the necrotic process to the peritoneal coat of the bowel, although other factors, such as errors in diet, unsuitable purges, straining at stool, sudden and violent or careless movement on the part of the patient and distention of the bowel may be contributory causes.

The symptom most constantly observed was pain in the abdomen, and this was almost always sudden, and frequently severe, although in 20 of the 96 cases the initial pain was slight. The pain was most commonly situated in the lower part of the abdomen, especially in the right iliac region. Not rarely the patient was unable to localize the pain, and not infrequently it was referred to the epigastric region or even to the lower part of the chest. In two cases there was in addition pain at the extremity of the penis. In addition to pain, other symptoms, local or constitutional, will be present. Among the former, which are of the greater importance, are tenderness, sometimes exquisite, most often in the right iliac region; rigidity, either in the same situation or more diffuse; distention or retraction of the abdomen. Obliteration of the liver-dulness may be observed early, but as a rule it occurs several hours after the perforation. Of the constitutional symptoms, shivering is one of the most important, and it may be of varying degree of severity up to a prolonged rigor. It often occurs at the time of perforation or within an hour or two, although it may precede the appearance of pain and other signs by several hours. Among other initial symptoms, the following are of significance, but of lesser frequency than those already mentioned: Vomiting, collapse, change of color of the face to gray or cyanotic, an anxious expression, the passage of two or three loose stools when the bowels have been sluggish or constipated, and increase in pulse rate. A marked decline in temperature immediately following the perforation is exceptional, although it is not uncommon a day or two later, and it is believed to be usually an indication of collapse or of the onset of peritonitis. Of the 68 cases in which postmortem examination was made, the perforation was found in the small intestine in 59, in the large intestine in 3, in the vermiform appendix in 3, in the gall-bladder in 2, while in 1 a suppurating gland had ruptured into the peritoneal cavity.

Dr. Goodall is not indecisive on the question of treatment, for he holds that when perforation is diagnosed there is only one course to be followed, namely, abdominal section, usually with suture of the perforated intestine. The essential points in this connection are early operation and its rapid performance.

1. Lancet, July 2, 1904, p. 9.

INFECTION IN CHILDREN.

Very few people seem to realize how much more dangerous, as regards possible infection, is the usual position of the child in the house than that of any other member of the family. The little one creeps about the floor getting its hands soiled with the accumulation of material that has been carried in from the street, unable to protect itself by reason or experience, and consequently likely to handle all sorts of offensive material if any opportunity should arise; and beside living for many hours in the day so close to the floor that every little eddy of air, every little draft that blows from open doors or windows, and every movement of any kind in the room causes the lifting of dust which is usually carried only just high enough to be inhaled by the child or to cover its clothing and thence be removed by its active little hands and carried to its mouth in various ways. It is no wonder that children are subject to infections much more than others, and the surprise often is that they resist so well as they do the opportunities for infection that must be so constantly present.

During the crusade against tuberculosis, we have heard much of the reduction of the death rate by proper care with regard to cleanliness, and especially as regards the absolute prevention of expectorated material finding

its way to floors or areas lest after drying it might be blown up as dust again. It must not be forgotten that the precautions in this matter are much more necessary for the protection of children even than of adults. Most physicians no longer believe, and the notion is gradually spreading in non-medical minds, that tuberculosis is ever directly hereditary, but that it is always acquired. The original acquisition of the disease is much more frequent in childhood than has usually been considered, and the explanation is easy when we thus recall the conditions surrounding child life.

We hear much at the present time of a predisposition to tuberculosis, said to exist in certain families in which formerly it was said that tuberculosis was hereditary. The members of these families are supposed to be much less able to resist invasion by tubercle bacilli than other normal individuals. There are many physicians who are beginning to doubt even the existence of this special predisposition, and consider that it is rather a general run-down state of system that facilitates the successful invasion of tubercle bacilli. One large insurance company in New York has formulated the opinion that it is less likely to suffer loss from the acceptance of risks on the lives of individuals who are twenty pounds under the normal weight for height that everyone should have, than on the lives of those who have a distinct family history of tuberculosis, but who are in good health, up to normal weight, and are not living with their tuberculous relatives. With these considerations in mind, there are many physicians at the present time who believe that this so-called tendency or predisposition to tuberculosis is really the result of an early infection with the disease which has been for the moment cured, but which leaves the subject much more likely to suffer from tuberculous processes later on in life. In a household where there are children and where some member of the family is tuberculous, unless the greatest possible care is exercised, infectious material will almost surely find its way in abundance to the floor, even though expectorations should be cared for very carefully and expectorated material always burned. Beside expectoration, there is the tuberculous material which is coughed out as spray during paroxysms of coughing, and then the tubercle bacilli that are projected from the mouth during talking. These materials sink to the floor, where they are almost sure sooner or later to be caught up on the child's clothing or on its hands, and so readily become a source of infection. This may be the real origin of the supposed predisposition to tuberculosis that exists in families, and not any inevitable hereditary tendency. This thought is extremely encouraging, since it makes the problem of the avoidance and the cure of consumption much more possible of solution. Hereditary qualities can not be avoided, but infection can, though very careful precautions may be necessary for this purpose.

These considerations, however, make it clear what great care must be exercised to prevent possible contamination of the floors over which children are allowed to play. The nursery should, as a rule, be without carpet, of smooth, well-matched boards without cracks to gather dust and dirt, and so that it can be thoroughly cleansed. It must not be the custom for members of the family to rush straight from the house door into the nursery, carrying on their shoes and on their long-trained dresses dirt of various kinds from the street that may prove infectious for the child. As a rule, house dresses and shoes should be worn almost exclusively in the nursery, and it would be better to take children out of the room to see visitors rather than for visitors to go in to see them. The nursery, more than any other room in the house, needs to be scrubbed very thoroughly and very frequently. Cleanliness must be the watchword of it. It is very probable that in this way many of the diseases that are now carried to the children can be prevented.

ENDOTOXINS.

In current bacteriologic literature, a distinction is commonly made between the so-called extracellular toxins and the intracellular or endotoxins. The former designation is given to those toxins that are found in the culture medium in which the specific bacillus is growing. The diphtheria and tetanus toxins are familiar examples of this class, and together with these is reckoned the toxin of *B. botulinus*, and also, according to the recent researches of Grassberger and Schattenfroh, the toxin formed by the bacillus of symptomatic anthrax. These "true toxins," as they are sometimes called, can be readily obtained in germ-free solution by simple filtration of suitable fluid cultures. It has not yet been shown, however, that the great majority of pathogenic bacteria generate toxins separable by filtration from the cells that produce them, and in the case of some of the longest known and best studied microorganisms the demonstration of any specific toxin has not been forthcoming. It has been conjectured in these cases, as, for example, in the typhoid bacillus and cholera spirillum, that the specific toxic substance responsible for the symptom-complex and specific lesions is firmly bound to the cell protoplasm, and does not diffuse through the cell wall during life. Disintegration of the cell, from death or other cause, is conceived to liberate the endotoxin which then displays its specific effect. The occurrence of the alcohol-producing enzyme zymase in the living yeast cell is on this supposition regarded as presenting a close analogy to the hypothetical endotoxins, since, as is well known, zymase is not found in the medium in which the yeast cell is growing, and was first extracted from the living cell by Buchner through the use of very high pressures.

On the assumption that endotoxins exist, many attempts have been made to procure these bodies by manipulation of large masses of the specific cells. The application of high pressure, the trituration of frozen bacilli and the utilization of autolysis have all been practiced with the aim of obtaining these toxic bodies,

presumably so firmly anchored to the living protoplasm. In some cases, investigators have reported finding bodies of more or less marked toxicity. These endeavors, however, have been singularly unsuccessful, so far as the securing of any toxic substance at all comparable in potency and physiologic characteristics with the extracellular toxins. The opinion, in consequence, has been steadily gaining ground that the existence of endotoxins is more or less mythical. The view that the specific toxic bodies, by means of which the typhoid bacillus and many other microbes produce their injurious effects are to be regarded as secretion products generated during growth in the animal body, but not formed in ordinary culture media, has been emphasized especially by Welch in his notable Huxley Lecture.

Meanwhile, arguments continue to be urged against the endotoxin hypothesis. A recent paper from Brieger's laboratory[1] clearly sets forth the unsatisfactory nature of the evidence relating to the alleged extraction of endotoxins. Repetition of the ingenious experiments of Macfadyen and Rowland have led to substantially negative results. The trituration of frozen typhoid bacilli, followed by careful tests of the products, has not resulted in securing specific toxic bodies of a character at all corresponding with the toxicologic requirements. The authors of this research are forced to the conclusion that the true typhoid toxin does not remain fastened to the body substance during the life of the organism, but passes out into the surrounding medium like the toxins in tetanus and diphtheria. The failure to discover these toxins by ordinary procedures simply illustrates the inadequacy of our routine culture media. In other words, the human body presents to the typhoid bacillus a more favorable medium for the secretion of its specific toxin than does beef broth, while the less fastidious diphtheria bacillus is able to produce its toxin in both situations alike.

REPRINTS OF ATLANTIC CITY PROCEEDINGS.

The American Medical Association Press has issued a pamphlet[2] containing the "Proceedings of the Fifty-fifth Annual Session of the A. M. A.," and including the minutes of the House of Delegates, of the General Meetings, and of each of the Sections, and the list of members registered by Sections. This is all taken from THE JOURNAL, June 11 and 18 and July 2, 1904, and is reprinted with a cover for convenience of reference by committees, officers and all interested in the official proceedings.

MEDICAL MEETINGS ON THE PACIFIC COAST.

The American Medical Association's 1905 session at Portland, Oregon, is to be preceded—as a western coast medical convention—by that of the Canadian Medical Association at Vancouver, B. C., August 23 to 26, 1904. For the latter event a round trip rate is announced from Toronto of $62.40; from Chicago, $61.00; St. Paul, $50.00, and tickets will be good going out over the Canadian Pacific and to return inside of sixty days over the Northern Pacific, Great Northern or the Union Pacific. A good program has been arranged, as well as many pleasant excursions and side trips. The sixty-day limit of the ticket and the provision for return by one of several routes suggest some interesting features that may be arranged for the Portland Session of the American Medical Association in 1905. It would have been a very interesting occurrence if the Canadian Medical Association and the American Medical Association had met in nearby cities on the coast at the same time. These two meetings in successive years will turn the attention of the medical profession very strongly toward this part of North America. Many who make the trip will be astonished at the development of the country through which they pass. That they will be delighted with the scenery does not need to be said. One Portland physician, writing enthusiastically of the Portland Session, says: "Laying aside patriotism and exaggeration, there is as beautiful scenery to be seen within sixty miles of Portland as exists on either side of the Atlantic."

THE LEISHMAN-DONOVAN BLOOD PARASITES.

A little over a year ago Major Leishman of the British Army published an account of a parasite which he found in the spleen pulp of a patient who had died from a febrile condition resembling malaria. He regarded this parasite as representing most probably a degenerate trypanosome, but Captain Donovan, who later found the same thing, and experts on tropical diseases such as Ross and Laveran, believe the parasite to be of a new species. In view of the fact that parts of this country are semi-tropical, and considering that even if it is not found in this country, it almost certainly will be in the Philippines or in Panama, a fuller knowledge of the parasite and the symptoms produced by it seems desirable. Since the original work on the subject, which MacFarland[1] has well summarized, reports have come in from Rogers, Manson and Low, and Neale,[2] which add to our knowledge of the subject. The parasite has so far not been found in the blood, and in order to procure it it is necessary to puncture the spleen; as in most cases the course of the disease is chronic and the spleen capsule presumably thickened this would seem to be reasonably safe, at any rate no deaths are reported from it so far. The parasites have been generally described as extra-corpuscular, though Laveran seems to think that they are often intra-corpuscular. The bodies are oval in shape, and vary in size from those two microns or less in diameter to those one-half the diameter of a red blood corpuscle. In smears taken after death the bodies occur singly as a rule, but in smears from the living subject groups of from two to a dozen parasites are seen embedded in a sort of matrix. With the eosin-methylene blue stains the parasites are seen to contain nuclear substance usually in the form of a chromatin ring to which a rod-shaped mass of chromatin is applied. At autopsy the bodies are found not only in the spleen, but also in the liver, bone marrow

1. Bassenge and Mayer: Centralbl. f. Bakt., 1904, vol. xxxvi, p. 332.
2. Forty pages, JOURNAL size, sent postpaid for 10 cents per copy

1. American Medicine, June 4, 1904.
2. British Medical Journal, May 28, 1904.

and mesenteric glands. The symptoms which are produced by these parasites vary to some extent, but resemble more or less those of cases which in India are classed as chronic malarial cachexia. Leishman classed many of his cases as dumdum fever because they developed in dumdum, and because malarial parasites could not be found in their blood. The disease known in certain parts of Assam as ala-azar is probably due to these parasites. According to Rogers, the important symptoms of the disease are a large spleen, cachexia, anemia, and fever at times. The cases which he saw had lasted all the way from one month to two years, so that a good deal of variation in the clinical history is to be expected. According to Manson and Low, who seem to have come across more virulent cases than Rogers, the subjects of this disease usually die in a few months. There seems to be little doubt from the descriptions of the parasite that it is a new one. It has, however, been suggested by Donovan that we might be dealing with a resting stage of the malarial parasite, but he has now abandoned this view. The parasite has now been found in Africa by Neave, and as we have already said, will almost certainly be found in our own tropical dependencies.

THE PNEUMONIA COMMISSION.

Evidence that pneumonia is coming to be appreciated as one of the most serious scourges of humanity is afforded by the recent proposition of the New York health department to appoint a commission, including some of the best known internists of the country, to investigate the causes of this increased mortality. Since THE JOURNAL first called attention to the facts, some four years ago, the data then available have been vastly enlarged by more recent statistics and their deductions amply confirmed. After the question of the prevention of tuberculosis, and perhaps not yielding to that in importance, there is hardly any more important problem than this before the profession. How much of the increase of pneumonia mortality of late years is due to the grip infection, which still lingers with us, is worthy of serious study. Statistics, however, indicate that increase can not be altogether attributed to this cause. The mortality from the disease had been increasing even before the general grip invasion. The subject is a complex one, involving not only bacteriologic, but also social, climatic and other factors. Why this disease should be so fatal in some sections and so comparatively unimportant in others, is a matter that deserves thorough investigation. We trust the commission (the appointment of its members is noted in our news columns) will be granted ample means and facilities for the research. There is as much need for a special investigation of pneumonia at the present time as there is for that of cancer, and possibly better prospects of results.

Medical News.

ILLINOIS.

Hospital Burned.—The Mount Vernon Hospital was destroyed by fire, July 22, causing a loss of about $8,000, partially covered by insurance of $5,000. The patients were removed without casualty.

Cancer Curer Acquitted.—"Dr." Hattie Cain, Lewistown, who has a salve for cancer, and was arraigned a short time ago for violation of the medical practice act, has been acquitted.

Personal.—Dr. Charles H. Mills, Champaign, who was 81 years old on July 23, has been in active practice for 55 years. ——Dr. Louis H. Clampit, Jacksonville, has been made physician-in-charge of the south annex of the Illinois Central Hospital for the Insane, and Dr. Herbert A. Potts has been appointed assistant physician in his stead.——Dr. George T. Kemp, professor of physiology at the University of Illinois, Urbana, leaves this month for Europe.——Dr. Sarah H. Brayton, Evanston, left for Europe July 20. She expects to spend several years in study abroad.

Chicago.

Personal.—Dr. Clarence L. Wheaton has returned from Colorado and resumed practice in Chicago.——Dr. Louis J. Pritzker sails for Liverpool on the *Carpathia*, August 9, and will remain abroad about a year.

Sanitarium Gives Hospital Accommodation.—The Sisters of St. Anne have completely isolated one wing of their sanitarium for consumptives at Forty-ninth and Thomas Streets; have fitted up an operating room and dressing rooms, and are now taking general medical and surgical cases. The hospital building was erected only a few months ago, and is equipped with all modern appliances.

A Low Death Rate.—For the week ended July 30, 450 deaths were reported, 88 less than for the previous week, and 56 less than for the corresponding week of last year. The mortality was at the rate of 12.17 per 1,000 per annum. Acute intestinal diseases heads the list of death causes with 96; violence comes next with 45; then follow consumption, with 37; heart diseases, with 34, and Bright's disease and pneumonia, with 31 each.

Lower Child Mortality.—The Department of Health, in its current Bulletin, claims that Chicago is the most healthful large city on earth. The proportion of deaths of children under five to the total mortality has decreased in the last ten years from 46.1 per cent. in 1894 to 28.6 per cent. in 1903, and this last despite the Iroquois Theater fire losses. For the first six months of 1904, the percentage was 24.01, or 47.9 per cent. lower than in 1894.

MARYLAND.

Baltimore.

Personal.—Major Seth S. Ullrich, surgeon of the Fourth Regiment, M. N. G., has resigned.——Dr. Arthur M. Shipley has been appointed medical superintendent of the University of Maryland Hospital.——Dr. Bertha D. Berger has been elected resident physician-in-charge of the Good Samaritan Hospital. ——Dr. Arthur Mansfield has established a sanatorium at Owings' Mills, Baltimore County.

Births and Deaths.—The neglect of physicians to report births was shown last week in the discrepancy between deaths and births, 238 of the former and only 177 of the latter being reported. The white and colored death rates per 1,000 were respectively 21.05 and 39.76. There were 61 deaths from cholera infantum. No case of smallpox was reported. Typhoid fever is on the increase, there being 32 cases reported, with 6 deaths.

Where They Spend Vacations.—Drs. Cary B. Gamble and Charles S. Hoffman are at Atlantic City.——Dr. George B. Reuling is at Narragansett Pier.——Dr. Arminius C. Pole is at Eagle's Mere, Pa.——Dr. Nathan R. Gower is at Carlsbad.——Dr. Bessie B. Bennett is at Timonium.——Dr. Harry M. Arthur is at Brigantine, N. J.—— Dr. Hector H. Goodman is at Asbury Park.——Dr. John I. Middleton is at Narragansett Pier.——Dr. J. Hall Pleasants is at Buena Vista Springs.——Dr. Charles M. Franklin is visiting in Michigan.

MASSACHUSETTS.

Burrage Hospital.—This free institution, located at the top of the hill on Bumkin Island, is now open for the summer. While the institution was founded to care for crippled and deformed children it will receive children afflicted with any noncontagious disease.

Personal.—Dr. Frank E. Stone has been appointed city physician of Lynn.——Dr. Herbert C. Emerson, Springfield, has been nominated as associate medical examiner for the Second Hampden district, vice Dr. Everett A. Bates, made medical examiner. ——Dr. Myer Schwartz has been appointed physician in charge of smallpox cases by the Lawrence board of health.——Dr. Frederick B. Sweet has been elected surgeon to the Springfield

Hospital, vice Dr. Theodore F. Breck, deceased.——Dr. Albert M. Belden, Northampton, has been chosen chairman of the board of supervisors of the Massachusetts Medical Society.

Boston.

Guilty of Manslaughter.—Dr. Charles A. Eastman, Boston, charged with causing the death of Edith McIntyre of Boothbay Harbor, Me., by a criminal operation, was found guilty of manslaughter July 13. Bail was fixed at $5,000.

Bequests.—Mrs. Henry Whitman, in her will, made the following bequests to Boston charities: Children's Hospital, $10,000 to endow two beds known as the "Lily" beds; Home for Incurables, $5,000; Massachusetts Infant Asylum, $5,000, and Society for Crippled and Deformed Children, $20,000.

The New England Convalescent Rest Home is to be established in Waltham. A large estate has been secured on Beacon Street, the houses on which will be remodeled, to accommodate 150 patients. It will be for the relief of patients discharged from hospitals during convalescence, and will have an endowment of $100,000.

Cares for Many Sick.—During 1903, Boston cared for 14,281 sick people, 11,693 being acute cases and 2,588 brain diseases, i. e., insane. Beside these, more than 50,000 received medical aid at the City Hospital out-patient department and fully 300,000 at the other hospitals and dispensaries of the city. About 10,000 residents of Boston occupied free beds in private hospitals during the year. These figures, gathered by the "statistics department" of the city indicate that more than one-half of the population sought and obtained free medical or surgical aid in 1903.

Fresh Air and Low Death Rate.—Boston has been experiencing an unusually low death rate so far this summer, especially among young children. This is attributed by the board of health to the large opportunities furnished by the philanthropists of the city to poor children to get fresh air in picnics, excursions, and the like. Another large factor is the Boston Floating Hospital, where 57 cribs are kept constantly full, and which daily carries out from 50 to 75 other sick babies for a day on salt water. The demand for the aid of this hospital has been greater than ever before, often 10 or 12 babies being refused in a day because there are no vacant beds. Vigorous efforts are being made to secure a new and larger boat for next season.

Health Boards Meet.—The Massachusetts Association of Boards of Health met at Gallups Island, Boston Harbor, July 28. The paper was read by Prof. Theobald Smith on "The Etiology of Leprosy," the subject being illustrated by a China man, who is now isolated at the quarantine station on the island, and who presents a series of nodules in which the bacillus of leprosy has been demonstrated. The Boston Board of Health took the members of the association down the harbor on the steamer *Vigilant*, and provided a shore dinner. On the preceding morning many of the members inspected the state laboratories at Forest Hills, where diphtheria antitoxin is produced and where they are almost ready to issue the supply of free vaccine virus provided for by the last legislature, all of which is under the personal supervision of Professor Smith.

MISSOURI.

Fewer Die; More Are Born. The deaths in St. Louis for the week ended July 30 were 200, or 27 less than for the previous week. Consumption caused 29 deaths; heart disease, 22; violence, 12, and gastro-intestinal diseases, 45. During the week 297 births were reported.

Addition to Sanitarium.—Dr. John Punton, superintendent of the Punton Sanitarium for Nervous Invalids, Kansas City, is erecting a large addition to the institution, and is also making an extensive enlargement of the verandahs, which are used for places of rest and recreation.

NEW JERSEY.

Fourth of July Tetanus.—The first fatal case of Fourth of July tetanus was reported from the Cooper Hospital, Camden, July 18. The tetanus resulted from an injury inflicted by a blank cartridge July 4. Antitoxin was freely used, without avail.

Anti-Spitting Crusade.—The State Board of Health has begun a crusade on all the railroads of the state against expectoration. The Pennsylvania System has arranged to have warning signs placed in all its passenger coaches.

Personal.—Dr. Peter B. Davenport has been reappointed health officer of Vailsburg.——Dr. Byron C. Pennington, Atlantic City, is seriously ill from overwork.——Dr. Alexander Marcy, Jr., has been appointed health officer of Riverton; Dr. William S. Green of Paterson; Dr. Walter Taylor of Jersey City, and Dr. P. H. Obert of Asbury Park.

Jersey's Proposed Sewer.—The proposed New Jersey sewer is to take in all the towns and cities within a radius of twenty miles around Jersey City and will empty 3,260,000,000 gallons of sewage into upper New York Bay every twenty-four hours. The bill has been sustained as constitutional by the Supreme Court of New Jersey, but it has been under the consideration of a commission, appointed by Governor Odell, with Dr. Daniel Lewis as chairman, which will oppose it vigorously. It is the opinion of the commission that this amount of sewage would menace the health not only of New York City, but of the towns along the Hudson River for many miles, as the waters of the bay and river are carrying all the sewage they ought to, and no new sewers should be constructed without apparatus for its sanitary treatment. The commission will recommend the creation of a permanent interstate sewerage commission covering the metropolitan districts of New York and the nearby cities of New Jersey.

NEW YORK.

Contagious Diseases at Mission.—There was a small outbreak of measles at the fresh air missions at Angola. Many of the children sent there for an outing are found by the inspectors to have pediculi and scabies.

Bovine Tuberculosis.—State Veterinarian Kelly of Albany and State Appraiser Fulton of Whitesboro are going through St. Lawrence County disposing of cattle that have been tested by tuberculin and condemned. In the towns of Norfolk, Harrisville and Stockholm fourteen cows are to be killed. No new cases of anthrax are reported.

Would Establish Hospital.—William D. Palmer, Mamaroneck, in his will set aside $20,000, the income of which was to be used for the support of his wife, and on her decease the principal was to be paid to a corporate body to erect and maintain a hospital for Mamaroneck and Larchmont, to be known as the Palmer Hospital.

Flatbush Insane Asylum Lease.—The building of this institution was leased to the state in 1895 by a special act of legislature. The city officials now express the opinion that there is no official or board of the city government that has the right to renew the lease, and that such a right would have to be granted by the legislature. A long lease is desired in order that the state can afford to make much needed improvements in the building; but as King's County needs the building for an almshouse the probabilities of a long lease are not promising.

Albany Medical Faculty Changes.—Dr. Richard M. Pearce has been made professor of pathology and bacteriology; Dr. Harry J. Lipes, clinical assistant in obstetrics; Dr. Spencer L. Dawes, adjunct professor of materia medica; Dr. Charles K. Winne, Jr., instructor in bacteriology; Dr. Edwin F. Sibley, instructor in clinical microscopy; Dr. George G. Lempe, instructor in anatomy; Dr. Howard E. Lomax, assistant demonstrator of anatomy; Dr. Donald Boyd, demonstrator of anatomy of the nervous system and assistant professor of histology; Dr. Silas S. Filkins, professor of anatomy; Dr. Edwin McD. Stanton, lecturer on histology, and Dr. Wilfred S. Hale, lecturer on anatomy and assistant curator of the museum.

Buffalo.

New Hospital Under Way.—Work has begun on the new $50,000 quarantine hospital.

Deaths from Tetanus.—Two deaths from tetanus have recently occurred at the German Hospital. One followed a crushed foot and the other a wound from a rusty nail.

The New Mercy Hospital, conducted by Sisters of Charity, will soon be opened for the reception of patients. It is situated near the steel plant. The staff of physicians has as yet not been announced.

Personal.—Drs. Irving W. Potter and Edmond E. Blaauw have gone to Europe.——Dr. Harry Mead has returned from a month's visit in Pennsylvania.——Dr. William G. Bissell has returned from five weeks' duty at the National Guard Camp at Peekskill, N. Y.

The Typhoid Epidemic.—The report of the water expert, George W. Fuller of New York City, was submitted to the board of aldermen. It contains much detailed information about the condition of Buffalo's drinking waters, the sources of its pollution and the extent to which typhoid fever has been prevalent in Buffalo during the past ten years in comparison

with other cities, the enormous waste of water in Buffalo and the need of a filtration plant in Buffalo and the best location from which to draw our water supply. His findings are thus summarized:

I find that the typhoid fever epidemic in Buffalo between September, 1902, and April, 1903, was caused largely by pollution of the public water supply. This pollution came from Smokes Creek, and later from Buffalo River also, and was carried to the intake at times of high winds by the under currents which these winds from up the lake develop near and below the mouth of Buffalo River.

For the last year the city water supply has been of about the same quality as during the period from 1894 to 1902. Ordinarily it is of good quality, but it is occasionally polluted by Buffalo sewage in the manner just stated.

The water of the lower end of Lake Erie, above the effects of the sewage of Buffalo and its suburbs, I find to be safe for domestic use, and a satisfactory one in every way except for its occasional turbidity.

On the eastern side of the Horseshoe reef, in the vicinity of the so-called dummy light, and in what is generally called the Emerald channel, it is perfectly possible, under existing conditions, to obtain as good water as there is in the southern end of Lake Erie. I advise that an intake be established to draw the future water supply from this immediate vicinity.

Ultimately it will be necessary for Buffalo to filter its water supply from this or any other available source. With this end in view I advise that all improvements in the waterworks from this time on be made in strict accordance with the requirements of future filtration works, some of the features of which are herein outlined.

One of the first steps toward filtration is a reduction in the enormous waste of water in Buffalo, and I advise that this matter receive immediate attention.

New York City.

Receiving Hospitals in Parks.—To give immediate aid to the injured and overcome the long delays attending the arrival of medical aid from hospitals, Park Commissioner Schmitt of the Bronx has established ten hospitals at Pelham, Van Courtlandt, Croton and Bronx Parks.

Contagious Diseases.—For the week ended July 23 there were reported to the sanitary bureau 299 cases of tuberculosis, with 168 deaths; 275 cases of diphtheria, with 25 deaths; 201 cases of measles, with 7 deaths; 88 cases of scarlet fever, with 3 deaths; 65 cases of typhoid fever, with 13 deaths; 29 cases of varicella, with 1 death; 2 cases of smallpox, and 22 deaths from cerebrospinal meningitis.

For Pure Milk.—The health department is throwing large quantities of milk into the streets because the temperature, when examined by the inspectors, is above 50 degrees. As much as 3,000 cans have been spilled in a single night, and recently a whole train load was condemned on its arrival in the city. The milk dealers are complaining greatly because they have been at times unable to supply their customers. Such rigid procedures are being carried on in order to lessen the number of cases of cholera infantum.

Personal.—Dr. and Mrs. L. C. Baldwin sailed on the *Kaiser Friedrich der Grosse*, for Bremen, July 27.——Dr. Henry J. Prentiss, professor of practical anatomy, University and Bellevue Hospital Medical College, has accepted the chair of anatomy at the University of Iowa, made vacant by the death of Dr. J. W. Harriman.——Dr. Archibald Murray, Brooklyn, sailed for Europe July 16.——Dr. Joshua M. Van Cott, Brooklyn, has gone abroad.——Dr. Walter B. Chase has been appointed visiting physician to the Bethany Deaconess' Home and Hospital, Brooklyn.

The Mosquito War.—Health Officer Doty has begun a series of experiments in mosquito warfare. He is attacking the meadows and pools of a portion of Staten Island with "Bordeaux," a solution composed mainly of sulphate of copper and lime. This mixture has proved successful on a small scale, and they are endeavoring to prove its efficacy on a larger one. Dr. Darlington is endeavoring to abate the mosquito plague at Coney Island. The sunken meadows here are too extensive to be filled in, but the work of draining the ponds will be carried on as expeditiously as possible.

Board to Inquire Into Pneumonia.—The board selected to investigate into the causes and general nature of pneumonia is made up as follows: Drs. William Osler and William Welch of Johns Hopkins University; Dr. Edward G. Janeway, New York University; Dr. T. Mitchell Pruden and L. Emmet Holt of the College of Physicians and Surgeons; Dr. Frank Billings, dean of Rush Medical College, Chicago; Dr. John H. Musser of the Medical College of the University of Pennsylvania, and Dr. Theobald Smith, professor of pathology, Harvard University. New York City has appropriated $10,000 for this work.

Tuberculosis Crusade.—The National Association for the Study and Prevention of Tuberculosis, which was organized at Atlantic City, June 6, has secured offices in the Associated Charities Building. There is no idea of founding any sanitarium or hospital. The work planned is the collection and dissemination of information of any sort pertaining to the disease. The first definite enterprise will be the publication of a tuberculosis directory, which will be done in co-operation with the Charities Organization Society, which has much statistical information, including 125 hospitals and sanitaria in this country and Canada.

Registration of Births.—A letter from the health department of this city has been sent to all physicians calling attention to their moral and legal responsibility relative to the registration of births and stating that the failure to comply with this law is attended with serious consequences to the child, as on the birth record depends the admission of the child to the public schools and his ability to obtain employment on arriving at the age of fourteen, provided he has no other certificates, such as baptism, confirmation, circumcision, etc. The failure to comply with the law in this respect renders the physician liable to a fine of $100, recoverable by the board of health.

PENNSYLVANIA.

Gone Abroad.—Dr. Gilbert D. Murray, Scranton, sailed for England July 18.——Dr. and Mrs. Charles E. Ziegler, Pittsburg, sailed for Germany, July 2.

National Guard Appointments.—The governor has promoted Lieut.-Col. Joseph K. Weaver, Norristown, from division surgeon, to surgeon general, with the rank of colonel; Major George H. Halberstadt, Pottsville, surgeon of the third brigade; Dr. Jonathan C. Biddle, Ashland, assistant surgeon, assigned to the Eighth Infantry, and Dr. Lewis Hames Crothers, Chester, first lieutenant and assistant surgeon, assigned to the Sixth Infantry.

To Prison.—Dr. Albert A. Appel, Germantown, convicted of performing an illegal operation on Minnie Ellis, has been sentenced to imprisonment for two years in the Eastern Penitentiary.——"Dr." David Mosier, Philadelphia, for a similar offense, was sentenced to imprisonment for two and one-half years in the county prison.——Dr. Nathan Penrose, Allegheny, found guilty of criminal malpractice, has been sentenced to imprisonment for three years in the Western Penitentiary.

Personal.—Dr. B. A. Frye, Sharpsville, has been elected resident physician of the Shenango Valley Hospital, New Castle.——Dr. Reed Burns, Scranton, has been made chief of staff of the Lackawanna Hospital, vice Dr. Alexander J. Connell, resigned.——Dr. Addison W. Smith has been made a member of the staff of the Lackawanna Hospital, Scranton, vice Dr. William G. Fulton, resigned, to become a trustee of the institution.——Drs. Ebur F. Stevenson, Independence, Iowa, and Alden B. MacDonald, Sugar Grove, have been made resident physicians at the Reading Hospital.——Dr. Jacob L. Ziegler, Mount Joy, who has practiced medicine in that place for sixty years, is said to be the oldest living alumnus of Jefferson Medical College.——Drs. Gustaf Hartmann and E. Carl Weirick have secured appointments as resident physicians of the Harrisburg Hospital.

Philadelphia.

Health Report.—The health of the city has never been better; no case of smallpox has been reported for two weeks, and all the patients at the municipal hospital are to be discharged this week. Typhoid fever continued to diminish; this is said to be due to the increased supply of filtered water. The total number of deaths for the week was 434, compared with 482 for last week; this is less than for any corresponding midsummer week for years.

Bequests.—By the will of Marie L. Gage, the following institutions have been benefited: Women's Hospital, $5,000, to be applied as a memorial bed to Mary M. G. Coane; Presbyterian Hospital $5,000, for a memorial bed to Rev. Horatia M. Burton; Children's Country Week Association, $3,000; Camden Home for Friendless Children, $3,000; Philadelphia Home for Incurables, $1,000; Southern Home for Destitute Children, $500; and Northern Home for Friendless Children, $2,500.

Beri-Beri at City Port.—The ship *Foohing Suey*, which left Hawaii, March 25, arrived at the Breakwater, this week with 13 cases of well-developed beri-beri. During the voyage only one seaman developed symptoms of the disease, but by the time the vessel reached here 13 of the crew were attacked. One seaman died from the disease during the voyage. The sick men were removed to the quarantine hospital, and the ship was thoroughly fumigated before proceeding to the city port.

SOUTH DAKOTA.

State Hospital Open. On July 1 the new building of the Northern Hospital for the Insane, Redfield, was opened to receive patients.

Convicted of Illegal Practice. Dr. Herman A. Drechsler, Deadwood, on June 20, was found guilty of practicing medicine without a license, and sentence will be pronounced September 10. This conviction has demonstrated the legality of the new medical practice act.

State Society Meeting. The twenty-third annual session of the South Dakota State Medical Association was held at Redfield, June 1 and 2. The following officers were elected: President Dr. Charles B. Mallery, Aberdeen; vice-presidents, Drs. Adelbert H. Bowman, Deadwood and William H. Lane, Miller, and secretary-treasurer, Dr. William Edwards, Bowdle. The next meeting will be held at Deadwood in May, 1905.

TENNESSEE.

Abortionist Sentenced.—Dr. James S. Ramsey, Huntington, was sentenced to six months in the county jail for having performed a criminal operation on a young girl of Hollow Rock.

Smallpox.—There are 4 cases at Lyell Station, Hickman County.——Three new cases developed at Carthage.——For the first time in eight months Memphis is free from the disease.

Confederate Surgeons Meet.—The Association of Medical Officers of the Confederate Army and Navy met at Nashville June 15 and 16. The president, Dr. John R. Gildersleeve, Tazewell, Va., delivered his annual address, which recited the work done at the Confederate Hospital, Richmond. The following officers were elected: President, Dr. John S. Cain, Nashville; vice-presidents, Drs. James D. Plunket, Nashville, D. H. Key, Monroe, La., William U. Martin, Kingston, Ky., and Peter B. Bocat, Florence, S. C.

Personal.—Dr. William Litterer, Nashville, has succeeded Dr. Louis Leroy as professor of histology, pathology and bacteriology in Vanderbilt University Medical Department.——Dr. Eugene E. Hunter, Elizabethton, has been reappointed a member of the State Board of Medical Examiners.——The resignation of Dr. John P. Douglass, as superintendent of the Western Hospital for the Insane, became effective June 21. He will practice in Arlington.——Dr. Joseph P. Gillen, South Pittsburg, was painfully injured by being dragged by a horse on his farm July 16.

TEXAS.

Acquitted.—Dr. R. B. Barnes, a colored physician of Cleburne, has been acquitted of the charge of illegal operation on a woman.

National Guard Appointments.—Dr. Edward N. Shaw, Cameron, has been commissioned major and surgeon, and Dr. Edmund S. Ferguson, Cameron, assistant surgeon in the Texas National Guard.

Commencement.—The medical department of the University of Texas, Galveston, graduated a class of 23 May 31. Dr. Seth M. Morris delivered the faculty address, and President W. L. Prather conferred the degrees.

Baptist Staff.—Drs. Jesse B. Titterington, Robert S. Yancey, William M. Young, Miles J. Duncan, Henry K. Leake and Horace C. Hall have been nominated as members of the staff of the Texas Baptist Memorial Sanitarium, Dallas.

Urges Cleaning Up.—State Health Officer Tabor is redoubling his efforts to prevent a recurrence of yellow fever, and to that end is again mailing out notices over the state for everybody to clean up and drain all pools, etc., in order that the mosquito be destroyed. His paper and letter of warning that cleanliness and mosquito destruction is imperative, together with the governor's letter of warning, has been sent out in large numbers.

WASHINGTON.

Fire in Doctor's Office.—A fire in the laboratory of Dr. J. E. Preucel, Dayton, June 18, destroyed his laboratory and apparatus, causing a loss of about $2,000.

Railway Hospital in Tacoma.—The contract has been awarded to a Tacoma firm for the erection of a hospital for the Northern Pacific Railway Employe's Beneficial Association, at Tacoma, to cost $700,000.

Medical Books for State Library.—The initial instalment of more than 1,000 volumes for the newly-established medical department of the state library, Olympia, has been received. The outlay for the first order was $2,500.

Sanitarium Burned.—Fire, on July 7, destroyed the principal building of the Spokane Sanitarium, a branch of the Battle Creek Sanitarium, involving a loss of $15,000, about half of which is covered by insurance. All the patients were removed in safety.

New Spokane Hospitals Open. Emmanuel's Hospital was formally opened July 14. The institution will accommodate 20 patients, and is under the charge of Dr. Duffalloschotthower.——The new St. Luke's Hospital was informally opened June 22. Mayor Boyd, Bishop Lemuel H. Wells and Dr. Thomas L. Catterson delivered addresses.

License Revoked.—The State Board of Medical Examiners, at its meeting, July 7, revoked the license of Dr. James G. Stewart, Seattle. The charge against Dr. Stewart was preferred by Dr. George Walker of Seattle, who alleged that Stewart offered to furnish answers to the set of medical questions used by the board to one O. V. Lawson for the sum of $600. Dr. Stewart has begun suit against the board, claiming that it had no right to revoke his license.

State Association Meets. The Washington State Medical Association held its fifteenth annual session, July 12, 13 and 14, at Seattle. Both socially and professionally it was one of the best meetings ever held in the state. The following officers were elected: Dr. James R. Yocum, Tacoma, president; Drs. James A. Durrant, Shonomish, and William H. Hall, Spokane, vice-presidents; Dr. James B. Eagleson, Seattle, treasurer, and Drs. Johnston, Bellingham, and Nathaniel J. Redpath, Olympia, judicial commmittee. A committee was appointed to investigate dairies in the state and arouse interest in the crusade against impure milk, with Dr. Kenelm Winslow as chairman. The association will convene next year in Tacoma.

WISCONSIN.

Give Earles Loving Cup.—At a banquet given in honor of Dr. William H. Earles, president and founder of Milwaukee Medical College, July 16, a silver loving-cup was presented to Dr. Earles by Dr. Fred R. Weber on behalf of those present. Dr. William A. Evans, Chicago, acted as toastmaster. With the cup was presented a testimonial.

Much Typhoid at Mendota.—The epidemic of typhoid fever at the State Hospital for the Insane, Mendota, is said to have affected 10 per cent. of the inmates and employees. Five deaths have occurred. The infection has been traced to a pollution of the water supply, which is drawn from Lake Mendota at a point near which the sewage from the institution is emptied into the lake.

Personal.—Dr. John M. Dodd, Ashland, has been appointed chief surgeon of St. Joseph's Hospital in that city, and is now closing the private hospital which he has conducted for the past ten years.——Dr. Lawrence J. De Swarte, Milwaukee, has gone abroad, and will return in the early spring.——Dr. Ernest L. Bullard, superintendent of the Wisconsin State Hospital for the Insane, Mendota, has resigned and has been succeeded by Dr. Charles Gorst, Baraboo.——Dr. Joseph P. Donovan, late city physician, has been appointed health officer of Madison, vice Dr. Julius C. Sommers, late health officer, resigned.——Dr. Henry E. Troohig, Fond du Lac, sailed for Europe July 16.——Dr. Joseph B. Noble has succeeded Dr. Benjamin U. Jacobs as physician of the State Industrial School for Boys, Waukesha.——Dr. and Mrs. Frank E. Andre, Kenosha, are reported seriously ill from ptomaine poisoning.

Care of Tuberculous Poor.—At a recent meeting of the Medical Society of Milwaukee County, the following resolution was adopted:

RESOLVED, That a committee be appointed to take up the question of arranging a public educational exhibition on tuberculosis, to consider the establishment of accommodations in Milwaukee for the treatment of the tuberculous poor.

The following were appointed on the committee: Drs. Urams O. B. Wingate, John W. Coon, John M. Beffel, Lewis F. Jermain, Hoyt E. Dearholt, Daniel W. Harrington, and Charles H. Stoddard. The committee organized by electing Dr. Stoddard secretary, and the following sub-committees were appointed: Public and medical press, Dr. Coon; city associations, Dr. Dearholt; exhibition, Dr. Beffel; literature, Dr. Jermain; finance and lectures, Dr. Harrington, and correspondence, Dr. Stoddard.

FOREIGN.

Successor to Rieder in Turkey.—Vollbrecht of Darmstadt has accepted the invitation of the sultan of Turkey to take general charge of medical affairs in Turkey. He leaves for Constantinople in the fall.

Anti-Cancer Dispensary.—The German cancer research committee has appropriated $500 to fit up a small dispensary exclusively for cancer subjects on the same lines as the anti-tuberculosis dispensaries in France, described in an editorial on "Home Treatment of Tuberculosis" on page 33.

Accident to Esmarch.—We regret to learn that this famous veteran surgeon has recently fractured his clavicle. The latest reports say that his condition is as satisfactory as could be expected. His eightieth birthday was celebrated with much ceremony last year.

Endowed Beds in the Russian Red Cross Society.—The reports from the seat of war are censored too closely for much information in regard to the medical aspect of the war to appear in our Russian exchanges at present. One states, however, that there are 1,039 memorial endowed beds at the disposal of the Red Cross Society. It has now 18 field hospitals at the seat of active war, with 3,535 beds.

Prizes for Diversion of the Sick.—A German paper, the organ of the nurses in the hospitals and elsewhere, announces three money prizes for the best works on the occupation, diversion, entertaining and recreation of the sick. Further details in regard to the prizes are given in No. 10 of the journal—the *Deutsche Krankenpflegezeitung*—published by Elwin Staude, Berlin. This number will be sent postpaid and free of charge to all who write for it.

Organization of the Profession in Germany.—As an instance of the way in which the physicians of southern Germany are standing shoulder to shoulder in the struggle with the sickness insurance societies, we note that only a single applicant responded to an advertisement for medical officers after the resignation of all the physicians of the sickness insurance society at Ruhpolding. The society advertised in the three principal Bavarian dailies, but not another response was elicited. The company then acceded to the demands of its former medical officers, and reinstated them.

South American International Sanitary Conference.—Representatives of the principal South American states met at Rio Janeiro, June 5 to 12, to consider measures of sanitary prophylaxis. The measures hitherto in vogue have now become obsolete, and the conference decreed that they should be abandoned, and others, to conform to the latest scientific data, be adopted. The representative of Brazil in the conference was Dr. Azevedo Sodré, editor of the *Brazil Médico*. The secretary of the meeting was also on the editorial staff of this journal, as is also the chief of the National Department of Health, Dr. O. G. Cruz, whose efforts to eradicate plague and cholera from Rio have been so successful that the recent Latin-American Congress sent him a special vote of congratulations.

Prophylaxis of Typhoid in Western Germany.—Koch's ideas in regard to the prevention of the spread of typhoid fever by stamping out each focus have been carried out on a large scale in Alsace, Lorraine, and other western provinces. Five bacteriologic stations were organized at various points. The superintendents of these stations, with other specialists and physicians of the region, met at Berlin, June 29, to ascertain what had been learned and accomplished in regard to the eradication of the foci of typhoid fever. The assemblage was unanimous in decreeing that persons exhibiting typhoid bacilli in the urine or stools, with or without other symptoms or in apparent perfect health, should be isolated, if convenient, and if not, at least their excreta should be disinfected, as also their bed and body linen. The assemblage included R. Koch, Gaffky, Gruber of Munich, and Forster of Strasburg.

The Pasteur Monument.—Near the Invalides at Paris the imposing statue of Pasteur was unveiled July 16, in the presence of the president of the republic, the entire diplomatic corps, and representatives from various scientific societies almost the world around, including Behring and van Ermengem. The statue represents Pasteur seated and musing. The base of the solid shaft is encircled by a group of large figures representing Humanity holding out the suffering child for Pasteur to take, while other figures represent the agriculturist, the farmer, the shepherd, each basking in peaceful serenity, as Pasteur has conquered the cattle and plant diseases that used to decimate their flocks and vines. It seems that there are almost as many statues of Pasteur in France and as many streets named after him as after Washington in this country. This last monument, however, is on a much more elaborate scale than any of the rest. The *Journal de Méd. de Paris*, by the way, states that Pasteur, with all his ardor for science, had "a frugal mind," and accumulated a large fortune. It hints that he retained an interest in certain filters and industrial processes based on his researches. This exchange has always scoffed at bacteriology and been antagonistic to serotherapy in any form, and prophesies that the day will come when these statues to Pasteur will be a laughing stock. The sarcastic editorial comments on the present enthusiasm for serums, etc., are always entertaining reading.

Correspondence.

Diabetes Mellitus—With a New Method of Prognosis.

NEW YORK CITY, July 26, 1904.

To the Editor:—It seems to be a rather precipitous course to base "a new method of prognosis" on the study of one case of a certain pathologic condition. I allude to the abstract of a report on a case of diabetes mellitus, read at the recent session of the American Medical Association, and published in toto in the issue of THE JOURNAL, July 23.

The authors of the communication, Mandel and Lusk, having found a constant dextrose-nitrogen ratio of 3.65:1 in a diabetic, in a state of "low acidosis," while under a meat-fat regimen, which "ratio was uninfluenced by fat digestion or fat metabolism," "formulate a new clinical method of prognosis in diabetes, using the D:N ratio for this purpose." They contend that the occurrence of 3.65 grams dextrose to 1 gram nitrogen in the second day's urine after institution of a "meat-fat diet" signifies "a complete intolerance for carbohydrates and probably a quickly fatal outcome." Analyzing these statements, we find that:

1. The prescribed diet was not a purely meat-fat regimen inasmuch as "rich cream" containing over 4 per cent. of convertible lactose was permitted in the dietary.

2. No figures are given as to the proportion of ingested and egested nitrogen.

3. The authors have adduced no proof as to the origin of *all* the urinary dextrose and nitrogen from the ingested material.

Again, the abstract as read and published is entirely too meager to afford a thorough insight into the authors' contention.

HEINRICH STERN.

X-Ray in Leukemia and Pseudoleukemia.

DENVER, July 28, 1904.

To the Editor:—I note Dr. Pusey's letter in THE JOURNAL, July 23, in which he refers to some early reports of the Roentgen ray treatment of pseudo-leukemia. In this connection permit me to state that in June, 1902, long previous to Senn's report, I reported the case of Mrs. A. (my Case No. 22) to the Colorado State Medical Society, and the article containing this was soon after published in the *Denver Medical Times*. In August, 1902, I treated J. B. (my Case No. 81), a most remarkable example of the effect of *x*-rays in pseudo-leukemia. This was reported to the Denver Clinical and Pathological Society about that time, also included in an article read before the Rocky Mountain Interstate Medical Association at Salt Lake City, August, 1903, included in the transactions of that society, and but recently published in the *New York Medical Journal*. This article also reported four other cases of Hodgkin's disease treated by *x*-ray.

G. H. STOVER, M.D.

Intestinal Suture with the Gelatin Cylinder.

TOLEDO, OHIO, July 27, 1904.

To the Editor:—The *New York Medical Journal*, March 12, 1904, speaks of the work of Hepperlen with the gelatin cylinder as a support during the suturing of the cut ends of the bowel. Five years ago, while surgeon for the Edward Ford Plate Glass Co., I did a great deal of experimental work with soluble cylinders for intestinal supports during the suturing. I found the simple gelatin capsule as satisfactory as any. I add my small indorsement to this method as a simple and rapid way of holding the bowel ends, for quick suturing of the same.

C. M. HARPSTER.

The Period of Incubation in Tetanus.

TYLER, TEXAS, July 29, 1904.

To the Editor:—In report of my case of tetanus in THE JOURNAL, July 23, 1904, kindly make the following corrections: The patient was injured Saturday, Sept. 1, 1894, at about 7:30 p. m. Amputation at thigh was done Wednesday, Sept. 5, 1894, at 6:15 p. m. Tetanus suddenly developed at 5 a. m. on the following morning, Thursday, and he died from tetanus at 3:15 p. m. on this day, which was five days from date of injury. ALBERT WOLDERT, M.D.

Queries and Minor Notes.

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

PREGNANCY FROM RAPE DOES NOT JUSTIFY ABORTION.

——, ——., July 30, 1904.

To the Editor:—Please answer in the next issue of THE JOURNAL the following question, kindly withholding from publication the name and place: Is the production of abortion unjustifiable or illegal in a pregnancy resulting from rape? In the case in mind a young girl, 16 years old and of unquestionable reputation, was drugged, and while in an unconscious state criminally assaulted. She was found still in a semi-unconscious condition and has no recollection of the deed, but the results of an examination by myself at the time (an examination both of her person and microscopically of the vaginal contents and of stains on her clothing) showed conclusively that coitus had been effected. The act occurred directly following her menstrual period and present indications point to a probable pregnancy. W.

ANSWER.—The enormity of the crime of rape—even if a pregnancy be thus forced on an innocent girl—does not justify murder. This is law. Our correspondent's last sentence leads us to suggest that he bear in mind, when considering the diagnosis of pregnancy, that authorities state that pregnancy is rare after *real* rape, and that the fright may easily cause suppression of menstruation and other subjective symptoms.

Marriages.

JOHN P. BENSON, M.D., to Miss Irene Devine, both of Joliet, Ill., July 14.

SIDNEY V. WEST, M.D., to Miss Minnie Miles, both of Colusa, Col., June 29.

J. C. S. SIEGFRIED, M.D., Wilbeaux, Mont., to Miss Lila Beggs of Chicago, May 25.

ROY W. CHIVERS, M.D., Jackson, Mich., to Miss Ella Ducher of Gladwin, July 19.

JOHN A. RUAN, M.D., to Miss Rachel Llewellyn, both of Beacon, Iowa, July 6.

CHARLES E. SLAGLE, M.D., to Miss Myrtle Shoup, both of Abingdon, Ill., June 28.

ELLA ABBOTT, M.D., to WILLIAM HARRY TATMAN, M.D., both of Oklahoma City, Okla.

HARRY W. LONG, M.D., to Miss Emily Rees, both of Escanaba, Mich., July 6.

EDWIN NICHOLS, M.D., Newark, Ohio, to Miss Olive Spencer of Dresden, Ohio, July 6.

WILLIAM F. SPEERS, M.D., to Miss Agnes E. Petersen, both of Davenport, Iowa, July 20.

CLEMENT BOCKOVEN, M.D., Bryant, Ind., to MISS DE COU, M.D., of Chicago, June 29.

LOUIS GREIDER, M.D., Foster City, Mich., to Miss Clara Kibby of Escanaba, Mich., July 6.

FREDERICK B. SCHNEFER, M.D., to Miss Verda Phillips, both of Deadwood, S. D., July 9.

JOHN C. LAFKIN, M.D., to Miss Daisy Turney Spargur, both of Hillsboro, Ohio, July 19.

CHARLES E. MORGAN, M.D., Humboldt, Ill., to Miss Sarah Dole of Mattoon, Ill., July 7.

H. A. ANGUS, M.D., Garrison, Iowa, to Miss Alice Holbrook of Chicago Heights, Ill., June 29.

GUY C. CONKLE, M.D., Boyne Falls, Mich., to Miss Edith A. Crego of Brooklyn, Mich., July 7.

ARTHUR D. WEST, M.D., Moline, Ill., to Miss Margaret E Rosborough of Elgin, Ill., June 28.

JAMES W. FRAZIER, M.D., Honey Creek, Iowa, to Miss Mildred E. Smith of Omaha, Neb., June 29.

GEORGE MARESH, M.D., Riverside, Iowa, to Miss May Boyington of Lone Tree, Iowa, July 14.

BENJAMIN H. VOEBEL, M.D., Vailsburg, N. J., to Miss Jessie E. Stevens, at Rchester, Md., July 14.

JOSEPH C. REIFSNYDER, M.D., Scranton, Pa., to Miss L. Claire Whitmoyer of Bloomsburg, Pa., July 1.

D. EDWARD WARREN, M.D., Trenton, N. Y., to Miss Mary P. Johnson of Canandaigua, N. Y., July 7.

HENRY ASHBURN DAVIS, M.D., Cairo, Ill., to Miss Bertie Nancy Moore of Commerce, Mo., July 6.

FRED P. LIERLE, M.D., Marshalltown, Iowa, to Miss Eugenia Margaret West of Osceola, Neb., July 27.

OTTO A. WALL, JR., M.D., St. Louis, Mo., to Miss Emma Elizabeth Babler of Eldorado Springs, Mo., July 6.

ROBERT M. LITTLE, M.D., East St. Louis, Ill., to Miss Mabel Allyn of Modesta, Ill., at East St. Louis, Ill., July 7.

WALLACE A. AITKEN, M.D., Valley Falls, Kan., to Miss La Verne McKeever of Oklahoma City, Okla., July 21.

JAMES W. MACDONALD, M.D., Aurora, Ill., to Miss Bertie Grace Hardie of Chicago, at Milwaukee, Wis., June 17.

Deaths.

Frantz H. Coe, M.D. University of Michigan Department of Medicine and Surgery, 1888, a member of the American Medical Association; president of the State Board of Medical Examiners, and of the Washington State Medical Association; one of the most prominent physicians of Washington, who, although suffering acutely, presided over the deliberations of the state medical association, collapsed, July 16, and died from Bright's disease, at his home in Seattle, the same morning, aged 47. He had been for ten years surgeon of the Northern Pacific and Seattle and International railways.

Edward W. Lambert, M.D. College of Physicians and Surgeons, Columbia University, New York City, 1857, medical director of the Equitable Life Assurance Society since 1858, member of the New York Academy of Medicine, the Pathological Society, the Medical Society of the County of New York, the Medical and Surgical Society, etc.; attending physician to St. Luke's Hospital, the Nursery and Child's Hospital, died from heart disease at his home in New York City, July 17, aged 73.

Harry S. Torrance, M.D. Department of Medicine, University of Pennsylvania, Philadelphia, 1890, a member of the American Medical Association; Colorado State Medical Society and Teller County Medical Society; a member of the Board of Health of Cripple Creek, Colo., was killed in a wreck on the Cripple Creek Short Line Railway, near Cameron, Colo., July 5, aged 35. The executive committee of the board, at a special meeting, July 13, adopted resolutions of respect and sympathy.

Charles G. Ward, M.D. Dartmouth Medical School, Hanover, N. H., 1882; coroner of Oneida County, N. Y., from 1896 to 1899, visiting physician to St. Elizabeth's Hospital, Utica, and sometime vice-president of Oneida County Medical Society and president of the Utica Medical Club, died at his home in Utica, July 3, from uremia, after a short illness, aged 49.

Seymour T. Jarecki, M.D. College of Physicians and Surgeons in the City of New York, 1894, a member of the American Medical Association, assistant county physician of Denver County, Colo., who was murderously assaulted at his office in Denver by an unknown assailant in December last, was shot and killed at his home in Denver, June 30.

Frank Anthony Walke, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1852, surgeon in the U. S. Navy prior to the Civil War, and then surgeon to the Forty-Sixth Virginia Infantry, C. S. A., died at his home in Norfolk, Va., July 5, after an illness of three weeks, aged 73.

Richardson B. Okie, M.D. Medical Department University of Pennsylvania, Philadelphia, 1870, manager of the country branch of Rush Hospital, Philadelphia, and visiting physician to the Presbyterian Hospital, Devon, Pa., died at his home in Berwyn, Pa., from heart disease, July 30.

Henry M. We'herill, M.D. Medical Department University of Pennsylvania, Philadelphia, 1877, formerly surgeon to the Pennsylvania Hospital and Pennsylvania Hospital for the Insane,

and a member of the Society of Blockley Physicians, died at his home in Philadelphia, July 27.

Elijah Williams, M.D. University of Maryland Medical School, Baltimore, 1869, of Armiger, Md., formerly state senator from Anne Arundel County, died at the University Hospital, Baltimore, July 6, from disease of the liver, after a long illness, aged 56.

John A. Morrison, M.D., 1839, died at his home in Cochranville, July 26, aged 93 years. He was surveyor of the Port of Philadelphia under President Buchanan and was said to be the only surviving member of the thirty-third congress.

Frank W. Whitcomb, M.D. University of Buffalo (N. Y.) Medical Department, 1882, of Warren, Pa., was drowned in Conewango Creek, near Fentonville, Pa., June 30, aged 48. He was coroner of Warren County for several years.

Charles L. Steel, M.D. University of Maryland School of Medicine, Baltimore, 1882, professor of prosthetic dentistry in the University College of Medicine, Richmond, Va., died in the Virginia Hospital in that city, June 28, aged 44.

Joseph Bacon Shaw, M.D. University of Pennsylvania, Philadelphia, 1877, president of the Monroe County Medical Association, died suddenly, July 18, at his home in Delaware Water Gap, Pa., from heart disease, aged 58.

Clinton D. Henton, M.D. Rush Medical College, Chicago, 1861, for more than half a century a resident of Danville, Ill., died at his home in that city, June 25, from paralysis, after an illness of six years, aged 73.

John Jastremski, M.D., for 21 years superintendent of the Louisiana Deaf and Dumb Institute, Baton Rouge, died at that institution, July 5, from paralysis, after an illness of three years, aged 64.

William H. Pilcher, M.D. University of Nashville (Tenn.) Medical Department, 1852, twice a member of the legislature, and county judge for 20 years, died at his home in Norwood, Ga., July 1, aged 75.

Patrick G. Jennings, M.D. Laval University, Medical Department, Quebec, 1876, died at his home in Melrose Park, Ill., July 3, aged 47. He retired from practice in 1900 on account of ill-health.

Julius A. Pirlot, M.D. Academie de Médecine, Faculté de Paris, France, 1873, surgeon in the Franco-German War, died at his home in Worcester, Mass., June 26, from heart disease, aged 58.

William H. Jarman, M.D. New York, an officer in the Confederate service, and for many years a practitioner of Arkansas, died at Nashville, Tenn., July 5, after a long illness, aged 79.

John Boyd Wilson, M.D. Jefferson Medical College, Philadelphia; surgeon during the Civil War and in charge of the hospital at Memphis, Tenn., died in Harrisburg, Ill., recently, aged 72.

James Williams, M.D. Shelby Medical College, Nashville, Tenn., 1848, after 42 years of active practice, died July 5, at his home in Nashville, Tenn., after a lingering illness, aged 82.

Charles Shattuck, M.D. Miami Medical College, Cincinnati, 1885, died at his home in Maddyville, near Ironton, Ohio, June 29, from rheumatism, after an illness of ten weeks, aged 54.

James M. Palmer, M.D. New York University Medical Department, New York City, 1869, died at his home in Dalton, Ohio, from paralysis, June 24, after a prolonged invalidism.

James B. McElrath, M.D. Jefferson Medical College, Philadelphia, 1871, died at his home in Jackson Center, Pa., from paralysis, June 30, after an illness of four days, aged 60.

Abner Smead, M.D. University of Virginia Medical Department, Charlottesville, 1868, of Vinton, Va., died suddenly at Stewartsville, Va., July 24, from heart disease, aged 80.

I. Melvin Jacobs, M.D., College of Physicians and Surgeons of Chicago, 1901, of Wichita, Kan., died at his home in Perth, Kan., June 29, from tuberculosis of the lungs, aged 27.

J. C. McConnell, M.D., anatomist of the Army Medical Museum, Washington, D. C., for 39 years; a veteran of the Civil War, died at Liberty, N. Y., July 25, aged 60.

Franklin H. Oulton, M.D. New York University Medical Department, New York City, 1876, died at his home in Moncton, N. B., from paralysis, July 4, aged 54.

Stephen D. Pollock, M.D. Bellevue Hospital Medical College, New York City, 1871, died suddenly at his home in Galesburg, Ill., July 20, from apoplexy, aged 64.

H. G. Logan, M.D. Atlanta (Ga.) Medical College, 1880, formerly state senator from Independence County, Ark., died recently at his home in Newark.

Samuel Records, M.D. Medical College of Ohio, Cincinnati, 1847, died at his home near Lawrence, Ind., July 8, after an illness of four months, aged 84.

H. L. Simrall, Jr., M.D. University of Louisville, Medical Department, 1882, died suddenly at his home in Glass, Miss., from heart disease, June 27.

Grigg S. Stewart, M.D. Miami Medical College, Cincinnati, 1877, died at his home in Pickerington, Ohio, July 5, six weeks after an operation, aged 50 .

Charles Everett Vaughan, M.D. Harvard University Medical School, Boston, Mass., 1863, died at his home in Santa Barbara, Cal., June 24, aged 68.

La Fayette Redmon, M.D. Rush Medical College, Chicago, 1865, died at his home in Des Moines, Iowa, July 2, from paralysis, aged 71.

James J. Kelly, M.D. Ohio, 1860, committed suicide at his rooms in Argentine, Kan., by hypodermic injection of morphin, June 23, aged 65.

Robert M. Stephenson, M.D. Ohio, 1903, died from consumption, July 1, at his home in Springfield, Ohio, after a long illness, aged 24.

Thomas Joyner, M.D. Memphis (Tenn.) Hospital Medical College, 1889, died at his home in Pontotoc, Miss., June 26.

Charles B. Moore, M.D. Ohio, 1892, died suddenly at his home in Zanesville, Ohio, July 2, from apoplexy, aged 37.

J. T. Koen, M.D. Missouri, 1878, died at his home in Walshville, Ill., July 14, after a long illness, aged 62.

R. F. Hotchkiss, M.D., formerly of New Jersey, died at his home in Oakland, Cal., June 15, aged 88.

Fred C. White, M.D., died suddenly at his home in Redmoon, Okla., July 1, from kidney disease.

Edward F. Wayman, M.D., an ex-confederate soldier, died at Staunton, Va., July 23, aged 57.

Ambrogene Holland, M.D., of Des Moines, Iowa, died suddenly in Los Angeles, Cal., aged 69.

W. A. Simpson, M.D., died at his home in Zwolle, La., June 21, from malarial fever.

John H. Williamson, M.D., died at his home in Graham, N. C., July 9, aged about 80.

James A. Humston, M.D., died at his home in Henry County, Ky., July 5, aged 82.

Nat E. Hyder, M.D., died recently at his home in Gap Run, Tenn.

Death Abroad.

Sir John Simon, K.C.B., M.R.C.S. Eng., 1838; vice-president of the Royal College of Surgeons from 1876 to 1878 and president, 1878-1879; Fellow of the Royal Society; Hon. M.D. et Chir. Munich; Hon. M.D. Dublin; Hon. D. C. L. Oxford; Hon. LL.D. Cambridge and Edinburgh; late crown member of the medical council; past president London Pathological Society and London Medical Teachers' Association; consulting surgeon and formerly surgeon and lecturer on pathology, St. Thomas' Hospital; formerly officer of health of the city of London; medical officer of the General Board of Health, Privy Council and Local Government Board, notable as a sanitarian, anatomist, surgeon and pathologist, and a prolific writer on these subjects, died at his home in London, July 23, aged 88. He was knighted by the queen in 1887.

State Boards of Registration.

Delaware June Report. Dr. P. W. Tomlinson, secretary of the Medical Examining Board representing the Medical Society of Delaware, reports the written examination held at Dover, June 21-23, 1904. The number of subjects examined in was 10; total questions asked, 90, and percentage required to pass, 75. The total number examined was eight, who all passed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Jefferson Medical College of Philadelphia	(1904)	80.6
University of Maryland	(1904)	88.5
Medico Chirurgical College of Philadelphia, (1904) 89.9, 77.4, 77.3; (1901) 78.1.		
University of Pennsylvania	(1900)	81.2
Maryland Medical College	(1902)	75.0

The board representing the Homeopathic Medical Society of

Delaware examined two candidates at Wilmington on the same date, and both were passed.

PASSED. College.	Year Grad.	Per Cent.
Hahnemann Medical College, Philadelphia	(1904)	87.0
Southern Homeopathic Medical College, Baltimore	(1904)	89.9

Illinois April Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, April 25-27, 1904. The subjects examined in numbered 11, and the total questions 110; percentage required to pass 75 per cent. Three hundred and forty-eight persons were examined, 340 passed, 8 failed.

Hahnemann Medical College and Hospital, (1904). The grade of 79 was reached by one, 80 by two, 81 by two, 82 by two, 83 by four, 84 by four, 85 by three, 86 by three.

College of Physicians and Surgeons, Chicago, (1903). 82; the grade of 77 was reached by two, 78 by two, 80 by five, 81 by ten, 82 by nine, 83 by twenty, 84 by sixteen, 85 by nine, 86 by fifteen, 87 by thirteen, 88 by five, 89 by three, 90 by five, 91 by three.

Northwestern University Medical School, (1904). The grade of 76 was reached by one, 82 by one, 83 by one, 84 by six, 85 by five, 86 by four, 87 by two, 88 by three, 89 by four, 90 by eight, 91 by five, 92 by four, 93 by one.

Dearborn Medical College, Chicago.....(1904) 88, 86, 89

Rush Medical College. (1904). The grade of 80 was reached by two, 82 by two, 83 by two, 84 by six, 85 by six, 86 by four, 87 by fifteen, 88 by two, 89 by three, 90 by four, 91 by two, 92 by one, 93 by one, and 94 by one.

Jenner Medical College, Chicago. (1904). The grade of 78 was reached by two, 80 by one, 82 by two, 83 by three, 84 by one, and 85 by one.

American College of Medicine and Surgery, Chicago. (1904). The grade of 76 was reached by two, 81 by three, 82 by four, 83 by one, 84 by five, 85 by two, 86 by one and 87 by one.

Johns Hopkins Medical School, Baltimore	(1903)	91
National Medical University, Chicago, (1903) 82, 77, 75; (1904) 80, 83, 81.*		
Homeopathic Medical College, Chicago. (1902) 81. (1904), the grade of 78 was reached by one, 79 by two, 80 by one, 81 by one, 82 by two, 83 by four, 84 by three, 85 by three, 86 by two, 87 by two.		
College of Medicine and Surgery, Chicago, (1904). The grade of 75 was reached by one, 78 by one, 80 by three, 81 by two, 82 by three.		
Bennett Medical College, Chicago, (1904). The grade of 79 was reached by one, 81 by two, 82 by one, 83 by two, 84 by three, 86 by one.		
Illinois Medical College, Chicago, (1904). The grade of 76 was reached by one, 79 by one, 81 by one, 83 by one, 86 by one, 88 by one.		
Hering Medical College, Chicago, (1904). The grade of 78 was reached by one, 80 by one, 81 by one, 83 by one, 85 by two, 86 by one, 89 by one.		
Keokuk Medical College, Keokuk, Iowa	(1895)	76
Coll. of Phys. and Surgs., Minneapolis	(1897)	83
American Med. Missionary Coll., Chicago	(1903)	84
Central Coll. Phys. and Surgs, Indianapolis	(1898)	77
Laval Univ., Montreal and Quebec, Canada	(1904)	85
Eclectic Medical Institute, Cincinnati	(1904)	77
Louisville Medical College	(1904)	76, 83
Harvard Medical School, Boston	(1894)	87

FAILED.		
College of Medicine and Surgery, Chicago	(1904)	43
College of Physicians and Surgeons, Chicago	(1904)	69, 74
Hahnemann Medical College, Chicago	(1904)	73
American Medical College, Chicago	(1904)	63
Jenner Medical College, Chicago	(1904)	66
National Medical University, Chicago	(1903)	72
University of Louisville	(1904)	72

The general average for all representatives of Hahnemann Medical College and Hospital was 83.1; for representatives of the College of Physicians and Surgeons, 84.1; for representatives of Northwestern University Medical School, 89.6; for representatives of Rush, 85.; for the Homeopathic Medical College, 79.5.

Massachusetts May Report.—Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at Boston, May 12-13, 1904. The number of subjects examined in was 9; total questions asked, 60, and percentage required to pass, 70. The total number examined was 32, of whom 22 passed and 10 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Physicians and Surgeons, Baltimore	(1903)	70.5, 70.3
Kentucky School of Medicine	(1903)	70.0
McGill University	(1903)	77.1
Harvard	(1894) 78.8, (1903) 84.4, 82;	(1904) 71.6
Cornell	(1902)	76.7
Georgetown University	(1903)	73.1
Dartmouth	(1904) 76.4,	(1882) 70.0
Woman's Medical College, Pennsylvania	(1901)	78.5
University of Michigan	(1901)	82.0
Maryland Medical	(1904)	74.5
Baltimore Medical	(1904) 79, 80.6, 70, 70,	71.4
Detroit Medical College	(1904)	81.0
Tufts Medical College	(1903)	72.5

FAILED.		
Baltimore University	(1903) 42.1,	(1904) 64.1
Pulte Medical	(1902)	64.1
Queen's University	(1899)	58.5
Tufts Medical College	(1896) 56.1,	(1899) 63.5
Physicians and Surgeons, New York	(1892)	50.8
Maryland Medical	(1904) 60.8,	67.1
University of the South	(1903)	66.3

Michigan June Report.—Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, June 14-17, 1904. The number of subjects examined in was 19; total questions asked, 95; percentage required to pass, 75. The total number examined was 46, and all passed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
University of Michigan (1904). The grade of 88 was reached by one, 92 by six, 93 by four, 94 by ten, 95 by six, 96 by two, 97 by one.		
Harvard Medical School, Boston	(1896)	93
Trinity Medical School, Toronto	(1895, 91, (1897)	89
Detroit College of Medicine, (1904) 93, 78, 80, 84;	(1903)	82, 89
Detroit Homeopathic Medical College	(1904)	85
Cornell University	(1903)	89
McGill University, Montreal	(1901)	95
University of Illinois	(1909) 75, (1904)	83
University of Colorado	(1903)	84
Jefferson Medical College, Philadelphia	(1904)	86

The general average of all representatives of the University of Michigan was 94.

Minnesota June Report.—Dr. C. J. Ringnell, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, June 7-9, 1904. The number of subjects examined in was 12, and the total questions asked, 95, and the percentage required to pass, 75. Of the 90 examined 80 passed and 10 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
University of Minnesota, (1904) the grade of 76 was reached by one, 77 by four, 78 by six, 79 by three, 80 by three, 81 by twelve, 82 by eight, 83 by four, 84 by two, 85 by five, 86 by five and 87 by two.		
University of Minnesota, Homeo. Dept	(1904)	85.6, 82.7, 87.6
Hamline University, (1904) the grade of 75 was reached by one, 78 by two, 79 by one, 83 by one and 84 by one.		
Creighton Medical College	(1904)	75.1
College of P. and S., Chicago	(1904)	80.9, 86.8, 77.2; (1899) 79.4
Jefferson Medical College	(1904)	85.2
Chicago Homeopathic Medical College	(1902)	76.1
Harvard Medical School	(1900)	82.0
Rush Medical College	(1903)	77.1
Medico-Chirurgical College of Philadelphia	(1903)	82.6
Hahnemann, Chicago	(1903) 78.9,	(1904) 80.2
Northwestern, Chicago	(1904)	81.4, 80.2
University of Michigan	(1903) 81,	(1904) 86.7

FAILED.		
Hamline University	(1904) 64.3, 71.3, 76.4*;	(1903) 71.6, 61.7
Coll. of Med. and Surg. (Eclectic), Chicago	(1904)	70.9
Keokuk Medical College	(1900)	66.0
Kansas City Medical College	(1904)	73.4
Sioux City Medical College	(1904)	70.9
University of Minnesota	(1904)	77.8*

*Licenses not granted because of low marks in the principal subjects.

The general average for all representatives of the University of Minnesota was 81.5, and for all representatives of Hamline University, 79.5.

North Dakota June Report.—Dr. H. W. Wheeler, secretary of the North Dakota State Medical Examining Board, reports the written examination held at Grand Forks, July 5, 1904. The number of subjects examined in was 13, and the percentage required to pass 75. The total number examined was 21, of whom 19 passed. The two who failed were graduates of Hamline University and Barnes Medical College, St. Louis. The following colleges were represented.

PASSED. College.	Year Grad	Per Cent.
University of Minnesota	(1904) 75, 77, 82,	84, 85
P. and S., St. Louis	(1904)	83
Rush	(1903)	90
Milwaukee Medical College	(1904)	76
Trinity University	(1904)	84, 86
University of Illinois	(1904)	75
Sioux City Medical College	(1904)	75
Jefferson Medical College	(1904)	78, 82
University of Christianla		79
Detroit School of Medicine	(1904)	91
Hamline University	(1904)	81, 75
P. and S., Minneapolis	(1901)	75

Ohio Report. Dr. Frank Winders, secretary of the Ohio State Board of Medical Registration and Examination reports the written examinations recently held at Cleveland, Cincinnati and Columbus. The number of subjects examined in was 9; total questions asked, 90; percentage required to pass 75. The total number examined was 210, of whom 199 passed and 11 failed. The following colleges were represented:

PASSED. College	Year Grad.	Per Cent.
Medical College of Ohio	(1903) 90, 90;	(1904) the grade of 77

was reached by one, 78 by one, 82 by one, 83 by two, 84 by four, 85 by two, 86 by five, 87 by one, 88 by two, 89 by two, 90 by seven, 91 by three, 92 by one, 93 by two, 94 by two, 95 by one.

Starling Medical College (1904), the grade of 75 was reached by two, 78 by two, 79 by one, 81 by one, 82 by one, 83 by three, 84 by one, 85 by two, 86 by three, 87 by four, and 89, 90 and 92 each by one.

Ohio Medical University (1904), the grade of 76 was reached by one, 78 by one, 79 by one, 80 by one, 82 by two, 83 by two, 84 by one, 85 by three, 86 by three, 88 by three, 89 by six, and 90, 91 and 92 each by one.

Cleveland College of Physicians and Surgeons (1904), the grades of 78, 80, 81, 86, 87 and 88 were each reached by one; 89 by two, 91 by three.

Western Reserve Medical College (1904), the grade of 84 was reached by one, 85 by two, 86 by one, 87 by one, 88 by three, 89 by four, 90 by two, 91 by four, 92 by seven.

University of Toronto	(1900)	87
Toledo Medical College	(1904)	75, 82, 84
Rush Medical College	(1902)	91
University of Michigan. (1899) 85, 88; (1903) 89, 90; (1904) 86, 86, 87, 93, 94.		
Western Pennsylvania Medical College	(1904)	81, 91
Medico-Chirurgical College, Philadelphia	(1904)	92
Jefferson Medical College	(1904)	84, 89, 90
University of Louisville	(1894)	78
Laura Memorial Medical College	(1903)	88, 89
Hospital College of Medicine, Louisville	(1902)	78
Pulte Medical College, Cincinnati	(1904)	84, 85, 87, 95
Eclectic Medical Institute, Cincinnati. (1904) 82, 83, 84, 87, 89, 91		
Cleveland Homeopathic Medical College, (1904) 75, 75, 79, 82, 84, 84, 85, 88, 89, 90.		
Howard University Medical School	(1904)	90
Columbian Univ. Med. Dept., Washington, D. C.	(1904)	90
Illinois Medical College, Chicago	(1904)	87
Johns Hopkins Medical College	(1904)	82
Northwestern University, Chicago	(1904)	85, 88
Columbus Medical College	(1890)	81
University of Pennsylvania, Med. Dept	(1904)	92
McGill University, Med. Dept., Montreal	(1888)	89
Hahnemann Medical College, Philadelphia	(1903)	90
American Medical Missionary College, Chicago	(1904)	95
College of Physicians and Surgeons, New York	(1903)	90

FAILED.

Ft. Wayne College of Medicine	(1892) 73, (1902)	68
University of Louisville Med. Dept	(1902)	71
Toledo Medical College	(1904)	65
Cleveland Homeopathic Medical College	(1904)	62, 65, 68
Ohio Medical University	(1904)	69, 73
Starling Medical College	(1904)	74, 68

The general averages for all representatives of the Medical Colleges of Ohio was 83.1; for representatives of Starling was 87.8; Ohio Medical University, 85.5; Cleveland College of Physicians and Surgeons, 86.4; Western Reserve, 89.4.

South Carolina June Report.—Dr. W. M. Lester, secretary of the South Carolina State Board of Medical Examiners reports the written examination held at Columbia, June 28-30, 1904. The number of subjects examined in was 17; total questions asked, 93; percentage required to pass, 75, and not below 60 on any branch. Of the 22 who were examined 18 passed, 4 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Medical College of South Carolina	(1904)	83.1, 77.6, 88
University of Maryland Medical Department. (1891) 84.2, (1904) 81.7, 86.1, 87.5, 91.1		
Medical College of Virginia	(1904)	89.6, 79.6, 86.4, 84
Woman's Med. Coll of Pennsylvania	(1904)	94.0
Atlanta College of P. and S	(1902)	77.2
Howard Medical School	(1904)	80, 77.7
Leonard Medical College	(1904)	75, 83.7

FAILED.

Meharry Medical College	(1902)	57.1
Shaw University Medical Department	(1904)	73.2
University of Maryland Medical Department	(1904)	78.4
College of P. and S., Baltimore	(1904)	75.1

Texas April Report.—Dr. M. M. Smith, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Austin, April 21, 23, 24, 1904. The number of questions asked was 125, on 13 subjects, a percentage of 75 was required to pass. The number of persons examined was 93, of whom 64 (68 per cent.) were undergraduates; 34 passed, of whom 17 (50 per cent.) were undergraduates; 59 failed (including 3 who were conditioned), of whom 44 (74 per cent.) were undergraduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Baylor University Med. Dept	(undergraduate)	75.5
Chattanooga Medical College	(1903)	76.9
Dallas University Med. Dept	(1904)	75.3
Ft. Worth Univ. Med. Dept., (undergraduates) 75.1, 76.1, 79.1, 75, 75.		
Kansas City Medical College	(1888)	75.0
Louisville Medical College, (1904) 80.9, 78; (1892) 83, (undergraduates) 81.5.		
Meharry Medical College	(1904)	75, 79.0
Memphis Hospital Med. Coll	(undergraduate)	75.0
Nashville University Med. Dept	(1903) 75.2, (1904)	75.5
Rush Med. Coll	(1903) 83.1, 83.7; (undergraduate)	79.5
Tennessee University Med. Dept., (1904) 75.5, 82.2; (undergraduate) 79.2.		
Tulane University Med. Dept	(undergraduates) 75.2, 76.1, 80.7	
University Med. Coll., Kansas City	(1898)	75.2
University of the South, Sewanee, Tenn	(1904)	84.1
Vanderbilt University Med. Dept	(1904)	84.8
Washington University, St. Louis	(1900)	77.9

FAILED OR CONDITIONED.

Baltimore Med. Coll	(undergraduate)	31.5
Baylor University Med. Dept., (1904) 57.4 (undergraduates) 53.5, 56.2, 62.9, 71, 72.3.		
Dallas University Med. Dept., (1904) 70.1, 71.9; (undergraduates) 48.8, 62.2, 66.9, 69.3.		
Ft. Worth University Med. Dept., (undergraduates) 62.7, 67.5, 67.7, 70.5, 73.3, 73.3.		
Flint Med. Coll., New Orleans	(undergraduate)	67.8
Kentucky School of Medicine	(undergraduate)	56.2
Louisville Medical College	(undergraduate)	68.1
Louisville University Med. Dept., (1904) 69.4, (undergraduates) 65.3, 69.7.		
Meharry Med. Coll., (1904) 66.7, 68.6; (undergraduate)		67.2
Memphis Hospital Medical College, (1903) 55.3, 62.3; (undergraduates) 58.6, 63, 67.4.		
Nashville University Med. Dept., (undergraduates) 21, 27.8, 56.8, 60.2, 62.5, 69.1, 70.4, 71.5.		
Ohio University Med. Dept	(1897)	66.5
St. Louis College of P. and S	(undergraduates) 44.2, 72.4	
Tennessee University Med. Dept., (1893) 57.2, (1904) 67.7, 70.9; (undergraduates) 65.8, 67.8, 68.8.		
Tulane University Med. Dept	(undergraduates) 61.8, 70.8, 72.9	
University Med. Coll., Kansas City	(1904)	64.6
University W. Tenn. Med. Dept., (1904) 72.3, (undergraduates) 67.7.		
Vanderbilt University Med. Dept	(undergraduate)	65.7

The following questions were asked:

ANATOMY.

1. Describe the orbit, and what bones enter into its formation. 2. What is the origin, course and termination of the femoral artery, and mention its principal branches. 3. Describe the valves of the heart, giving location and name of each. 4. Where is the foramen of Winslow, and what is its anatomic formation? 5. Give the anatomy of the anterior half of the eyeball. 6. Describe and give the anterior and posterior boundaries of the pancreas. 7. Describe the cerebellum. 8. How many cranial nerves are there, and name them in order. 9. Describe the os innominatum. 10. Trace the spinal column, number of vertebræ, how many of each kind, the typical vertebræ, and how they differ from the rest of the same region.

HYGIENE.

1. What precautions should be taken to prevent the spread of the following diseases: Smallpox, scarlet fever, diphtheria, erysipelas and puerperal fever? 2. What are bacteria, and how are they classified as to shape? 3. What are spores and what is their relation to contagion? 4. How should a house be disinfected after having been occupied by a case of scarlet fever or smallpox? 5. Mention the different ways by which the germs of typhoid fever are carried. How would you prevent the spread of this disease? 6. Where is the danger from pulmonary tuberculosis patients, and how prevented? 7. How is malaria and yellow fever contracted, and how prevented? 8. Give the cause, source and prevention of trichinosis. 9. What is the best way of purifying contaminated drinking water? 10 What is the best way of disinfecting personal and bed linen, carpets, rugs, etc.?

PHYSIOLOGY.

1. Explain the mechanism of respiration. 2. (a) What is tidal air; (b) complemental and residual air, and (c) reserve air? 3. How is the normal constant temperature maintained? 4. Give the function of the first, second, tenth and twelfth cranial nerves. 5. Name the intestinal glands, their respective locations and functions. 6. Name the chief constituents of normal urine. Give the specific gravity and reaction. 7. Describe the process of blood coagulation. 8. Give the chief function of the sympathetic nervous system. 9. What is the meaning of the term inhibition? 10. Describe the salivary glands and give their functions.

MATERIA MEDICA AND THERAPEUTICS.

1. Give the physiologic action and therapeutic uses of aconite. 2. Name the preparations and doses of (a) iron, and (b) phosphorus. 3. Physiologic action and therapeutic application of ergot. Give contraindication for its use. 4. Write a prescription for epilepsy. 5. Give the physiologic action and therapeutic uses of cinchona. 6. What is henbane? Give its physiologic action. 7. Give the indications for hydrog-chlorid. and its physiologic action. 8. Give the doses of the following: Atropin sulph.; strychnin sulph.; codein sulph.; nitroglycerin and apomorphin. 9. Give the dosage of diphtheria antitoxin; indications and frequency of use, and the method of administration. 10. Give the dose and therapeutic use of chloral hydrate.

HISTOLOGY.

1. Describe the structure of fatty tissue. 2. How does the wall of an artery differ from that of a capillary? 3. Give the structure of serous membranes. 4. What is a neuron, and of what is it composed? 5. Describe the structure of the salivary glands. 6. Describe the structure of the mucous membrane of the stomach. 7. Describe the muscular coat of the intestine. 8. Name the membranes of the spinal cord and describe one of them. 9. In what portions of the body is columnar epithelium found? 10. Mention the varieties of connective tissue.

PATHOLOGY.

1. What lesions take place in cerebral hemorrhage? 2. In what diseases of the liver is that organ enlarged? 3. What pathologic lesions cause the inguinal glands to enlarge? 4. In what disease do pleural effusions occur? 5. What is an embolus and a thrombus? 6 Ascites may occur in what pathologic conditions? 7. Give pathology of typhoid fever. 8. Give pathology of chronic malaria. 9. In what diseases are the number of leucocytes decreased? 10. Give pathology of interstitial nephritis.

CHEMISTRY.

1. Distinguish chemically between hard and soft water. 2. Define pasteurization; modified milk (laboratory). 3. Give the

Fahrenheit and the centigrade of (1) freezing point; (2) the boiling point. 4. Define fermentation, decomposition or putrefaction. 5. Explain the difference between a galvanic and a faradic battery. 6. How do chemical antidotes and physiologic antidotes differ in action? Illustrate. 7. State the principle underlying the use of antitoxin for the prevention or cure of disease. Why is it not given by the mouth? 8. Define ptomaines, leucomaines, toxins. 9. What is the chemical name for Glauber's salts, Monsell's salts, tartar emetic, cream of tartar, sugar of lead, copperas, vinegar, verdigris, soot, blue vitrol, common table salt? 10. Define chemistry, cohesion, adhesion. Mention the three chemical states of matter.

MEDICAL JURISPRUDENCE.

1. What degree of insanity should obtain before legal restraint is invoked? 2. There are two kinds of malpractice. Name and define them. 3. Differentiate dipsomania and alcoholism. 4. At what period of uterine life does the fetus become viable? 5. Give in detail the evidences of a recent rape. 6. Give in detail the evidences of a recent delivery. 7. Define criminal abortion. 8. Differentiate lunacy and idiocy. 9. Discuss the evidences of a live birth, subsequent to respiration. 10. State the conditions which justify embryotomy.

PRACTICE OF MEDICINE.

1. Describe briefly influenza. Give its treatment and mention the danger signals of the disease. 2. Give the diagnosis, varieties and treatment of tapeworm. 3. Give the differential diagnosis of an early case of typhoid fever, and remitteot malarial fever. 4. Give detailed treatment of pulmonary hemorrhage and likewise a hemorrhage from the bowels in typhoid fever. 5. Mention the varieties of anemia; diagnosis and treatment of each. 6. Give the treatment for the first stage of tuberculosis of the lungs, and mention the diseases with which it might be mistaken. 7. Briefly outline the forms and general treatment of epilepsy, and give the general treatment of the disease. 8. Describe the symptoms of a case of erysipelas, and give the treatment. 9. Give in detail the treatment of acute diarrhea. 10. Give the differential diagnosis of yellow fever, bilious remittent malarial fever and dengue fever, and outline what should be done with the patient until the diagnosis has been made.

OBSTETRICS.

1. Define the science and art of obstetrics. 2. (a) At what period of pregnancy does hyperemesis (pernicious vomiting) begin? (b) How many stages, and what are their characteristics? (c) Give the prognosis and treatment. 3. What articles should occupy the obstetric bag? Describe the use of each, and what articles should be provided at the house of the patient that may be required during labor and delivery? 4. (a) Between what two points are the diameters of the fetal head taken, and what do they measure? (b) What alteration of the diameters of the fetal head occurs during labor? 5. What is hydrocephalus, its cause and diagnosis? (b) Does it interfere with labor; if so, how? (c) What are the indications in treatment? 6. What are the causes of delayed labor, and how is it treated? What is the prognosis of mother and child? 7. (a) What is the differential diagnosis between true and false labor pains? (b) Give the cause and treatment of false pains. 8. (a) How many acts are included in applying the forceps? (b) What are the rules governing the introduction of the blades? (c) What are the rules and precautions governing the locking of the blades? (d) How is traction made, and what precautions are necessary in the operation? 9. (a) What are the causes and treatment of prolapse of the cord? (b) What significance is there in a prolapsed cord? 10. (a) What is cesarian section? (b) What are the indications for its use? (c) Describe the operation.

GYNECOLOGY.

1. What is the status of professional opinion of the present day in regard to the influence of heredity on uterine and ovarian disease? 2. (a) To what extent is electricity used in gynecology? (b) For what disease? (c) What varieties of the electrical current, what strength, and length of time at each application? 3. Describe the anatomy of pudenal hernia, the contents of the sac; symptoms and methods of treatment. 4. Describe the anatomy of the perineal body; its function, and importance of repair if lacerated. 5. (a) What are the causes and symptoms of displacements of the vaginal walls? (b) Describe the methods of treatment of the same. 6. (a) Give a detailed statement of the general subjective symptoms of uterine diseases. (b) Do such diseases ever affect the nervous system; and, if so, describe the manifestations. 7. Give the relative frequency, etiology, pathology, symptoms and differential diagnosis of sarcoma of the breast. 8. State the causes and symptoms of prolapse of the ovary, and give the treatment of same. 9. What is pelvic hematoma? Describe its anatomy, etiology, diagnosis, prognosis and treatment. 10. Give the etiology, pathology and symptoms of fibroid tumors of the uterus, with differential diagnosis from ovarian cysts.

SURGERY.

1. What prerequisites are necessary to becoming a successful surgeon? 2. What should govern a surgeon in point of election in amputation below the elbow joint? Below the knee? 3. What do you understand by surgical anesthesia? 4. What are the principal dangers in administering chloroform? Ether? 5. What tissues would be cut through in entering the abdominal cavity at McBurney's point? 6. Describe the operative procedure in appendectomy. 7. How differentiate hydrocele and varicocele? 8. The most approved operative procedure for either? 9. A man received a pistol shot through the arm, about two inches above elbow near the inner border of biceps muscle, piercing a blood vessel—to stop the bleeding, which was profuse, some near-by friends corded the arm tightly above the wound; the bleeding continued; man almost exsanguinated. What vessel was wounded, and how won'd you stop the blood? 10. Describe Colle's fracture, and how to treat it.

EYE, EAR, NOSE AND THROAT.

1. What is ophthalmia neonatrum? Cause and treatment? 2. What is a cataract? Soft? Hard? 3. Given a man with hard cataract in each eye, what should be the extent of operative work primarily, and why? 4. Give cause and treatment of acute suppurative otitis media. 5. How differentiate diphtheria and pseudodiphtheria or tonsillitis?

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 30, 1904:

Gardner, E. F., deputy surgeon general, under orders for examination by an Army retiring board, to meet at Atlanta, Ga.

Church, James R., asst.-surgeon, sick leave of absence extended two months.

Bevens, James L., asst.-surgeon, assignment to duty at Fort H. G. Wright, N. Y., suspended until conclusion of the Army maneuvers at Manassas, Va.

Ford, Clyde S., asst.-surgeon, assignment to duty at Fort Barrancas, Fla., suspended until completion of the Army maneuvers at Manassas, Va.

Snyder, Henry D., surgeon, relieved from duty at Plattsburg Barracks, N. Y., and ordered to Fort Sam Houston, Tex., for duty.

Woodruff, Chas. E., surgeon, relieved from further duty in Philippines Division, and on expiration of present sick leave ordered to Plattsburg Barracks, N. Y., for duty.

Gandy, Chas. M., surgeon, detailed to attend encampment Michigan State Militia, to be held at Ludington, Mich.

Eastman, William R., asst.-surgeon, leave of absence extended thirty days.

Billingsley, C. C., asst.-surgeon, relieved from further duty in Philippines Division and assigned to duty at U. S. Army General Hospital, Presidio of San Francisco, on Aug. 1, 1904.

Edger, Benjamin J., Jr., asst.-surgeon, relieved from duty at U. S. Army General Hospital, Presidio of San Francisco, and ordered to Fort Brown, Tex., for duty.

Humphreys, H. G., asst. surgeon, reported for duty at Fort Totten, N. Y.

Brown, Henry L., asst.-surgeon, reported for duty at Columbus Barracks, Ohio, as assistant surgeon, U. S. Army.

Freeman, Paul L., asst.-surgeon, reported for duty at Fort Slocum, N. Y.

Purvinance, William E., asst-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Straub, Paul F., asst-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Porter, Ralph S., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Dean, Elmer A., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Bratton, Thomas S., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Marrow, Charles E., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Brown, Henry L., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Bourke, James, asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Reno, William W., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Palmer, Fred. W., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Shook, Jay R., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Edwards, James F., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Keller, William L., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Field, Peter C., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Roberts, William M., asst.-surgeon, designated for duty at Army maneuvers to be held at Manassas, Va., Sept. 1 to 21, 1904.

Waterhouse, S. M., asst.-surgeon, promoted captain and assistant surgeon, U. S. Army.

Tipper, Edwin L., contract dental surgeon, returned to duty at Fort Riley, Kan., from leave of absence.

Prebert Merton A., contract surgeon, returned to Fort Crook, Neb., from duty at Department target range, Omaha Agency.

Truax, Jesse P., contract surgeon, granted leave of absence for one month from Fort Wright, Washington.

Mabry, William C., contract surgeon, left Fort Sheridan, Ill., to attend the Second Battalion, Twenty-seventh Infantry, in camp with the Indiana National Guard.

Love, Joseph W., contract surgeon, granted an extension of one month to his present leave of absence from the Philippines Division

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending July 30, 1904:

Furlong, F. M., P. A. surgeon, detached from the Naval Museum of Hygiene and Medical School, Washington, D. C., and ordered to the *Chicago*.

Farwell, W. G., asst.-surgeon, ordered to the naval recruiting rendezvous, Boston.

Murphy, J. F., asst.-surgeon ordered to the *Hancock*, temporarily.

Barber, G. H., surgeon ordered to the *Hist* and to additional duty at the Naval Training Station, Newport, R. I.

Potter, C. S., P. A. surgeon, detached from the *Constellation* and ordered to the Naval Training Station, Narragansett Bay, R. I., and duty on the *Hist*.

Cather, C. D., asst.-surgeon, ordered to the Naval Hospital, New York, N. Y.

ORDERS ISSUED BY COMMANDER-IN-CHIEF OF ASIATIC FLEET.

De Bruler, J. P., asst.-surgeon, Subig Bay Naval Reserve, P. I., to *El Cano*.

Mayers, G. M., asst. surgeon, *El Cano* to *Raleigh*.

Moore, J. M., P. A. surgeon, *Raleigh* to home.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine-Hospital Service for the two weeks ended July 28, 1904:

Ballhache, Preston H., surgeon, seven days' leave of absence from July 17, 1904, under Paragraph 189 of the Regulations.

Mead, F. W., surgeon, granted leave of absence for one month from August 1.

White, J. H., surgeon, granted extension of leave of absence for three days from July 18.

Clark, Filiaferro, P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Philadelphia and report to medical officer in command for assignment to exclusive duty in connection with examinations of aliens.

Hobby, W. C., P. A. surgeon, granted leave of absence for twenty-four days from July 26.

Ramus, Carl, P. A. surgeon, relieved from duty at San Francisco and directed to proceed to Honolulu, T. H., and report to chief quarantine officer for duty, relieving Asst.-Surgeon R. L. Wilson.

Stansfield, H. A., P. A. surgeon, relieved from duty in the Hygienic Laboratory and directed to report to the chairman of the Isthmian Canal Commission for duty on the Isthmus of Panama.

Wilson, R. L., asst.-surgeon, on being relieved at Honolulu, T. H., by P. A. Surgeon, Carl Ramus, to proceed to Washington, D. C., and report to the director of the Hygienic Laboratory for duty.

Harris, B. Y., A. A. surgeon, granted leave of absence for thirty days from August 1.

Tappan, J. W., A. A. surgeon, department letter of July 6, 1904, granting leave of absence for thirty days from July 10, amended to read thirty days from August 24.

Todt, W. C., A. A. surgeon, granted leave of absence for fourteen days from July 15.

Walker, R. T., A. A. surgeon, granted leave of absence for four days from July 26.

Macdowell, W. F., pharmacist, granted leave of absence for thirty days from August 8.

Ryder, L. W., pharmacist, granted leave of absence for thirty days from August 15.

Watters, M. H., pharmacist, granted leave of absence for twenty-five days from August 15.

Glennan, A. H., assistant surgeon general, granted leave of absence for fifteen days from August 1.

Irwin, Fairfax, surgeon, granted leave of absence for one month from August 15.

Kalloch, P. C., surgeon, granted leave of absence for twenty-two days from August 1.

McIntosh, W. P., surgeon, to assume temporary charge of Portland (Me.) Quarantine, in addition to other duties, during the absence on leave of Surgeon P. C. Kalloch.

Guiteras, G. M., surgeon; Bureau letter of July 11, 1904, granting Surgeon Guiteras leave of absence for seven days from July 14, 1904, amended to read four days only.

McMullen, John, P. A. surgeon, granted leave of absence for one month from August 5.

Glover, M. W., asst.-surgeon; Bureau telegram of July 13, granting Assistant Surgeon Glover leave of absence for seven days on account of sickness, amended to read five days from July 12.

Ward, W. K., asst.-surgeon, to proceed to Bridgeton, Barbadoes, B. W. I., for duty in office of the United States Consul.

Stiles, Ch. W., zoologist, detailed to represent Service at Sixth International Congress of Zoology at Berne, Switzerland, August 14 to 19.

Seavey, L. T., acting assistant surgeon, granted leave of absence for fourteen days from August 8.

Smith, Emma V., medical inspectress, granted leave of absence for thirty days from July 1.

BOARD CONVENED.

Board to meet at the Marine Hospital, Stapleton, N. Y., July 18, 1904, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: P. A. Surgeon A. C. Smith, chairman; P. A. Surgeon, J. B. Green, recorder.

Board to meet at Washington, D. C., Aug. 1, 1904, for the physical examination of an officer of the Revenue-Cutter Service, and an applicant for admission into Service. Detail for the board: Assistant Surgeon General G. T. Vaughan, chairman; Assistant Surgeon A. J. McLaughlin, recorder.

PROMOTION.

Stansfield, H. A., asst.-surgeon, commissioned P. A. surgeon, to rank as such from June 4.

Spangler, L. C., pharmacist of the third class, promoted to be pharmacist of the second class, effective May 28.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service during the week ended July 29, 1904:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, July 16-23, 1 death.
Illinois: Chicago, June 16-23, 4 cases; Danville, 1 case.
Iowa: Clinton, July 8-16, 1 case.
Kentucky: Covington, July 16-23, 1 case.
Louisiana: New Orleans, July 16-23, 1 case, imported.
Massachusetts: Fitchburg, July 16-23, 1 case.
Michigan: Detroit, June 16-23, 1 case.
Missouri: St. Louis, July 16-23, 5 cases.
New York: New York, July 16-23, 2 cases.
Ohio: Cincinnati, July 8-15, 2 cases.
Pennsylvania: McKeesport, July 16-23, 1 case; Williamsport, 1 case.
Tennessee: Memphis, July 16-23, 1 death.
Wisconsin: Milwaukee, July 8-23, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, May 7-June 4, 19 cases, 5 deaths

SMALLPOX—FOREIGN.

Belgium: Brussels, July 2-9, 1 death.
Brazil: Pernambuco, June 1-15, 24 deaths.
China: Hong Kong, May 28-June 11, 7 cases, 1 death; Shanghai, June 4-11, 3 deaths.
France: Paris, June 25-July 9, 20 cases, 2 deaths.
Great Britain: Edinburgh, July 2-9, 1 death; Glasgow, July 8-15, 11 cases, 2 deaths; London, July 2-9, 10 cases; Nottingham, 3 cases.
India: Bombay, June 21-28, 17 deaths; Karachi, June 19-26, 2 cases.
Japan: Nagasaki, June 1-20, 4 cases, 3 deaths.
Netherlands: Rotterdam, July 8-16, 1 case.
Panama: Panama, July 11-18, 1 case, 1 death.
Turkey: Constantinople, June 27-July 3, 7 deaths.

YELLOW FEVER.

Costa Rica: Limon, July 8-16, 1 case.
Mexico: Merida, July 3-9, 4 cases; Tehuantepec, 6 cases, 1 death; Vera Cruz, July 9-16, 4 cases.

CHOLERA.

China: Hongkong, May 28-June 11, 13 cases, 11 deaths.
India: Bombay, June 21-28, 1 death.

PLAGUE—INSULAR.

Hawaii: Hilo, July 21, 1 death.
Philippine Islands: Cebu, May 25, 1 death; Manila, May 7-June 4, 12 cases, 12 deaths.

PLAGUE—FOREIGN.

Australia: Brisbane, June 11-18, 1 case; Maryborough, June 3, 1 death; Sydney, June 6, 1 death.
China: Hongkong, May 28-June 11, 83 cases, 83 deaths.
India: Bombay, June 21-28, 48 deaths; Karachi, June 19-26, 3 cases, 3 deaths.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Academy of Ophthalmology and Otolaryngology, Denver, August 24-26.
Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.
Oregon State Medical Association, Portland, August 30-31.
Wyoming State Medical Society, Rawlins, September 13.
American Association of Obstetricians and Gynecologists, St. Louis, September 13-16.
American Electro-Therapeutic Ass'n., St. Louis, September 13-15.
Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Fourteenth Annual Meeting, held at Atlantic City, N. J., June 6, 1904.

(Continued from p. 347.)

AFTERNOON SESSION.

The association reassembled at 2 p. m., and was called to order by the president.

The chair appointed the following nominating committee: Drs. Winslow, Ingals and Ward.

The roll call was taken, and the following colleges (44) were represented by delegates:

Arkansas University Medical Department: J. A. Dibrell.
Denver and Gross College of Medicine: T. H. Hawkins.
Yale University Medical Department: H. E. Swain.
Georgetown University Medical Department: G. M. Kober.
Columbian University Medical Department: W. R. Phillips.
Howard University Medical Department: D. S. Lamb.
American Medical Missionary College: J. H. Kellogg.
College of Physicians and Surgeons, Chicago: D. A. K. Steele.
Illinois Medical College: H. H. Brown.
Rush Medical College: E. F. Ingals.
Central College of Physicians and Surgeons: J. F. Barnhill.
Medical College of Indiana: H. Jameson.
Drake University College of Medicine: D. S. Fairchild.
College of Medicine University of Iowa: J. R. Guthrie.
Keokuk Medical College, College of Physicians and Surgeons: G. R. Jenkins.
School of Medicine University of Kansas: G. H. Hoxie.
Kansas Medical College: H. L. Alkire.
Hospital College of Medicine: P. R. Taylor.
Kentucky School of Medicine: W. H. Wathen.
University of Louisville Medical Department: J. M. Bodine.
Kentucky University Medical Department: T. C. Evans.
Flint Medical College: H. J. Clements.
Baltimore Medical College: D. Street.
Baltimore University School of Medicine: H. H. Biedler.
College of Physicians and Surgeons: Chas. F. Bevan.
University of Maryland School of Medicine: R. D. Coale.
College of Physicians and Surgeons, Boston: C. M. Cobb.
College of Medicine and Surgery University of Minnesota: A. J. Stone.
University of Missouri Medical Department: W. Moss.
Kansas City Medical College: F. J. Hall.

University Medical College of Kansas City: S. C. James.
J. A. Creighton Medical College: F. E. Coulter.
University of Nebraska College of Medicine: H. B. Ward.
University of Buffalo Medical Department: E. H. Long.
University of North Carolina Medical Department: R. H. Whitehead.
Wake Forest College Medical Department: F. K. Cooke.
Western Reserve University Medical College: J. H. Lowman.
Ohio Medical University: W. J. Means.
Medico-Chirurgical College of Philadelphia: S. Egbert.
Woman's Medical College of Philadelphia: C. Marshall.
Meharry Medical College: G. W. Hubbard.
University College of Medicine: J. A. Hodges.
Milwaukee Medical College: W. H. Earles.
Wisconsin College of Physicians and Surgeons: A. H. Levings.

The minutes of the New Orleans meeting, as printed in the proceedings, were accepted, with the following corrections: (1) That the name of Dr. Chas. F. Bevan be inserted as representing the College of Physicians and Surgeons of Baltimore, in place of C. F. Brown. (2) That the following words, omitted from Section 5, on page 18, be inserted: "annual course to have been of not less than seven months' duration."

Report of the Special Committee on By-Laws.

The report of this committee being called for, Dr. Wm. H. Wathen, in the absence of the chairman, Dr. Ritchie, offered the following report:

Your special committee on the revision of the constitution begs to offer the following report:

1. We were instructed to formulate and present a plan for the "Unification of Medical Teaching." To say nothing of the magnitude of the undertaking, and the difficulty of enforcing its provisions, the uncertain and diverse attitudes of the various state examining boards, in the opinion of your committee, make it unwise and impolitic to attempt anything at this time.

2. Article III of the constitution, as revised and adopted at New Orleans, to take effect July 1, 1905, provides (Sec. 4.) that seven months shall be the minimum length of an annual session. By a clerical or typographical error, that part of the sentence relating to the length of the term was omitted from the printed report. As in a number of the states the examining boards do not recognize a six months' term, we urge this association to make the minimum seven months' term operative July 1, 1904.

3. It is manifest to every member of this association that the loose methods of earlier administrations in the admission to membership, permitted the entrance of schools badly equipped for teaching medicine, and some of them wholly disqualified. At the New Orleans meeting the report and recommendations of the secretary-treasurer was "accepted as read." He recommended that $400 annually be set apart to pay the expenses of the new secretary in visiting the schools, in person or by proxy, and that he be instructed to "make a detailed study and report" to this association as to their equipment and fitness to teach. With the approval of the chairman of the judicial council, the secretary visited and inspected several schools before it was discovered that the appropriation had not been specifically made, and the work was discontinued.

Your committee urge the importance of this work, and recommend the creation of a "committee on visitation," to be composed of the president, secretary and chairman of the judicial council, whose duty it shall be to see that all schools which are members of this association be visited and investigated by a member of this committee, or by some individual designated by this committee.

If any school or schools shall, in the judgment of this committee, be found not to possess the qualification necessary to membership in this association, they shall present a detailed report on the same.

It is recommended that an appropriation be made for the expense of this committee, of a sum not to exceed $400 annually.

To avoid future embarrassment, it is advised that the same committee be directed to visit and investigate, at the expense of the applicant, any school which may propose to become a member of this body, and report results to the judicial council.

If a plan of visitation shall be undertaken by the American Medical Association, or the National Confederation of Examining Boards, or both, the above committee is authorized to confer with the representatives of these organizations in order to devise a suitable scheme of college visitation which shall be satisfactory to all three associations.

4. The section of the president's address in relation to the "transfer of students," is so clear and comprehensive that we quote it in its entirety: "While the constitution is clear enough as to the privileges of members to deal with students of other schools at the beginning of a session, it has nothing to say on the important question of transferring students in the midst of a term. Undoubtedly this is a subject demanding attention. It is a practice to be discouraged in the main, for nearly always the student wishes to change schools during a term, for reasons selfish and discreditable to himself. Occasionally the right is on his side, and if his record has been good, if all reasonable requirements have been met, and the dean will so certify, there is no just ground for refusing him admission to the same class in another school. It should be made impossible,, however, for any work of importance, didactic, clinical or laboratory to be evaded."

Your committee urge the adoption of a rule that no member of this association shall admit a student from another school into advanced standing unless he presents a letter of honorable withdrawal or dismissal from that institution signed by the dean or secretary.

(Signed.) Parks Ritchie.
John M. Dodson,
Wm. H. Wathen (per Ritchie),
(except last paragraph.

I suggest the following as a substitute for the closing paragraph of above report: "That no member of this association small admit a student to advanced standing except on the presentation of examination credits officially signed by the school in which such student attended lectures, and that no time credit shall be allowed for any credential that does not embrace the work of an entire year—freshman, sophomore, junior and senior—in continuous months."

(Signed.) William H. Wathen.

Dr. Wathen then offered the following supplemental minority report as an amendment of Article 3, Section 4:

They shall admit no student to advanced standing except on the presentation of examination credits officially signed by the school in which the student attended lectures, and no time credit shall be allowed for any credential that does not embrace the work of an entire year—freshman, sophomore, junior or senior in seven continuous months.

On motion, both these reports were considered *ad sciatum*.

The first section of the report was then read.

Inasmuch as this portion of the report was disposed of by the resolution contained in Dr. Kober's paper, and adopted by the association, no further action was taken.

The second section was then read.

Dr. Kober moved its adoption. The motion was lost.

The third section was then read.

Dr. Seneca Egbert moved the adoption of this section, and that an appropriation of $400 be made to defray the expenses of the visitation committee for the coming year. Seconded and carried.

The final section of the report was then read.

Dr. Wathen submitted, as a substitute for the above, a minority report, as follows:

They shall admit no student to advanced standing except on the presentation of examination credits officially signed by the school in which the student attended lectures, and no time credit shall be allowed for any credential that does not embrace the work of an entire year—freshman, sophomore, junior or senior in seven continuous months.

Dr. Wm. J. Means moved the adoption of the majority report. Seconded.

Dr. David Streett moved, as a substitute, that the minority report be adopted. Seconded.

Dr. Seneca Egbert offered the following substitute: "That after September, 1904, no member of this association shall admit a student to advanced standing without first communicating with the college from which such student desires to withdraw, and receiving from the dean of said college a direct written communication certifying to the applicant's professional and moral qualifications, and to the exact work he has done in said college."

Seconded and carried.

The following amendment to Article 3, Section 6, offered by Dr. Wm. Wathen, was then read:

They shall give no advanced standing or time credit for a bachelor's degree, or a degree in pharmacy, dentistry or veterinary surgery, but may give credit for work successfully completed in any subject included in the freshman year, the student then being permitted to study in addition to the required branches, such elective branches as the college may allow.

Dr. E. F. Ingals moved that the amendment be laid on the table. Seconded and carried.

Dr. Wathen then offered the following amendment to Article 3, Section 8:

Colleges of the Association of American Medical Colleges shall have but one annual session, at the beginning of which all students shall be matriculated, and at the close of which students may be examined for advancement to a higher grade, or, in the senior year for the degree of doctor of medicine.

Dr. T. C. Evans moved that this amendment be laid on the table. Second and carried.

(To be continued.)

WILLS' HOSPITAL OPHTHALMIC SOCIETY.

Regular Meeting, held in Philadelphia, April 11, 1904.

Dr. Charles A. Oliver in the Chair.

Symposium on Diseases of the Conjunctiva.

DR. H. C. GOLDBERG showed the microscopic appearances of the invaded structures in diphtheritic conjunctivitis and differentiated them from those seen after gonorrheal conjunctivitis. He believed that the streptococcus is, as a rule, responsible for the gross changes seen in the diphtheritic types of conjunctival disease. He showed the relative effects of benign and malignant tumors on the membrane, contrasting these in their differences. He exhibited the behavior of various granulomata, and gave a résumé of the condition of the conjunctival structures in a case of perforating panophthalmitis as one of the results of endogenous infection from typhoid bacilli. He said that there was little known of the difference in the histology between diphtheritic and pseudomembranous conjunctivitis, the Klebs-Loeffler and xerosis bacilli being so much alike morphologically as to make their differentiation difficult, and spoke at some length on the relative actions of the various antitoxins.

DR. FRANK FISHER had found that by a constant repetition of similar cases he had been enabled to differentiate clinical signs which he had learned to treat and manage by definite and well-gauged rules, one of which had been the free use of saturated solutions of chlorate of potassium in diphtheritic and so-called pseudomembranous conjunctivitis. He had found that if this drug is used in such cases there is less danger of corneal involvement, and that there are fewer cicatrices left in the conjunctival membrane. In association with the drug, and in combination with warm applications and the use of mild detergents locally, he made free internal use of the tincture of the chlorid of iron. He stated that he had found that the application of nascent silver salts was not of any benefit in cases of diphtheritic conjunctivitis, and had noticed that the cicatrices following diphtheria of the conjunctiva resembled a condition of cirrhosis. He classified pseudomembranous conjunctivitis and diphtheritic conjunctivitis together. He always treated diphtheria of the conjunctiva systemically as well as locally. He believed trachoma to be nothing more than the excessive stages of ordinary follicular conjunctivitis, trachoma being a second or tertiary stage of true granular conjunctivitis—a condition in itself in which there is more or less atrophy of the follicles. In these cases there are, he believed, all of the sequelæ of repeated inflammation, such as contraction and distortion of the lid, nebular pannus, and dry, hardened or greasy remains of the conjunctival membrane. In true trachoma he took care to express all of the follicles in the conjunctival sulcus, preferably by the finger nails, following this procedure by the use of tannin, boroglycerid and silver. He believed that dilation of the lacrymal canals and ducts was useful in offering better drainage for the vitiated secretions. Empirically, he had become favorably impressed with the results that he had obtained by the judicious use of alum in the late stages of gonorrheal conjunctivitis, and also employed solutions of acetate of zinc, chlorid of zinc, biborate of soda and boracic acid. He had used adrenalin, but did not find its employment of any advantage.

DR. S. LEWIS ZIEGLER'S experience in acute conjunctivitis had been that the more simple and the less irritating the application the more quickly good results were obtained. As a rule, he employed four- or five-grain solutions of silver nitrate for the first application only, followed by such drugs as glycerol of tannin, boroglycerid and argyrol. These should be used *ad seriatim*, as all local applications sooner or later lose their effect and must be changed. He had found the best results from the employment of biborate of soda and boric acid in simple solutions. If the mucopus persists, alum, one to four grains to the ounce, will be most efficient. The acetate of zinc is of value when the convalescence is slow. In the chronic forms of the disease, such as trachoma, he had had recourse to rapid dilation of the lacrymal passages, together with intranasal applications. In the purulent forms of conjunctivitis he made a daily application of a ten-grain silver nitrate solution, neutralized by salt and washed off with boric acid solution. He used mercuric bichlorid (two grains to the pint) for irrigation in the early stages, every fifteen minutes to a half hour, day and night, until the acute stage is past, and applied ice pads constantly.

DR. P. N. K. SCHWENK said that his experience had been that all cases must be treated empirically. In simple cases he used weak solutions of nitrate of silver, boracic acid and biborate of soda. Believing in the identity of granular conjunctivitis and trachoma, he resorted to similar treatments, modified to suit the existent conditions. Empirically, he had found the use of boroglycerid of great value in the treatment of diphtheritic conjunctivitis.

DR. CHARLES A. OLIVER stated that the majority of cases of conjunctival disease were microbic in type, the clinical signs being in definite relationship with the amount of reaction to the preponderant acting germ. He considered that every ordinary conjunctiva, no matter how well cared for hygienically, was a harboring place for germ life; in fact, he considered that the membrane was, by this reason, kept in better condition and made better able to withstand the attacks of injurious forms of bacteria. He explained the difference between the scavenger types of germs and the serum-consuming varieties, and showed how the anatomic relationships and peculiarities of structural formation rendered it more difficult for certain forms of bacterial growth to gain access to favorable nesting grounds. He subdivided conjunctival disease in strict accordance with the clinical manifestations of the prevalent germs, and was thus able, by repeated bacteriologic study during the course of the disease to so regulate his therapy as to give the quickest and the best possible results in any given case. He emphasized the relationship of the state of the patient's general health to the conjunctival condition at hand, this being particularly true in the gross forms of disease—for example, in Klebs-Loeffler bacillus conjunctivitis, in which he had obtained the most brilliant results by the early use of subconjunctival injections of antidiphtheritic serum.

He had come to the conclusion that all conjunctival diseases are primarily the results of mixed infection, one or more types of germ life gaining the ascendency and giving the clinical peculiarities to the individual case. In the destruction of the parts, he had found that it was not the prevalent microbe which destroyed the organ, but that the particular microbic invasion so reduced the protective agents in their activities as to allow them to become the prey of the pyogenic forms of bacteria. He stated that it should not be forgotten how certain types of germs, being in an involutional state from their ancestral forms, having become exhausted in different mucous soils, if placed in a new, fresh soil, such as the conjunctiva, would soon have their successors become virulent in action (coarse gonococcal conjunctivitis). Conversely, from experiments and studies that he had made, he had found that gross forms of gonococci flourishing in a good soil would, when placed in previously used and hence partially barren soils, soon become involutional in condition, ofttimes monstrous in form and negative in action.

He descried the term "granular conjunctivitis," believing the conjunctival inflammation merely secondary to reactions in the underlying microbic nestings of vegetable life with destruction of the adjacent faunal cells, resulting in cicatricial contraction and loss of the involved parts. He showed why the conjunctiva of the infant is less liable to injury from gonococci than that of the adult, giving a series of illustrative cases for explanation. He cited several examples occurring in the eye wards of the Philadelphia and Presbyterian hospitals which well illustrated these differences.

Dr. L. E. Marter spoke of the injurious effects of chlorate of potash if used in too great amounts. He gave a most interesting account of his experiences with the employment of varying strengths of solutions of permanganate of potassium in the different types of conjunctivitis, and inquired if the experience of the other members had been similar with that of his.

Dr. Samuel H. Brown said that almost constant success was had in the treatment of chronic cases of trachoma in the clinic of Dr. Conrad Berens by the use of 50 per cent. strengths of boroglycerid. Incidentally, he had seen most favorable results in such cases from the local employment of graduated dosages of adrenalin, having found this drug a most excellent adjuvant.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held June 28, 1904.

The President, Dr. T. W. Huntington, in the Chair.

Report of a Case of Splenomedullary Leukemia Treated for Nine Months by the X-Ray.

Dr. W. F. Cheney saw the patient first in August, 1903. Eighteen months previously the patient noticed that he was pale, weak, and short of breath on exertion, and a diagnosis of leukemia was made by a competent observer at that time. In September, 1902, he suffered from severe pain in the right side, which kept him in bed for about a week. In July, 1903, he had two profuse hemorrhages from the nose. Examination of the patient revealed some fluid in the abdominal cavity, and a very large spleen, which extended 12 cm. below the level of the umbilicus and 5 cm. to the right of the median line. On August 6 the blood examination showed 220,000 leucocytes, and on September 2 141,000, of which 45 per cent. were myelocytes. Although he had been variously treated with arsenic, quinin, and mineral baths from the time that his disease was first recognized, he had steadily lost ground, and it seemed as if he did not have long to live.

On October 1 the blood examination was as follows: red corpuscles 2,508,000; white corpuscles, 126,000; hemoglobin 47 per cent. X-ray treatment was begun on this date, and all other modes of treatment were discontinued. Every day, or every other day, the patient was exposed to the radiations from a low vacuum tube, placed about 10 inches from the body, for from 12 to 15 minutes. As a rule the splenic tumor was the part exposed, but if any redness of the skin developed, the long bones were exposed. The treatment was twice interrupted on account of a dermatitis. In all 144 applications have been made since the treatment was begun, nine months ago. The general condition of the patient has improved marvellously. After two months he returned to work, and he says that he now feels perfectly well. The size of the spleen has not diminished to any appreciable extent. The blood has improved, but it is by no means normal. The red corpuscle count rapidly rose to 4,000,000, and has remained at or above this level. The nucleated red corpuscles have disappeared. The leucocytes have been as low as 45,000, but at present ar 67,000, and the hemoglobin has remained at 70 per cent. or over since the first month of treatment. The myelocytes now make up 25 per cent. of the total number of leucocytes. Perhaps the most remarkable observation is the fact that when the *x*-ray treatment was discontinued on several occasions there was an increase in the number of leucocytes. Furthermore the most rapid improvement occurred during the early weeks, at which time the treatment was more energetic than it was later. It appears, therefore, that coincident with the use of the *x*-ray, there was a marked improvement in this case of leukemia. Whether the *x*-ray is capable of inducing a remission of the disease or whether the so-called cures are merely coincidences can only be proved by reports of further cases.

DISCUSSION.

Dr. Oliver, who made the blood counts on Dr. Cheney's case, said that it appeared as if the application of the *x*-ray to the long bones produced less effect than its application to the spleen. In the later counts there seemed to be some degenerative changes in the myelocytes. There was an increase in the number of basophiles.

Dr. G. H. Evans has recently reported three cases of leukemia before the state medical society. Two of these were treated by the *x*-ray. The first case showed 260,000 leucocytes at the onset, and his spleen reached to within 4/5 cm. of the umbilicus. After three or four months of daily treatment his spleen had receded under the costal margin, his leucocytes were 7,000, and the myelocytes had disappeared from the peripheral blood. The second case did not show such marked improvement in the blood or splenic tumor, but like Dr. Cheney's case the symptomatic improvement was striking, and the patient now feels perfectly well. The treatments were given daily for from 15 to 20 minutes with a medium-hard tube ten inches from the body. It is difficult to explain any benefit which may possibly arise from the application of the *x*-ray to the spleen, for the primary disease is supposed to be in the bone marrow.

Dr. P. K. Brown has also seen a case in which a remission was apparently induced by the use of the *x*-ray. Removal of the spleen in this disease should not be advised.

Dr. G. Blumer said it has been recently shown that the *x*-ray has a selective action on the blood-forming organs. Animals exposed to the *x*-ray show degenerative changes in the germinal centers of the lymphatic follicles, in the Malpighian bodies of the spleen, and to a lesser extent in the bone marrow and in the leucocytes. Other observers have shown that there is an increase in the output of nitrogen as a result of *x*-ray treatment.

Dr. C. M. Cooper said that possibly the spleen produces an antitoxin and the production is stimulated by the use of the *x*-ray. If the coil fails, we should try the effect of the high frequency currents.

Aplastic Anemia.

Dr. P. K. Brown reported a case of acute fatal hemorrhagic purpura in an infant with anemia of the aplastic type. Aplastic anemias are rare, and only a few have been reported.

Infant 22 months old, living in unhygienic surroundings, began to be fretful nine days ago. Since then it has had fever and has become pale and weak. Purpuric eruption began four days ago, and has gradually spread over the skin and mucous membranes until there is not a square inch of skin free from the eruption. There is no enlargement of the spleen or liver and no tenderness of the long bones. Slight general lymphatic enlargement. No signs of rickets or lues. No eggs of parasites found in the stools. Blood examination: red blood corpuscles 1,280,000; leucocytes. 2,000; hemoglobin 20 per cent. Differential count showed 7 1/3 per cent. of polynuclears, 4 2/3 per cent. of large mononuclears, 88 per cent. of small mononuclears, and no eosinopbiles. There were no nucleated red corpuscles. A second count on the next day gave similar figures. That evening the infant died, and an autopsy was refused.

In aplastic anemias there is a progressive diminution of the blood cells without any evidence of an attempt at regeneration, i. e., there are no nucleated red corpuscles, and no red marrow in the long bones, except near their epiphyses. It is possible that there are aplastic stages in the course of many pernicious anemias.

In this case the purpura and the anemia were both probably secondary to some common, possibly infectious, cause.

DISCUSSION.

Dr. Evans asked if the case might not have been an acute leukemia without increase in the total number of white cells?

Dr. Brown replied that acute lymphatic leukemia is characterized by the presence of a high percentage of large mono-

nuclear cells, whereas in the present case the majorty of the leucocytes were small mononuclears. Whoopng cough seems to be the only acute disease associated with a very great increase of the small mononuclear elements.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pertussis.

Spitz, in the *Therapeutic Review*, gives a summary of many different remedies and modes of treatment of this disease. There are almost as many remedies advocated as there are physicians who treat whooping cough, and none are curative. Hare states that antipyrin given in doses of 1 to 3 grains every five hours will decrease the number of paroxysms, but not the severity of the attack. Kerley also believes that antipyrin administered internally controls the paroxysms better than any other drug. Quinin, according to Kerley, if given in sufficiently large doses, has a very good effect. Other well-known remedies suggested by various authors are belladonna, chloral hydrate, bromid of potassium, iodid of silver, salicylates, drosera rotundifolia in doses of from a fraction of a drop to 10 drops three times daily, each of which it is claimed will alleviate, but in no wise shorten the course of the disease.

TREATMENT BY INHALATIONS.

Grodson advises the inhalation of creosote from the very inception of the disease. A belladonna plaster between the shoulders he found useful in mild cases. Monti of Norway claims to have cut short the disease by disinfection of the room in which the patient lives with sulphurous acid. Everything with which the patient had come in contact was fumigated for six hours. The room was well aired, the patient put to bed covered with fresh linen. The following day the disease had disappeared.

Staedtler of Bern recommends a change of climate, but, since this is impossible in most cases, he advises inhalation in conjunction with internal remedies. The new preparation used by him is naphthalin (eucalyptol and camphor) under the name of vaporin, and has given excellent results. The preparation is not narcotic, the paroxysms are not immediately lessened, but its good effect is exercised directly on the respiratory tract.

Hlinske of Bohemia, who has had considerable experience in the use of formalin inhalations in the treatment of catarrhal conditions, as well as whooping cough, reports a case of pertussis where the patient was placed in a room with a lamp that evaporated four or five paraform tablets per 1,000 cubic feet of air space. She remained here for about one-half hour, and was then removed to a compartment which was disinfected by about 30 tablets to the 1,000 cubic feet. The only untoward symptoms noticed were apparent paleness and loss of appetite, and irritation of the eyes. The same night a decided improvement was noted, and a few days later the child had lost her cough entirely. Dr. Hlinske concludes that by the proper inhalation of formalin it is possible to destroy the germs of whooping cough, and that thorough disinfection of the living rooms of the patient with formalin, after inhalation, is sufficient treatment to frequently effect a cure.

Martindale suggests the following for pertussis:

R.	Bromoform 3ss	2
	Tincturæ senegæ 3iiiss	14
	Syrupi aurantii 3iv	15

M. et add:

	Aquæ dest. q. s. 3vi	180

Sig.: Two to four teaspoonfuls at one dose.

The following formula has also been recommended:

R.	Heroin hydrochloratis ..... gr. ¼-½	015-.03
	Tincturæ belladonnæ	
	Spiritus frumenti, āā 3i	4
	Syrupi simplici q. s. ad 3iv	120

M. Sig.: Teaspoonful every five or six hours.

Presse Médicale suggests the following for whooping-cough:

R.	Syrupi belladonnæ 3i 2/3	50
	Syrupi valerianæ	
	Syrupi digitalis, āā 3viss	25

M. Sig.: For children less than two years of age we prescribe half a coffeespoonful[1] and increase by a halfspoonful every second day till two coffeespoonfuls are taken daily. For children from two to five years of age the dose may be increased to six spoonfuls daily. This dose is sufficient for older children, and should be increased only if the cough is very intractable, in which case 75 to 150 minims may be added to the daily supply. The syrup may be given pure, or mixed with simple syrup or milk.

Sobel, in *Amer. Pract. and News*, reports his success in the treatment of the paroxysms of whooping cough after the plan proposed by Naegli of pulling the lower jaw downward and forward.

1. In most instances this procedure controls the paroxysms.

2. The method is more successful in older children than in younger ones and infants.

3. It prevents the whoop and generally overcomes the asphyxia.

4. Those in attendance should be instructed in its use.

5. The manipulation is harmless, painless and easy of application; it offers a maximum good effect with a minimum derangement.

6. The presence of food in the mouth or esophagus is a contraindication to its use.

7. Patients treated in this manner are less likely to suffer from complications and sequelæ than those treated only medicinally; there is less exhaustion and less emaciation because vomiting has been controlled.

8. It is particularly indicated in instances complicated with diffuse bronchitis, bronchopneumonia, convulsions, epistaxis, subconjunctival, or subcutaneous hemorrhage, or sublingual ulcer, and in those children who by virtue of tender age, the presence of rachitis, scrofula, or general debility are predisposed to serious complication and sequelæ.

Hordeolum (Stye).

Merck's Archives recommends the following:

R.	Acidi borici 3i	4
	Muc. cydonii 3iss	45
	Aqua rosæ (genuine) q. s. ad 3iv	120

M. Sig.: Apply freely lukewarm to the eye; or:

R.	Hydrargyr. oxidi rubri ..... gr. xii	75
	Petrolati	
	Ung. aquæ rosæ, āā 3iv	15

M. Sig.: Apply night and morning after a thorough cleansing with hot boric solution.

If very distressing and involving much of the lid the stye should be incised, with full antiseptic precautions.

Toothache.

In the *Jour. des Pract.* the following suggestions are given for the country practitioner in the treatment of toothache in the absence of a dentist.

FOR CARIES.

R.	Tincturæ benzoin 3iiss	10
	Olei caryophylli 3ss	2

M. Sig.: Apply to cavity on a small piece of cotton; or:

R.	Tincturæ benzoini 3iss	6
	Chloroformi 3i	4
	Acidi carbolici 3ss	2

M. Sig.: Use in same manner as the foregoing.

1. A coffeespoonful represents 5 milligrams (3/10 grain) of the alcoholic extract of belladonna.

This application may be allowed to remain forty-eight hours, when it may be renewed or the tooth properly filled. In caries of the third degree where the pulp is exposed, a morsel of the following the size of a pin's head may be applied to the pulp:

℞ Cocain hydrochloridi,
Morphin hydrochloridi, equal parts.
Olei caryophylli q. s. to make a paste.
M. Cover with gutta percha.

If it devolves on the physician to destroy the pulp he should use:

℞ Acidi arsenosi	gr. xv	1
Cocain hydrochloridi	gr. lxxv	5
Olei caryophylli q. s. ad. to make a thick paste.		

M. Sig.: Apply for twenty-four hours, to be followed by a filling.

Solution of suprarenal extract may replace the oil of cloves.

Where periostitis exists, the tooth should be cleansed and the gums painted morning and evening with tincture of iodin or equal parts of tincture of iodin and tincture of aconite. The gum may also be cauterized twice a week.

Subgingival injections of the following may relieve:

℞ Cocain hydrochloridi	gr. 3/5	04
Antipyrini	gr. vi	40
Aquæ dest.	m. xv	1

M. Sig.: Inject five to ten drops under the gum.

Thyroid Extract in Eclampsia.

Sturmer, in the *Lancet*, April 16, 1904, reports forty-one cases of eclampsia treated with thyroid extract. Ten grains of the extract were given in each case on admission, and five grains every four hours afterward. Morphin and saline injections were used in most of the cases, and was followed by a prompt evacuation of the uterus. He claims that under the thyroid extract there is a marked increase in the urine in the first twenty-four hours, while with saline injection and morphin alone there is commonly little increase in the urinary output in that length of time. In the discussion of the paper confidence was shown in the thyroid treatment.

Asthma.

The *Clinical Review* recommends the following as an efficient remedy in asthmatic conditions:

℞ Kali iodidi		
Tincturæ belladonnæ, āā	3i	4
Liq. potass. arsenitis	mxl	2 65
Spts. etheris sulph. comp.	3xii	45
Elix. simplici	℥ii	60
Aquæ cinnamomi q. s. ad.	℥vi	180

M. Sig.: Tablespoonful three times a day.

Malaria.

Krauss, of Memphis, Tenn., says, in *Southern Medicine*, that he has found the following prescription very useful in latent and masked malaria.

℞ Quininæ hydrobromatis	gr. xxx	2
Hydrarg. chloridi mitis	gr. v	30
Pulveris capsici	gr. iss	10
Pulv. opii et ipecacuanhæ	gr. v	30
Aloini purificati	gr. 1/6	01

M. Ft. capsules No. vi. Sig.: One every four hours.

Practical Method of Destroying Snake Venom.

L. Rogers, in the *Lancet*, describes a practical method of treating any kind of snake poison, which promises to be of great value in all cases seen early. It is so simple that any intelligent person can carry it out. The use of permanganate of potassium as shown by Blyth, is the best-known substance as a practical antidote for snake bite. The fact that the results have not always been satisfactory is probably due to improper administration. Brunton and Fayrer have recently suggested a more radical method of using permanganate. They advise ligation above the inoculation, then incision of the wound, followed by rubbing in of the pure crystals of the salt. It is positively established that the salt will destroy in vitro nearly its own weight in every class of snake venom. It is possible that the free pouring out of lymph in the neighborhood of the wound will sufficiently retard the absorption of the venom so that a half hour or more time may elapse between the infliction of the bite and the rubbing in of the permanganate. At the suggestion of Sir Lauder Brunton a lance has been made, surrounded by a sheath, in the base of which permanganate crystals are kept, the whole outfit being easily carried in the vest pocket.

Medicolegal.

Authority of Board of Health Over Barber Shops.—The Supreme Court of New Jersey holds, in the case of La Porta vs. Board of Health of the City of Hoboken, that the legislature has given ample authority to the board of health, in the exercise of the police power, to prevent the spread of contagious skin diseases in barber shops, and that stringent regulations for that purpose are lawful.

Competency of Witnesses as Experts.— The Supreme Judicial Court of Maine says, in the case of Conley vs. Portland Gaslight Company, that when a witness is offered as an expert, it is the duty of the presiding justice to hear and consider the testimony as to his qualifications, and to decide whether the witness is qualified to so testify. He is not, however, bound to determine the fact in advance of the question to the witness which calls for expert testimony. The question itself will then show in what capacity as an expert he is asked to testify, and the ruling of the presiding justice admitting it is *ipso facto* (by the act or fact itself) a decision that the witness has qualified upon that subject, and also that the subject is one proper for expert testimony. Whether a witness called as an expert possesses the necessary qualifications to enable him to testify is a preliminary question addressed to the discretion of the presiding justice, and his decision must be final and conclusive unless it is made clearly to appear from the evidence that it was not justified or was based on some error in law. Expert capacity is a matter wholly relative to the subject of the particular question. A witness may be sufficiently qualified for one question, and totally unqualified for the next. Special skill and knowledge in regard to a particular subject can only come from experience or special study or both. Mere casual observation, superficial reading, or slight oral instruction is not sufficient.

Hospital "Bedside Notes" Not Admissible in Evidence.—The Second Appellate Division of the Supreme Court of New York holds that error was committed on the trial of the personal injury case of Griebel vs. Brooklyn Heights Railroad Company in receiving in evidence a paper containing certain so-called "bedside notes," alleged to have been made in a hospital in reference to the plaintiff while he was a patient there. It says that it agrees with the contention that the so-called "bedside notes" were not admissible in evidence. They were introduced during the examination of a hospital nurse, who was in the hospital at the time when the plaintiff was a patient there. She described the paper as a "temperature chart, known in the hospital as bedside notes," and said that such notes were taken in each case where a patient was brought to the hospital. The court is not aware of any rule of evidence which makes such a paper, offered under such circumstances, admissible. Its contents related chiefly to the physical condition of the patient, specifying particularly the injuries from which he was suffering. While it was clearly error to admit the document, the only portion therof which could have been harmful to the plaintiff in this case was the following entry: "History, good. While getting on his wagon he slipped, and his horses started up, the wagon passing over his right knee and across abdomen." This appeared to have been written by one of the physicians of the hospital, from the statements made to him by the plaintiff, but this did not render the paper competent as original evidence..

Doubts Granulated Eyelids Being Ailment Affecting Health.—The Court of Civil Appeals of Texas says that, in the case of Brock vs. the United Moderns, an action on a beneficiary

membership certificate, the medical examiner's report showed these, among other questions and answers: "(6) Have you consulted or been advised by any physician regarding your health within the last five years? If so, whom, when, and for what ailment? Answer—No. (7) If not treated within five years, how long since you were under the care of a physician, and for what cause? Answer—Never." A physician, however, testified that within the period of five years referred to the insured had consulted him with reference to granulated eyelids, and had been treated therefore for about two months. Now, as to question 6 and its answer thereto, when viewed in connection with the testimony of the physician that he had been consulted and had advised the insured with reference to granulated eyelids, the court says that there is some doubt in its mind as to whether the ailment of granulated eyelids is one that would be regarded as affecting the health; and, as to that question and the answer thereto, it might have been proper for the court to have permitted the beneficiary suing on the certificate to introduce expert testimony explanatory of what ailments would be regarded as affecting the health. But the court has no doubt in reference to question 7 and the answer thereto. It says that there was no ambiguity or uncertainty whatever connected with this question or the answer thereto which would require any explanation. The statement of the insured in answer to question No. 7 being a warranty, and the undisputed proof showing the falsity thereof, authorized and justified the instruction of the jury to return a verdict for the defendant organization.

Liability for Maltreatment of Patients in Pest-House.—The Court of Appeals of Kentucky says, in City of Lexington vs. Batson's Administrator, that the city, one of the second class, is given the power to establish and enforce quarantine laws and regulations to prevent the introduction and spread of contagious diseases within the city, and to establish and maintain eruptive hospitals in the city. It is likewise made the duty of the city council to appoint a board of health, which has the same powers within the city that the county board of health has in the county under the statute. The city had established such hospital and appointed the board of health. During an epidemic of smallpox in the city Batson had been exposed to contagion, and was consequently confined by the order of the board of health in the city hospital. He became sick of the disease, and died. It was charged that the city suffered its pest-house to become foul and unfit for use as such, and that it negligently failed to provide a suitable pest-house for the detention and treatment of those who had been exposed to or had the disease; that the city failed to provide competent physicians, or suitable or any medicines, or sufficient clothing or covering, or sufficient or fit food for the inmates; that those in charge neglected Batson in his sickness—by reason of all which he died. The evidence, it was conceded, was sufficient to sustain the jury's verdict finding for the administrator. But the court holds that the city was not civilly liable for the acts complained of. It says that the remedy, and, so far as it knows, the only present legal protection, of those unfortunates who may be maltreated as was charged in this suit is by an indictment of the officers in charge for misfeasance or nonfeasance, and a civil action against the individuals who have been guilty of the wrongs.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 23.

1 *The Diagnosis and Treatment of Hemorrhoids. J. Coles Brick.
2 Edema. Consideration of the Physiologic and Pathologic Factors Concerned in Its Formation. S. J. Meltzer.
3 *Metabolic Changes Caused by External Hemorrhage. William J. Gies.
4 *Two Cases of Vincent's Angina, and One of Noma, in Which the Organisms Characteristic of the Former Affection Were Found. Randle C. Rosenberger.
5 Primary Ulceration of the Tonsil, Together with Some Remarks on Tonsillar Ulceration in General. Thomas J. Harris.
6 Brain Injury. 1. Loss of One Quarter of Brain Substance with Consciousness and Ability to Talk Retained Until Death. 2. Fracture of the Skull with Porencephalia. Henry S. Wieder.

I. Diagnosis and Treatment of Hemorrhoids.—Brick discusses the subject of hemorrhoids in all its phases and urges the selection of the method most suited to the individual case, although he has not yet seen any case of internal hemorrhoids that has been too bad for the clamp and cautery method. There is a double protection against hemorrhage, both by the crushing action of the clamp on the tunica intima and by the cauterization, the thermic action of the cautery destroying all septic germs which may be present in the operative field; all capillaries and lymphatics are sealed, which prevents absorption of septic agents; there are no ligatures to cut through; the operation is finished at one time; no protracted pain from inflamed nerves; no sutures to be removed, and there is a gain of about one week in healing.

3. Metabolic Changes Caused by External Hemorrhage.—Gies discusses venesection from the point of its effect on metabolism, giving a historic review of the work done in this field by various investigators. He also carried out a number of experiments on dogs, noting the effects of hemorrhage chiefly on proteid metabolism. Each dog was brought into nitrogenous equilibrium at the beginning of each experiment, and after remaining in this condition a week or more, was subjected to repeated hemorrhages at intervals of one to three weeks. The quantities of blood withdrawn were usually from 3 to 3.5 per cent. of body weight. The blood was always taken from the femoral artery or a branch of it, while the animal was in light ether anesthesia. The total amount of blood withdrawn in four non-fatal bleedings was equal to 11.5 per cent. of body weight. Nitrogen, sulphur and phosphorus were determined by the best methods, not only in the food, but also in the urine, feces, cast-off hair and dandruff. His results seem to indicate that the organism contains more blood at all times normally than is needed, and that some of this excess ("luxus blood" of Maragliano) may be lost without particular detriment. That this excess is in the nature of a reserve supply is indicated by the prompt regeneration of volume, corpuscles and soluble constituents after hemorrhage. During special periods of hard labor the body probably needs all the oxygen resources of the whole supply of blood. There is a relatively slight and only temporary increase in nitrogenous elimination after hemorrhage, even when large volumes of blood are withdrawn, and when the losses occur at short intervals. The catabolic effects became cumulative with each successive hemorrhage. A considerable loss of blood affects the higher nerve centers by diminishing the supply of material available for their nutrition. The blood-making organs, however, and chiefly the bone marrow, are stimulated to exceptional activity after hemorrhage, resulting in unusual production of their normal catabolic products. These waste products soon appear in the urine. The thirst and increased appetite of the animal under such circumstances show how much the organism needs new material for constructive purposes. Anabolism and catabolism are apparently increased in some parts of the body and decreased in others. Sugar in the blood is in excess. Albumin and lactic acid appear in the urine. After hemorrhage, urinary volume is at first diminished, then increased, and after a few days it returns to the normal. Increase in nitrogenous elimination accompanied the increase in volume of the urine. The condition of the animal shortly after hemorrhage was similar in many respects to that after fasting. It is not improbable that during the first few hours after a hemorrhage there may be subnormal metabolism followed by a greatly stimulated metabolism. Moderate hemorrhage has a stimulating influence, but the effects of such hemorrhage are at first somewhat depressing.

4. Vincent's Angina and Noma.—Rosenberger reports three cases, two of Vincent's angina and one of noma, in which he found the symbiotic fusiform bacillus and spirillum of Vincent. He is convinced, as the result of his study of these cases,

that Vincent's angina is a distinct clinical and pathologic entity, one not to be confused either with tonsillitis or diphtheria.

Medical Record, N. Y.

July 23.

7 Notes on Some Uncommon Forms of Nervous Diseases. L. Pierce Clark.
8 The Modern Tuberculosis Dispensary. S. A. Knopf.
9 Dietetics in Summer Diarrhea. Benj. Edel Helprin
10 *Clinical Notes on the Mammary Gland, with Report of Four Cases of Somewhat Unusual Interest. Thomas H. Manley.
11 Fallacies in Vital Statistics. F. L. Wachenheim.
12 A Few Quotations from Shakespeare, Showing His Acquaintance with Medical and Other Sciences. J. W. Wainwright.

10. **Four Unusual Conditions of the Mammary Gland.**—Four cases of pathologic conditions of the mammary gland, of somewhat unusual interest, are reported by Manley. The first case is one of protracted lactation of twenty-four years' duration, in short, a galactorrhea. The patient, aged 41, of good health, had been delivered of a seven months' infant ten months after her marriage, and since this time she had a continuous flow of milk, during the intervals of conception, during widowhood following the death of her first husband and since remarriage. By squeezing the breast on one occasion she removed nearly six drams of milk having the ordinary physical qualities of the mammary secretion. From the time the physiologic waste began she was unable to carry a child to term. The second case was one of lacteal fistula in a woman aged 23, which followed an abscess of the breast. It was found that when this abscess was treated a very deep incision had been made, not along the radiating reservoirs of milk ducts, but diagonally through them, and hence the flow of milk was diverted from the nipple to the large fistulous opening. The third case was one of tumor in a woman aged 42. In spite of the patient's splendid physical condition, and the evident non-malignant character of the growth, several physicians advised the complete removal of the gland, to which, however, the patient objected. Finally, a conservative operation was permitted, and this being carried out, it was found that the tumor was an adenofibroma. In connection with this case the author asks, "Why on earth remove a mamma, strip the chest wall, and deform a woman for an encapsulated, or, indeed, a tumor of any kind, unless a promise of permanent cure can be made?" He also urges the importance of attitude, the dorsal position, on a hard, flat surface, as an aid of great value in physical diagnosis of neoplasms or tumor-like formations of dubious origin or existence. The last case was one of primary scirrhus in the axillary lymph nodes, occurring in a patient 62 years old, care-worn, emaciated and anemic. Seven months after the appearance of this primary growth a secondary tumor developed in the breast, an exceedingly rare occurrence, the tumor in the lymph nodes usually being secondary to one in the breast.

Boston Medical and Surgical Journal.

July 21.

13 Case of Moral Insanity with Repeated Homicides and Incendiarism and Late Development of Delusions. Henry R. Stedman.
14 *Etiology and Modern Methods of Treatment of Chronic Urethritis. Charles M. Whitney.

14. **Treatment of Chronic Urethritis.**—After discussing the character and location of the cause of chronic urethritis, as determined by a careful routine examination, Whitney takes up the treatment. If the condition is of gonorrheal origin and gonococci are found in the discharge, a 10 per cent. argyrol solution is injected into the urethra each day and held there for five minutes, the patient repeating this procedure three times a day with a 4 per cent. solution. Or irrigations with potassium permanganate, according to the gravity method of Valentine, may be substituted. Having freed the urethra from pus and gonococci, the cardinal point in treatment is the thorough dilatation of the urethra from the fossa navicularis to the prostate for the purpose of cleaning out the follicles and to stimulate circulation, thus tending to absorb the plastic exudation. To accomplish this there is nothing better, in most cases, than the urethral sound, of proper curve, and tapering gradually from the point until the full size is reached. Kollmann's dilator may be used in cases where stricture is absent. Care should be observed to maintain, as far as possible, the relative size of the meatus. A simple method of doing meatotomy is to first thoroughly cocainize with a 10 per cent. solution, using a small cotton swab, which is placed in the meatus and allowed to remain while the instruments are being prepared. With a small blunt-pointed tenotome an incision is made on the floor of the urethra of such size as is deemed necessary. A 1 to 3,000 adrenalin solution checks hemorrhage and sounds should be passed daily for three or five days to prevent rapid closing. The urethra should be irrigated with a 1 to 3,000 permanganate of potash or 1 to 4,000 silver nitrate solution in order to flush out material expressed from the follicles by the gravity method of irrigation. Then the prostate and vesicles should be massaged carefully once or twice weekly, from three to five minutes at a time. When the prostate is chiefly involved the deep instillation of nitrate of silver solution, 5 gr. to the ounce, increasing to 10 or 15 gr., is of value. Localized erosions should be touched with a strong solution of silver nitrate. Where there is an atonic condition of the urethral lining, the psychrophor of Winternitz may be used. When the discharge is profuse internal medication is indicated, and the oil of sandalwood is the best remedy for this purpose. When there is no longer a discharge, when the shreds contain neither pus, gonococci, or a large amount of epithelium, and when, furthermore, after producing a discharge by nitrate of silver or corrosive solution, no organisms are present, and when after alcoholic or sexual excesses no discharge appears—we may be reasonably sure that the patient is well and is no longer capable of infecting anyone else.

New York Medical Journal.

July 23.

15 Report on the Curricula of American Medical Colleges. (To be concluded.) George W. Webster.
16 Diagnosis and Treatment of Fistula in Ano. J. Coles Brick.
17 *Specifics and Specific Methods in the Treatment of Pulmonary Tuberculosis. S. Simon.
18 *A Unique Case of Chorea. James T. Wrightson.
19 *Origin of the Vermiform Appendix. A Preliminary Report. Alfred Moore.
20 *Syphilitic Manifestations in the Nose and Pharynx. Paul Turner Vaughan.
21 Treatment of Crushing Injuries Involving One Articular Surface of an Interphalangeal Joint. John G. Sheldon.
22 *The Radiant Light Bath in the Treatment of Neuroses. T. D. Crothers.

17. **Treatment of Pulmonary Tuberculosis.**—The treatment of pulmonary tuberculosis is considered by Simon, who believes that there is not and never will be any one remedy which will prove specific in this disease. In acute phthisis nearly every remedy is bound to fail. A great deal can be done for the early cases of chronic pulmonary tuberculosis, and in a large percentage of these a cure can be effected. Every case must be treated according to the peculiarities, temperamental and physical, of the patient. Plenty of pure, aseptic air is essential, and is one of the greatest therapeutic measures at our command. Learn the patient's previous condition of life, correct such faults as may exist in his environment and diet, personal hygiene, breathing, exercise, habits and dress. Sanitaria located favorably are certainly most desirable, but much can be done with home treatment and the intelligent cooperation of the patient. The author emphasizes the value of aeotherapy, pulmonary gymnastics, hydrotherapy and the symptomatic treatment of drugs.

18. **Unique Case of Chorea.**—Wrightson reports a case of chorea of unusual severity in a woman of about 40 years of age. The cause was very obscure; inference pointed strongly to chorea gravidarum, yet the further progress of the case pointed strongly against pregnancy as being the cause of the attack. There was no history of rheumatism, but inasmuch as the patient improved rapidly under the influence of sodium salicylate, no other remedy giving her any relief, it is quite possible that the cause was really rheumatism. The pregnancy continued, the patient being delivered at full term of a normal, healthy child. The case is of interest because of the therapeutic diagnosis, which apparently stood in sharp contrast to the clinical findings.

19. **Origin of the Vermiform Appendix.**—Moore believes that embryologically the appendix is the distal end of a tube leading from the vitellus to the lower end of the embryo, and that the proximal part develops into the colon; that the umbilical

vesicle and duct are the distal, or outer end of another tube or duct, of which the small intestine forms the proximal part. That the two parallel tubes, joining by the umbilical ducts, become tortuous, and touching the other tube at one point which is the most prominent part of its convexity in one of its turns, union takes place, the sacculation is increased, and the umbilical duct atrophies, and is necessarily removed from the other tube by the rapid growth of the small intestine, which fact accounts for Meckel's diverticulum, when present, being so far away from its fellow. After communication between the two tubes, the large intestine increases in size and the cecum is formed.

20.—See abstract in THE JOURNAL, xli, p. 1041.

22.—Ibid, p. 978.

Medical News, New York.

July 28.

23 Some Surgical Aspects of Obstetrics. William S. Stone.
24 *Myelogenous Leukemia, with Disappearance of the Splenomegaly and the Myelocytes. Charles E. Simon and D. G. J. Campbell.
25 A Visit to Gheel. Smith Ely Jelliffe.
26 Personal Experience in the Treatment of Typhoid Fever. Carter S. Cole.
27 *Extrauterine Pregnancy—Some Observations in a Case Ruptured by Examination. W. L. Wallace.
28 A New Brace for the Shoulder Joint. Leonard W. Ely.
29 The Early Diagnosis of Pott's Disease. Frank P. Vale.

24. Myelogenous Leukemia with Disappearance of Characteristic Symptoms.—Simon and Campbell report a case of myelogenous leukemia, the diagnosis being confirmed microscopically, in whom twice within less than twelve months the classical features of the disease, splenomegaly and myelemia, could be demonstrated and then disappeared. At neither intermission was there any evidence of an intercurrent disease to account for the improvement. When the patient first came under their care, her spleen was greatly enlarged and the blood was absolutely characteristic of the disease. The red cells numbered 1,700,000 and the leucocytes 350,000. Under the continuous administration of Fowler's solution in increasing doses the leucocytes fell to 4,000 within a month; the myelocytes diminished to 6.1 per cent., and there was nothing in the blood to suggest leukemia except the high percentage (10.8) of mast cells. Six weeks later the enlargement of the spleen had nearly disappeared, and after ten months the spleen is barely palpable. The patient's weight increased about twelve pounds; her hemoglobin had risen to over 75 per cent., and at the last examination of the blood, made about a year from the time when she first went to the hospital, the hemoglobin was 80, the red cells numbered 5,200,000 and the leucocytes 6,500. Of these 26.7 per cent. are small mononuclears, 14.4 per cent. large mononuclears, 51.5 per cent. polynuclear neutrophiles, 3.3 per cent. eosinophiles and 3.5 mast cells. An occasional myelocyte was encountered, but the number did not exceed 0.4 per cent. There can be no doubt that the arrest of the disease is merely temporary, if, indeed, there is arrest of the pathologic process. Poikilocytosis has continued right from the very beginning, and together with the occasional increase of the color index, is strongly suggestive of a pernicious anemia, into which the leukemic condition may be merged. In a supplemental report the authors give the following blood findings: Red cells, 5,480,000; leucocytes, 3,789. Of these 47 per cent. are mononuclears, 35 per cent. polynuclear neutrophiles, 6 per cent. eosinophiles and 12 per cent. mast cells. There were no myelocytes and the poikilocytosis and anisocytosis had almost entirely disappeared.

27. Extrauterine Pregnancy. Wallace calls attention to the danger of rupture of an ectopic gestation by examination, and reports a case in point. The case was operated and the patient made an excellent recovery. One peculiarity noticed by the author was the pulse rate and the fact that there had been no irregular bloody vaginal discharge. With regard to the pulse rate, there is the danger of being misled by a pulse which becomes slower even while the hemorrhage is taking place. This slowing of the pulse might be accounted for by the suddenness and rapidity of the hemorrhage which induced syncope on the one hand, and thus lowered the arterial tension; and, on the other hand, left so little blood in the veins that the ventricles were a long time in filling. This slowing has not occurred in less rapid hemorrhages which have come under the author's observation.

Cincinnati Lancet-Clinic.

July 16.

30 Polyadenoids of the Rectum. George B. Evans.
31 Care of the New-born. E. W. Mitchell.
32 Function of Medicine in Progress of Civilization. G. W. McCoy.

July 23.

33 Ununited Fractures. Robert Carothers.
34 *Hypertrophied Rectal Valves and Their Treatment. Wells Teachnor.
35 Relations of the Nursing Profession to That of Medicine and to Society. Charles A. L. Reed.
36 Drug Peculiarities of Children. H. H. Jacobs.

34. Hypertrophied Rectal Valves and Their Treatment.—The anatomy and physiology of the rectal valves are discussed by Teachnor. These valves may become hypertrophied from both local and constitutional causes, such as proctitis following gonorrhea, irritations produced by scybala and other foreign bodies, dysentery, tuberculosis and syphilis, or malignant disease. A number of illustrative cases are cited, in each of which a routine method of treatment was followed. In most cases it is necessary to resort to surgery. Where operative measures are not advisable, and when the hypertrophy is not considerable, gentle massage with a solid metal ball on the end of a bar of sufficient length to reach the uppermost rectal chamber often gives relief. Each valve can be massaged gently through a proctoscope. The accompanying proctitis is relieved by proper remedies, among the most important of which is a spray of nitrate of silver solution and topical applications of ichthyol. Cases due to constitutional diseases can usually be relieved by the remedies indicated in those diseases. An operation is necessarily complex. Martin's operation is quite difficult, requires an elaborate armamentarium and is open to so many dangers, such as hemorrhage and peritonitis, that it will never come into extensive general use. The operation devised by Pennington is preferable to any other. By means of clips an elliptical piece is cut out from the free border of the valve, usually without pain and danger of hemorrhage, and should the peritoneum be opened, adhesions from plastic exudates are formed before infection takes place. The benefit derived from operative procedures depends on the proper selection of cases.

Journal of Eye, Ear and Throat Diseases, Baltimore.

May-June.

37 Pemphigus (?) of the Respiratory Tract with Conjunctival Lesions. Richard H. Johnston.
38 Value of Strong Magnifying Glasses in Amblyopia. Edward E. Gibbons.

Journal of Medical Research, Boston.

July.

39 *Concerning the Specificity of the Somotogenic Cyto-toxins. Richard M. Pearce.
40 The Diagnosis of Anatomic Anomalies Causing Malposition of the Head and Distortion of the Face. Thomas Dwight.
41 *The Elimination of Strychnin Into the Gastrointestinal Canal of Nephrectomized Rabbits. William Salant.
42 The Clotting of Blood of Nephrectomized Rabbits. S. J. Meltzer and William Salant.
43 Histologic Studies of Xanthoma. Joseph McFarland and Guthrie McConnell.
44 *Multiple Non-inflammatory Necrosis of the Liver with Jaundice. Horst Oertel.
45 A Stain Applicable to Differential Leucocyte Counts in the Counting Chamber. B. Onuf.
46 The Influence of the Quantitative Relationships of Amboceptor and Complement on the Reaction Rate in Serum Laking. E. H. Davey.
47 Agglutination. R. H. Buxton and Victor C. Vaughan, Jr.
48 Zonal Necrosis of the Liver. Eugene L. Opie.

39. Specificity of Somatogenic Cyto-Toxins.—Pearce undertakes to demonstrate by a comparative study of the somatogenic cyto-toxins, that the action of any given cyto-toxin depends on the chemical (receptor) organization of the cell, and not on morphologic characteristics; that an artificial antiserum may have a definite toxic action on several types of cells of widely differing morphology, but presumably having, in part at least, common receptors; that specificity in the sense of morphologic affinity is of secondary importance, and in the case of some sera may not exist; that many of the results supposed to be due to the specific action of one cyto-toxin are

due rather to other cyto-toxins adventitiously elaborated as the result of improper methods of immunization. In the course of an experimental investigation of nephrotoxins he found that by the usual method of immunization, that is, the injection of the kidney with its contained blood, a serum strongly hemagglutinative and hemolytic was produced, and that the hemoglobinuria resulting from the injection of this serum entirely obscured any nephrolytic action it might possess. The hemagglutinative element of the serum also causes the agglutination of the red blood corpuscles; the thrombi thus formed occluding the vessels of the liver with resulting focal necroses of that organ. It was evident, says Pearce, that many of the results previously reported as due to a specific nephrotoxin or hepatotoxin were due to hemagglutinins or hemolysins forming in animals improperly immunized. To obviate this difficulty blood-free kidney was used in the immunization, with the result that although the serum thus obtained was powerfully nephrotoxic it was, also, in a moderate degree hemagglutinative and hemolytic; it did not, however, cause hemoglobinuria. These observations led Pearce to conduct a very extensive series of experiments on animals, the dog and the rabbit being selected; the latter being immunized with the cells and fluids of the former. The method of immunization adopted was that followed in the work of nephrotoxins. The immunizing fluids used were defibrinated and washed blood; the serum from unwashed organs, such as the kidney, liver, pancreas and adrenals; sera prepared from washed organs, the same as before; sera prepared by injecting blood serum, bile and urine. Death followed only after the use of sera prepared from red blood corpuscles and from blood-containing organs. With the exception of the powerful nephrotoxin prepared from washed kidney cortex, death has never resulted from the injection of sera prepared from washed parenchymatous cells or from blood-free body fluids. Pearce concludes that it is evident that the cells of the various organs of the body, while differing in morphology and function, have certain receptor characteristics in common, and that one type of cell may produce anti-bodies affecting several cells of different morphology, but with like receptor groups. Some of the cyto-toxic sera have no effect on organs for which they are supposed to have a morphologic affinity, but exert a powerful lytic influence on other cells. Aside from nephrotoxin, which has a distinct injurious action on renal epithelium, the various cyto-toxins studied had no specific action in the morphologic sense. The action of kidney serum might be described as "special," pancreas and adrenal serum are devoid even of special action, while the lesions of so-called hepatotoxin are doubtful and may be produced by other sera. The striking characteristic of adrenal serum is its powerful hemolysin. That specificity is a function of receptors and not of cells is shown by the appearance of anti-bodies in the serum of animals receiving serum, bile and urine; the diverse character of these receptors by the variety of cyto-toxins thus formed. Many of the positive results described as specific and characteristic of certain cyto-toxins are due rather to hemagglutination and hemolysin adventitiously formed as the result of impure methods of immunization. Hemagglutinin was present in all the sera studied and in some when sufficiently powerful, caused the formation of red blood corpuscle thrombi and a resulting mechanical disturbance of the circulation leading to degeneration, necrosis and hemorrhage. This action is best illustrated by anti-bile sera. Such lesions have heretofore been confounded with the action of the cyto-lytic constituent of the serum and have been considered a specific, while they are due to the much simpler agglutinating body.

41. **Elimination of Strychnin in Nephrectomized Rabbits.**—Salant put to an experimental test the suggestion that strychnin might perhaps be excreted into the alimentary canal when the kidneys have been removed. Rabbits were nephrectomized and about one to two hours afterward the first injection of strychnin was made. The following injections were made at intervals ranging from one to three hours, some rabbits receiving as much as 5.4 milligrams of strychnin per kilo. The contents of the several portions of the alimentary canal were removed and examined separately for strychnin. The methods employed were those of Stas, Dragendorff, Haines and Blyth. As a result of his observations Salant arrives at the following conclusions: (1) Vicarious elimination of strychnin into the gastrointestinal canal of nephrectomized rabbits is either slight or does not occur at all. (2) The liver neither destroys nor retains strychnin. The same is true of the brain and spinal cord. (3) The physiologic effect of strychnin is considerably impaired when heated with the contents of the large intestine. (4) The large number of manipulations recommended by the methods in use for the separation of strychnin involves loss of substance and consequent inability to detect small quantities of strychnin. (5) The physiologic effect of strychnin is markedly impaired by dilution, such as the contents of the gastrointestinal canal or stomach. (6) The injections of the contents of the large intestine into frogs causes coma and paralysis. It contains, therefore, some toxic substance or substances antagonistic to the action of strychnin.

44. **Liver Necrosis with Jaundice.**—Oertel calls attention to a lesion of the liver which has received inadequate attention, showing an exaggerated, severe destruction of the liver tissue alone, with no free, acute or chronic reaction; that is, the occurrence of a multiple circumscribed, atrophic to necrotic fossa, nonseptic in character, unaccompanied by an acute inflammation or compensatory connective tissue growth, only associated with bile and capillary stasis in the affected areas, and local portal sclerosis. The author cites a case in point on which he had an opportunity to perform an autopsy. This case is analyzed carefully and the following conclusions are drawn from the analysis: (1) There exists a non-inflammatory destruction of the liver in the form of multiple atrophic to necrotic fossæ of the liver lobule, with bile and blood stasis and associated icterus. (2) Evidence indicates that this is probably due to the entrance of a bacterial irritant either by the bile ducts or the blood vessels. (3) The reaction of the liver tissue to this invasion is found in a localized cirrhosis most pronounced around the bile ducts and vessels, and a proliferation of bile ducts. The sclerosis appears to takes its origin around the places of entrance. (4) The disease seems to occur in a previously severely damaged liver, bile stasis, severe alcoholic excesses. The name multiple non-inflammatory necrosis of the liver with jaundice (hepar necroticum cum ictero) is suggested for this disease.

Annals of Surgery, New York.

July.

49 *The Anatomy and Surgery of the Internal Derangements of the Knee-joint. Benjamin Tenney.
50 Tumors of the Chiasm, with a Proposal How to Reach the Same by Operation. Otto G. T. Kiliani.
51 Primary Cholecystectomy; Scope, Method and Results. Howard Lilienthal.
52 *Primary Sarcoma of the Spleen, and Its Treatment by Splenectomy. Wm. Jepson and Frederick Albert.
53 *Hernia of the Uterus Through the Inguinal Canal. John H. Jopson.
54 Suture of the Brachial Artery. Gaston Torrance.
55 *Pyemic Glanders in the Human Subject. J. Clark Stewart.

49. **Anatomy and Surgery of the Knee Joint.**—A very excellent article is contributed by Tenney on the anatomy and surgery of the internal derangements of the knee joint, based on a study of 150 dissected joints and the literature on the subject. The article is illustrated profusely with elegant halftones of dissections of the knee joint depicting its anatomy, and also artificially produced pathologic conditions. Because of the nature of the article it is impossible to abstract it without detracting from its worth.

52. **Primary Sarcoma of the Spleen; Splenectomy.**—Jepson and Albert describe a case of sarcoma of the spleen operated on successfully, the patient being in perfect health eight months after the operation. A blood examination had been made prior to the operation and at intervals following the operation. The last examination showed 4,420,000 red corpuscles and 10,810 white corpuscles; hemoglobin, 84 per cent. It is necessary to make the diagnosis before the occurrence of metastases because otherwise splenectomy will prove a failure. For the present at least the diagnosis must be based largely on the recognition of the existence of a solid growth in the spleen,

and that a definite diagnosis can not be made until the spleen is exposed through an exploratory incision, which, according to the authors, is always indicated where doubt exists. In the hands of experienced surgeons the operation is attended by a small mortality. Thus far 11 splenectomies are recorded in the literature. Of these 3 proved fatal. Of the 8 cases that survived the immediate effects of the extirpation, 3 have died since of recurrence and in 1 there exists no data which can be utilized in determining freedom from recurrence. Of the 4 remaining, 2 at least may be said to have been free from recurrence, 1 for four years and the other for six and a half years. In the other two cases sufficient time has not yet elapsed since the operation to eliminate the possibility of recurrence; yet the fact that the first was at the end of four months, and the latter at the end of ten months, found to be possessed of good health, without any discernible evidence of recurrence, entitles one to the belief that freedom from recurrence may be the result. If this be true, primary sarcoma of the spleen may be looked on as highly amenable to a cure through splenectomy. Metastasis is a positive contraindication to operation.

53. Inguinal Hernia of the Uterus.—Jopson reports a case of inguinal hernia of the uterus, with operation and recovery. The patient, aged 27, had a small, right inguinal hernia about the size of a walnut, as long as she can remember. It was reducible and gave her no trouble. She never wore a truss. Suddenly, while washing, a large protrusion made its appearance, accompanied by severe pain. There was neither vomiting, constipation, chill nor fever. Under anesthesia the hernia was found to be irreducible. The operation was proceeded with, and an examination of the contents of the inguinal canal disclosed the uterus turned over forward, the supravaginal portion running backward, downward and inward toward the cervix. A vaginal examination confirmed these findings. Hysterectomy was done, but owing to infection of the uterus, the pedicle was fastened in the external abdominal ring, the pillars of the latter were sutured with chromicized catgut, above, around and below it. A small gauze wick was laid over the stump and the wound closed in its deeper portion by a continuous chromicized catgut suture, and the skin with silkworm gut, the gauze, being brought out at the lower angle. The patient made a perfect and uneventful recovery.

55. Pyemic Glanders in Man.—Stewart reports a case of pyemic glanders occurring in one of the assistant bacteriologists of the Minnesota State Board of Health, which was due to an accidental infection while working on material from two fatal cases of human glanders in young men owing their infection to contact with diseased horses. Both these cases began with symptoms resembling typhoid fever, rapidly passing into those of sepsis. Both patients died on the seventeenth day with multiple abscesses in the skin and subcutaneous tissue, the skin lesions being so numerous as to excite the suspicion of smallpox. In the case reported by the author the infection occurred through a small open wound on the finger during an autopsy on an inoculated guinea-pig. The infectious foci were limited to the voluntary muscles and did not involve the skin and mucous membranes as is common in most cases of glanders. The patient recovered.

Journal of Nervous and Mental Diseases, New York.

July.

56 *Multiple Sclerosis, with the Report of Two Additional Cases with Necropsy. Wm. G. Spiller and C. D. Camp.
57 Multiple Sclerosis; Its Occurrence and Etiology. Smith Ely Jelliffe.
58 *Uremic Hemiplegia, with Changes in the Nerve Cells of the Brain and Cord, and Recent Primary Degeneration of One Central Motor Tract. T. H. Welsenburg.

56. Multiple Sclerosis.—The authors report two cases of multiple sclerosis with necropsy. The first case was suggestive of transverse myelitis, but it was supposed to be a case in which diffused lesions were present in the lateral and posterior column, and certain facts in the history suggested syphilis. No examination of the eye grounds was made. In both cases optic nerve degeneration was pronounced. An examination of the eye grounds is of great importance in every case presenting symptoms that could be attributed to multiple sclerosis, because the disturbance of vision may be slight as compared with the alteration of the optic nerves.

58.—This article has appeared elsewhere. See THE JOURNAL, xlii, title 114, p. 1051.

Albany Medical Annals.

July.

59 *Eye Symptoms Indicative of General Diseases. Cyrus S. Merrill.
60 Complications and Degenerations of Uterine Fibromyomata. Edice McDonald.
61 *A Peculiar Hypertrophy of the Prostate Accompanied by an Ascending Infection and Cysts in the Ureters, with a General Discussion of Ureteritis Cystica. Harry W. Carey and Arthur T. Laird.
62 Congenital Atresia in Upper Third of Small Intestine; Rudimentary State of the Whole Intestinal Tract Below; Presentation of Anatomic Specimen. J. L. Archambault.

59. Eye Symptoms in General Diseases.—The relation between eye diseases and certain general diseases, says Merrill, is so intimate that not infrequently the eye symptoms are the first indication of the general malady, and the physician who does not appreciate the significance of the former will lose the opportunity of combating the general disease at a time when treatment will be of most benefit. The ophthalmologist, on the other hand, should recognize that eye symptoms are secondary to and caused by general disease, otherwise he may fail to benefit his patient by restricting himself to local medication. The more experienced the ophthalmologist is in general medicine, the more expert and successful he will be in his special work. By watching the movements of the eyelids we sometimes discover symptoms diagnostic of exophthalmic goiter. In the conjunctiva look for discolorations, such as are produced in jaundice, and the peculiar tint found in anemia and chlorosis. Inflammation of the subconjunctival tissue and superficial layers of the sclera may indicate rheumatism or syphilis. The spontaneous rupture of conjunctival vessels suggest the possibility of similar accidents occurring in the brain. Ulcers of the conjunctiva are suggestive of tuberculosis. Phlyctenular keratitis suggests improper nourishment, and in children adenoids and inflammation of the nasopharynx. Interstitial keratitis is almost diagnostic of inherited syphilis. In the iris there may be manifestations of rheumatism, syphilis, gonorrhea, tubercle and sarcoma. A careful study of the reactions of the pupil will afford much assistance in determining many lesions in the nervous system. A haziness of the retina due to edema and inflammatory exudation, congestion of the optic disc with blurred outlines, tortuosity and enlargement of the retinal vessels, with or without hemorrhages, is the picture of retinitis and generally suggestive of nephritis or syphilis. The choked disc picture is diagnostic of brain tumor. It is evident, therefore, that careful examination of the eye and the accessory structures is of vast importance in many general diseases and should never be omitted.

61. Peculiar Hypertrophy of the Prostate.—Carey and Laird report two cases of unusual and peculiar hypertrophy of the prostate, accompanied by an ascending infection and cysts in the ureters. They summarize their paper as follows:

1. Hypertrophic lateral lobes of the prostate may be pedunculated and by their downward pressure on the urethra obstruct the outflow of urine, acting like a "drop latch."
2. The origin of cysts in the ureter is attributed to the central degeneration and later transudation of fluid into v. Brunn's cell nests.
3. Ascending infection of the urinary tract is the important factor in the etiology of these cysts.
4. The peculiar translucent oval bodies resembling sporozoa are in some instances the product of epithelial degeneration.
5. The cysts may, in their early stages, simulate miliary tubercles.
6. Cysts of the ureter may cause obstruction of the passage of urine from the kidney to the bladder with consequent hydronephrosis.
7. Rupture of the cysts can give rise to hematuria.

Bulletin of the Johns Hopkins Hospital, Baltimore.

May.

63 *Observations on Two Cases of Tuberculous Pericarditis with Effusion. Wm. S. Thayer.
64 *The Relation Between Carcinoma Cervicis Uteri and the Bladder and Its Significance in the More Radical Operations for That Disease. John A. Sampson.
65 *Cesarean Section and Serious Dystocia Following Ventrofixation and Suspension. Frank W. Lynch.
66 Two Cases of Multiple Saccular Aneurisms of the Aorta with Rupture Into the Pericardium. P. K. Gilman.
67 Report of Results of Nursing Dispensary Tubercular Patients. H. Thelin.

63. **Tuberculous Pericarditis with Effusion.**—Thayer reports two cases of this kind. The interesting features in the first case were the large amount of fluid obtained on aspiration, the subsequent development of paralysis of the left vocal cord due undoubtedly to sclerotic changes in the mediastinum following involvement of lymphatic glands or extension of the tuberculous process from the pericardium to the lung; the gradual development of the signs of adherent pericardium; the completeness of the recovery after so extensive an effusion. The second case is of interest because of its bearing on the question as to the position of the point of greatest advantage for aspiration in pericardial effusions. Although aspiration of the pericardium is a relatively simple procedure, it is not one which is frequently demanded even in large effusions; it should be reserved for those cases where the limits of the tolerance of the heart are passed, or the phenomena of cardiac adynamia begin to appear. The important point in the diagnosis is the shape of the area of dullness (relative dullness) and not the extent or shape of the area of cardiac flatness (absolute dullness). The pericardial sac full of fluid always has a more or less triangular shape, and the area of pericardial dullness extends obliquely outward on the one hand to the splenic flatness or the lower limit of pulmonary resonance and on the other in the hepatic flatness. The best place to aspirate is that in which drainage will be most perfect. In cases where the apex can not be localized, where there is no reason to suspect that the heart extends beyond the left mamillary line, the sixth space at about the mamillary line is the point of greatest advantage. It is best not to introduce the needle too far up in order to allow for retraction of the sac. If it is definitely determined that the dilated heart extends beyond the mamillary line, a point a little outside of the supposed position of the apex should be sought. Aspiration should always be preceded by exploratory puncture. If the heart is found directly behind the point selected for aspiration, it may be wise to introduce the needle in the fourth right space close to the sternum, provided there be flatness on percussion at that point. If the needle is introduced downward and to the right, there ought to be little danger of entering the heart.

64. **Relation Between Carcinoma Cervicis Uteri and the Bladder.**—Sampson discusses this condition and its significance in the more radical operation for cancer of the uterine cervix. He describes the normal relation betwen the cervix and the bladder, the relation between the growth and the bladder and, finally, the effect of the more radical operations on the bladder. He also details the result of some experiments made on dogs, demonstrating some of the etiologic factors in the causation of cystitis and ascending renal infection, using bouillon cultures of staphylococcus pyogenes aureus as the infective agent, occurring during operations on the cervix. Injury of the bladder, interference with its function or with its blood supply caused by ligating vessels giving rise to vesical arteries or cutting off vessels going to the bladder and the injury of vessels in the bladder walls are some of the main accessory etiologic factors in the causation of the cystitis. Organisms may gain access to the bladder in various ways. They may be present in the bladder at the time of the operation; they may pass through the injured bladder wall, through the fundus or trigonum, or along the bared ureters if dissected free or resected and implanted in the bladder. They may be carried in by catheterization or carried down from the kidneys, or conveyed to the bladder by the circulating blood. It is evident that the relation between carcinoma cervicis uteri and the bladder is a very important one on account of the early invasion of the bladder, and also because of the likelihood of postoperative cystitis with its accompanying danger of ascending infection. The avoidance of injury to the bladder means in many instances a return of the growth and cystitis, with the danger of ascending renal infection. A wide excision of the growth with any portion of the bladder adherent means a higher percentage of cures and the probable avoidance of cystitis and ascending renal infection. The author followed the bladder conditions after operation in 16 cases. Cystitis occurred in 12, and in three of the remaining four cystitis apparently did not occur because of an accidental vesico-vaginal fistula which was present. It seems best that following these operations the bladder should be catheterized every three or four hours, followed by irrigation to prevent retention of urine and avoiding or lessening the severity of the cystitis. Should a severe cystitis develop, a vesico-vaginal fistula should be made, which may be done without even a local anesthetic, and if it does not close spontaneously it may also be closed without an anesthetic. The excision of portions of the bladder adherent to the growth improve the chances of cure, and the presence of the vesico-vaginal fistula apparently lessens the chances of a postoperative cystitis and the danger of ascending renal infection.

65. **Results of Ventrofixation and Suspension.**—The complications of pregnancy which may be ascribed to ventrofixation, says Lynch, vary greatly in degree, and doubtless depend on the extent and length of the adhesions which fasten the uterus to the abdominal wall. In most cases little or no difficulty is experienced, but in some adhesions may give rise to serious complications, which have been tabulated by Kelly as follows:

1. Marked retraction of the scar due to the tugging of the adherent uterus.
2. Constant hypogastric pain.
3. Retraction and displacement of the cervix, even up into the abdominal cavity.
4. Formation of a tumor obstructing the pelvic inlet, resulting from hypertrophy and deficient expansion of the anterior uterine wall.
5. Excessive thinning of the posterior wall of the uterus.
6. Abortion or premature labor.
7. Persistent and excessive nausea.

During labor the following complications may be noted:

1. Prolongation of pregnancy.
2. Inertia of the uterus due to excessive thinning of its walls.
3. Dystocia due to the tumor formed by the contracted anterior wall of the uterus.
4. Inability of the cervix to dilate, owing to its abnormal position.
5. Increased frequency of abnormal presentations.
6. Rupture of the scar of fixation.
7. Rupture of the uterus.

Lynch is of the opinion that the operation of ventrofixation during the child-bearing period should be abandoned: while the few cases in which unintentional fixation has followed supposed suspension of the uterus render it questionable whether even this more conservative operation should be employed. Neither procedure is justifiable until after the menopause, as it is not proper to undertake an operation for the cure of a condition which does not threaten life, but merely exposes the patient to a certain amount of discomfort. He does not offer a suitable operation in these cases, but hints that some of the procedures which aim to maintain the organ in position by shortening the round and the utero-sacral ligaments, will eventually prove to be the operation of choice.

Southern Medicine and Surgery, Chattanooga.

July.

68 Errors in Diet as a Cause of Infantile Diarrhea. St. G. Grinnan.
69 Chronic Gastritis—A Comparatively Infrequent Disease. Raymond Wallace.
70 Pelvic Disorders. W. G. Bogart.

Merck's Archives, New York.

July.

71 Antagonism of Strychnin and Alcohol. J. M. French.
72 Index of Diseases, Alphabetically Arranged with Their Modern Treatment. (Continued.) G. Bjorkman.

Providence Medical Journal.

July.

73 Some Phases of Medico-sociology. Wm. R. White.
74 Why Did He Die? G. T. Swarts.

Northwest Medicine, Seattle.

July.

75 Increase of Insanity and Its Remedy. J. B. Loughary.
76 Typhoid Fever, Etiology and Pathology. H. G. Lazelle.
77 Typhoid Fever, Diagnosis and Prognosis. Robert M. Stith.
78 Treatment of Typhoid Fever. Elmer E. Heg.
79 Treatment of Acute Anterior Gonorrhea in the Male, from a Hygienic, Aseptic and Antiseptic Point of View. (Concluded.) G. S. Peterkin.

Medical Fortnightly, St. Louis.

July 11.

80 Gallstones in the Common Bile Duct. Stephen H. Weeks.
81 Acidity. William F. Waugh.
82 Importance of Exact Terminology in Medical Literature: Anent the Physiologic (?) Action of Drugs. Jos. Clements.
83 Testimonies of Ancient Sepulchres on the Question of Paleolithic Man in the Western Hemisphere—A Contribution to Paleo-American Medicine. Albert S. Ashmead.

Los Angles Medical Journal.

July.

84 Cancer. Its Alarming Increase, Nature and Etiology. James H. Shults.

Interstate Medical Journal, St. Louis.

July.

85 Laryngectomy. N. B. Carson.
86 Intussusception. Charles H. Dixon.
87 Suppurative Disease of the Accessory Nasal Cavities. W. B. Shields.

Iowa Medical Journal, Des Moines.

July 15.

88 Some Obstetrical Anomalies and Triple Birth. T. F. Beveridge.
89 Some Observations Made in a Series of 1,500 Confinement Cases. Ferdinand J. Smith.
90 Pyemia and Phlebitis Complicating Tonsillitis, with Report of Case. G. A. Woodcock.
91 Immediate Repair of Perineal Lacerations. J. A. Downs.
92 Was It the Potassium Iodid? Christian Johnson.

Medical Sentinel, Portland, Ore.

July.

93 Brain Softening. Walter T. Williamson.
94 Arteriosclerosis, with Report of a Rapidly Fatal Case. George E. Houck.
95 Hip Tuberculosis, with Report of a Case. W. L. Cameron.

Medical Bulletin, Philadelphia.

July.

96 Delirium Tremens—Typhoid Fever Continued Fever. John V. Shoemaker.
97 Sundown Journalism. T. D. Crothers.

Northwestern Lancet, Minneapolis.

July 15.

98 Locating Surgical Kidney Lesions. M. C. Millet.
99 Complications and Sequelæ of Typhoid Fever. Mary P. Hopkins.
100 Sketch of Life of Dr. Samuel D. Gross. J. Warren Little.

Cleveland Medical Journal.

July.

101 Report of Two Cases of Hemifacial Atrophy, with Presentation of Patients. Hubert deL. Spence.
102 Practical Deductions from Some Personal Experiences with Ectopic Pregnancy. R. E. Skeel.
103 Trypanosomiasis. Roger G. Perkins.
104 What May Be Accomplished by the Organized Profession Toward Improving the Ohio State Medical Institutions. A. P. Ohlmacher.
105 Use and Abuse of the Artificial Drum-head. E. L. Mather.

Atlanta Journal-Record of Medicine.

July.

106 Study of a Case of Lateral Curvature of the Spine; A Report of an operation for the Deformity. Michael Hoke.

Canadian Practitioner and Review, Toronto.

July.

107 Lithotomy vs. Litholapaxy. Charles B. Suttleworth.
108 Morbus Coxæ—Etiology and Diagnosis. W. E. Gallie.

American Practitioner and News, Louisville.

July 1.

109 Pathologic Products of the Urine and Their Significance. E. S. Allen.
110 Gyneco-pathology. Fred L. Koontz.

Kansas City Medical Index-Lancet.

July.

111 Anesthesia. F. M. Floyd.
112 Civil Malpractice—Limitations. L. B. Sawyer.
113 Mastoiditis. Wm. M. Reed.
114 Toxicity of the Coal-tar Derivatives. J. T. Curtiss.
115 Practice of Surgery vs. Practice of Medicine. Floyd E. Waterfield.

Carolina Medical Journal, Charlotte, N. C.

June.

116 Annual Oration—Æsculapian Dreams. Charles A. Julian.
117 Infection. I. W. Faison.
118 Quinin. James M. Parrott.
119 Case of Subnormal Temperature Following Malarial Fever. J. D. Roberts.
120 United Fractures. Stuart McGuire.
121 Use of the Cystoscope. A. J. Crowell.
122 Acute Ileocolitis. G. O. Kirby.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 16.

1 *Paroxysmal Tachycardia. James Barr.
2 *Further Facts in Favor of an Infective Element in Gout. Chalmers Watson.
3 Diacetic Acid Reaction in the Urine, with Especial Reference to Gastric Ulcer. H. D. Rolleston and B. N. Tebbs.
4 Incubation Period of Pneumonia. Eustace M. Callender.
5 *Chronic Gastric Ulcer and Pyloric Stenosis and Their Treatment by Gastroenterostomy. Herbert F. Waterhouse.
6 Hemorrhage from a Chronic Gastric Ulcer; Operation; Recovery. C. Firmin Cuthbert.
7 Ozaena (Atrophic Fetid Rhinitis), a Cause of Gastritis. Adolph Bronner.
8 *Instance of Adiposis Dolorosa in Two Sisters. J. A. Hammond.
9 Midwives' Act and the Teaching of Midwifery to Students. Charles J. Wright.

1. **Paroxysmal Tachycardia.**—The case of paroxysmal tachycardia reported by Barr was the result of a kick or blow on the epigastrium during a game of football. The pulse was over 250, and continued so for about a week. The abdomen became much swollen, and under cocain anesthesia a large amount of fluid was evacuated. The blood pressure was very high. The right auricle extended nearly to the right nipple and the left ventricle was contracted. The second pulmonic sound was accentuated. Over the right ventricle the cardiac contraction looked like a quiver rather than a systole. The liver was large and tender. The injury had stimulated the inhibitory action of the vagus, and this led to paralytic distension of the right side of the heart and consequent tachycardia. Very little blood reached the left side of the heart, the arteries contracted more than was necessary, and consequently the arterial blood pressure rose. The high tension extended back through the lungs, as was shown by the accentuated pulmonic second sound. The patient got 5 gr. of calomel; nitrite of amyl inhalations; a hypodermic injection of 1/50 gr. of atropin; and 1/50 gr. of nitroglycerin every two hours. Within twenty-four hours the pulse fell to 84, was regular, full and strong. A week later he was discharged quite well, with a level pulse rate of 60. The patent had four similar attacks later on, each due to fear, or a severe physical effort. The author advises putting the patient to bed, the free use of amyl nitrite, nitroglycerin and similar agents to lessen peripheral resistance and to equalize the amount of blood in the two sides of the heart. Encourage the patient to take deep, long breaths so as to aspirate the blood from the right side of the heart into the lungs, and thus give a better supply to the left ventricle. Counterirritation might call into play the reflex cardiac contractions of Abrams. If after the preceding measures have been carried out the hyperdistended right ventricle does not properly contract, then the addition of digitalis or of digitalin or strychnin is required. A good brisk purgative will clear the portal circulation. The diet should be as dry as possible, so as to avoid the addition of fluid to the over-depleted veins and right side of the heart.

2. **The Infective Element in Gout.** Watson has made a careful histologic study of the bones and joints of gout, and is of the opinion that not only is the deposit of urate of soda constantly found in gouty inflammation, but that it stands to it in the relation of cause rather than effect; that is to say, the deposition of the salt first takes place in the synovial membranes, cartilages and tendonous structures of the joint, and by its presence gives rise to inflammatory reaction. Neither of the theories held by Garrod or Ebstein adequately explains the histologic appearances as revealed by modern methods of examination. A study of the clinical features of an acute paroxysm of gout, the manner of onset, the temperature chart, the local appearances, liability to relapses, etc., suggest an acute infective disorder. In the course of an investigation on the comparative pathology of chronic articular disease, involving examination of over 200 subjects, Watson was impressed with the fact that the gross changes in the bone marrow exceeded in severity the lesions in the articulations. He regards the bacterial element in the disease only as one of the factors in its production. The pathologic picture of chronic gout is strikingly similar to that seen in chronic infective diseases.

5. **Chronic Gastric Ulcer and Pyloric Stenosis.**—Waterhouse urges gastroenterostomy for the cure of gastric ulcer in such cases as can not be cured by medicinal means. A diet consisting solely of milk, of which four or five pints should be taken daily, a tumblerful every second hour, with, in cases in which much pain is present, the addition of limewater and a minimal

dose of morphin, will cure a large number of recent gastric ulcers, the larger the greater the loyalty with which this treatment is carried out for weeks, or even months. Frequently repeated vomiting, hemorrhage, and pain, indicative of progressive, or at least persistent ulceration, accompanied frequently by anemia, marked dyspepsia, hyperacidity, headache and wasting, demand gastroenterostomy, a procedure which lessens the mortality considerably. Unless definite improvement manifests itself after three months of medical treatment, or unless all serious symptoms have disappeared after six months' treatment, the case should be considered one for surgical rather than for further continued medical aid. Gastroenterostomy is the only procedure which will cure pyloric stenosis with or without dilatation of the stomach. Medical treatment may relieve the condition, but falls far short of producing a cure. Lavage of the stomach may be tried once a day, using pint after pint of tepid normal salt solution until every particle of food debris is washed away and the fluid returns clear. Much benefit may be obtained from the administration of dilute hydrochloric acid just before meals. The only rule of diet is the employment of easily digested nourishment and the avoidance of all starches and sugars as being prone to fermentative changes. The author has performed 31 gastroenterostomies for chronic gastric ulcer and pyloric stenosis, with a mortality of 6.45 per cent. One patient died of profuse hematemesis three hours after gastroenterostomy was performed for repeated hemorrhage from a gastric ulcer. At the autopsy it was found that he had three ulcers, from one of which, undiscovered at the operation, the fatal hemorrhage had occurred. The other patient died from exhaustion, being in a terribly emaciated and feeble condition when the operation was performed.

8. **Adiposis Dolorosa.**—Hammond reports two cases of adiposis dolorosa occurring in sisters, aged 61 and 40 respectively. In the older sister the disease started twenty-six years ago as a deposit of localized fatty swellings in both forearms. At present they are also situated on the thighs and abdomen. They vary in size from a small orange to that of a walnut. The hands, face and feet are quite free. Pain has long been a marked and persistent feature. Associated with this is considerable tenderness when the swellings are touched. There have been no hemorrhages, but the skin is more pigmented than usual. There are no mental symptoms and no change in the thyroid. In the younger sister the disease started some years ago in much the same manner and in the same locality.

The Lancet, London.

July 16.

10 *Bright's Disease and Its Varieties. John Rose Bradford.
11 Remissions and Relapses in Insular Sclerosis. Thomas Buzzard.
12 Two Cases of Hemiplegia. T. R. Bradshaw.
13 Vincent's Angina. H. W. Bruce.
14 *Diet in Chronic Heart Disease. Theodor Schott.
15 The Physiologic Action of the Nauheim Springs and the Indications for Their Use, Chiefly in Disorders of the Circulation. Paul C. Franze.
16 Contributions to the Study of the Action of Sea-snake Venoms. Thomas R. Fraser and R. H. Elliot.
17 Action of the Venom of Bungarus Coeruleus (the Common Krait). R. H. Elliot, W. C. Sillar and George S. Carmichael.
18 *Case of Chronic Streptococcus Endocarditis Treated by Serum Specially Prepared by Use of the Organism Obtained from the Patient. T. J. Horder.

10. **Bright's Disease and Its Varieties.**—This is the first of a series of lectures to be delivered by Bradford on Bright's disease. He holds that it is doubtful that Bright's disease is an affection limited to the kidneys. A great many difficulties that have arisen in interpreting the phenomena of Bright's disease and other affections of the kidney have been due to a want of complete accord between the known facts as to the physiology of the kidneys and certain phenomena observed in disease of these organs. Our knowledge of the nature of disease varies directly with the extent of our knowledge of the physiology of the organs concerned. Physiology, pathology, and medicine go hand in hand, and each is essential to the others. At the present time there is no conclusive evidence in support of the existence of an internal renal secretion. On the other hand, it is impossible to explain the general disturbance of nutrition accompanied by marked wasting, and the notable increase in the excretion of urea seen after removal of portions of the kidney as simply dependent on some deficiency in its excretory activity. The formation and excretion of urea are controlled in some way by the amount of kidney substance present, inasmuch as animals possessing one-third of their initial kidney weight were capable of living for indefinite periods showing no other symptom of disorder than an increase in the amount of urinary water, whereas when but one-fourth remained, death occurred associated with an increased excretion of urea, together with great wasting. Bradford emphasizes the similarity that exists between experimental results and those seen in the human subject as a result of disease. Ligature of the renal arteries, double nephrectomy, and ligature of both ureters, are all followed by the same results, producing symptoms more comparable to those seen in calculous obstruction, and described as latent uremia in the human subject, than to the acute uremia seen in other renal diseases. The view has, however, been held in human medicine that this clinical picture known as latent uremia is characteristic of calculous obstruction. The author urges that this is not really the case, and it is simply that calculous anuria is the most common condition in which it is seen owing to the frequency of this malady and a precisely similar clinical picture is seen in quite a number of other renal conditions. The suppression of the functions of the healthy kidneys in man or in animals induces a set of symptoms that should be spoken of as those of latent uremia and not those of ordinary acute, subacute or chronic uremia.

14. **Diet in Chronic Heart Disease.**—According to Schott the two fundamental principles in the regulation of diet in chronic heart disease are the following: Patients must avoid everything which excites the action of the heart; and everything must be avoided which embarrasses the action of the heart. The substances which most readily cause excited action of the heart are strong coffee, strong tea and strong alcoholic liquors. Moderate quantities of ordinary water or milk are the best beverages; next in order come tea or coffee, both of them with copious addition of milk. Cocoa deprived of its fat is good, but chocolate is seldom found to agree well. With respect to the second rule, the patient should avoid taking enough to cause considerable distension of the stomach, and he should eat nothing which is difficult of digestion or tends to produce flatulence. Such injudicious indulgences may be harmful in three ways: 1. The diaphragm is pushed up against the lungs so that respiration is impeded, and the shortness of breath and dyspnea thence arising are peculiarly injurious to sufferers from heart disease. 2. The distended stomach also presses the diaphragm directly against the heart, forces the heart upward and outward, displacing it in the direction of its base in such a way that its action can only be carried on with a greatly increased effort. 3. In like manner the intra-abdominal pressure is augmented, and the abdominal vessels are compressed; the heart is weakened and the cardiac musele not infrequently suffers in the struggle. These patients should take small amounts of food at short intervals; every three hours is often enough, the last meal of the day being taken two and a half or three hours before bedtime. Each meal ought to have about the same nutritional value because this, apart from its utility for digestion, conduces best to a uniformly beneficial effect on the heart. Soups, because of their bulk and low nutritive value, should be taken in small amounts, not over a few tablespoonfuls. New bread, whether brown or white, and freshly baked cakes are to be avoided totally. Toast, zwieback, made without sugar, or the crust of rolls, may be taken. Among vegetables the following are to be avoided: beans, peas, lentils, sauerkraut, red cabbage, leaks, onions, garlic and celery. Potatoes in the form of puree, or simply boiled in water, are to be preferred to baked potatoes. Turnips and carrots should be eaten only when fresh and young. Animal food in its various forms, especially fish and poultry, are allowable, except eels, fat goose breasts and goose liver pies, rich sauces or mayonnaise, salmon, lobsters and crabs. Oysters, mussels and game seldom do harm if fresh and prepared in a plain style. Highly smoked

and salted fish or meat are objectionable, because the great thirst which they produce easily tends to too much water being drunk. Among fatty substances butter and cream are the best. Fat bacon, ham fat, oil, hot seasoning, red and black pepper are injurious. All foodstuffs containing these substances are to be avoided. Vegetable salads without hot seasoning, and particularly when made with lemon juice are permissible. Easily digestible fruit, stewed with the addition of a little sugar can be recommended, particularly on account of its favorable influence on gastrointestinal peristalsis. For the same reason raw fruits, such as apples, pears, apricots, peaches and oranges are often desirable. Berries of all kinds, pineapples, walnuts, filberts, and Brazil nuts are injurious. Ice in any form, whether it is iced drinks, fruit ices, or puddings, should be abstained from. Nor should anything very hot be taken. It is impossible to urge too strongly that sufferers from heart disease always require a mixed diet. Too much animal food may cause irritation of the kidney, with hypertrophy and dilatation of the heart. An entirely vegetable diet is no less injurious. Schott regards tobacco with great disfavor. In tobacco there are many substances besides nicotin that may act injuriously, and for this reason the partial removal of the alkaloid, a process to which tobacco has often been subjected in recent years, is no guarantee that much smoking may have no ill-consequences. He recommends giving up smoking altogether or else indulging in it most sparingly, and in the latter case, using very dry tobacco and a long mouth-piece or pipe. Gentle exercise in the open air for a short time after meals is preferable to sitting still. It is quite essential that the individual characteristics of the patient should be studied, and that the treatment should be modified in correspondence with the symptoms.

18. **Chronic Streptococcus Endocarditis Treated by Serum Injection.**—The ideal serum for the treatment of any particular patient suffering from streptococcus infection, says Horder, must be one obtained by the use of the organism actually causing the disease in that patient, for this serum only can be guaranteed to be specifically associated with the causal agent of the disease. Horder reports a case of chronic streptococcus endocarditis, the first of its kind in which treatment has been by serum thus prepared. The serum treatment failed, and possible explanations for this failure are the following: 1. The infection was a mixed one, but only the streptococcus grew in culture. The streptococcus may have been little or not at all pathogenic. 2. Neither of the sera obtained possessed the "immune body," or possessed it in too small a degree to be of service to the patient. 3. The patient's blood was deficient in the "complement" necessary to fix the "immune body."

Semaine Médicale, Paris.

19 (XXIV, No. 27.) *La retention de l'urée dans l'organisme malade. C. Achard and G. Paisseau.
20 *Traitement du lupus par les radiations uraniques de Becquerel. Bouveyron. Abstract.
21 *Le sucre à hautes doses contre l'amaigrissement des neuropathes. R. Toulouse. Abstract.

19. **Retention of Urea.**—Achard and Paisseau discuss what becomes of the urea once formed in the organism, and the consequence of its retention. They have established that constant and simultaneous doses of 5 eg. of methylene blue and 20 gm. of urea are eliminated through the kidneys with curves which are nearly identical. In health the curve rises rapidly, remains at a high level and then abruptly drops as the two are discontinued. In interstitial nephritis the ascent is more gradual and the plateau less marked. From the clinical and experimental research described, it seems evident that when the elimination of urea through the kidneys becomes insufficient, the urea accumulates in the blood, sometimes to ten times the normal proportion, as observed in cases of uremia. But the urea is most certainly not the cause of the uremia, as they prove by various facts cited. The urea in the blood should more justly be regarded as not the cause of the uremia, but as the witness of the retention of other bodies, more toxic than the urea itself. The consequences of this excess of urea in the blood are chiefly of a physical nature. The blood becomes more concentrated, and, on account of the regulating dilution which then ensues, the amount of blood is increased and the blood pressure rises. As a further consequence of these regulating phenomena, the blood may be turned into the tissues, and this diversion may induce a set of secondary phenomena. The urea takes along with it salted water, and hence the secondary retention of a certain quantity of chlorids to produce this secondary, salt hydratation of the tissues, manifested by an increase in weight, and finally by edema. The larger proportion of urea in the fluids laving the cells may have a disturbing effect on their nutrition, as urea, in spite of its slight toxicity, is still more irritating to the cells than an equal proportion of sodium chlorid. When the retention ceases, the tissues discharge their excess of urea into the blood, and this in turn into the urine. The consequences of its retention also cease with it, especially the secondary retention of the chlorids, and thus we behold a salt crisis follow the urea crisis. Diuretics may sometimes induce these critical discharges, and urea itself is sometimes able to do so. Urea and sodium chlorid thus play very similar rôles in the organism; they act in the same sense and produce analogous effects, only there is a great difference in the intensity of their action. Urea is a waste product which the body is anxious to eliminate. It tolerates only a small proportion of it in the humors, while salt is a necessary element and a reserve supply is always kept on hand. Thanks to its abundance and the small size of its molecules, it is the most readily mobilized, and is the regulating substance *par excellence*, re-establishing the physico-chemical balance in the organism, especially in case of retention of urea.

20. **Treatment of Lupus by Weak Radioactive Emanations.**—Bouveyron of Lyons has been much impressed with the efficacy of a dressing containing 5 gm. of uranium nitrate in the treatment of an old and rebellious case of lupus. The nitrate is from 5 to 20,000 times less powerful than radium in its radioactivity, but its continuous application in the form of a dressing cured the lesion in less than a month. A patch on the other side of the face, left for control purposes, showed no signs of retrogression.

21. **Sugar to Combat the Emaciation of Neuropaths.**—Chauveau proclaims that sugar is the typical food, and Toulouse has been applying it to fatten emaciated patients at the insane asylum at Villejuif. The sugar was given in amounts of 50 to 500 gm. a day, in addition to the ordinary diet. Patients thus treated gained a third of their weight in the course of a few months. The sugar seemed to exert the greatest influence in this respect when it was given with a milk diet. It was always well tolerated and never induced glycosuria unless the subjects were already diabetic. Generally, one to three ounces of sugar were given in the form of a syrup, after meals, and seemed always to be relished.

Archiv f. Verdauungs-Krankheiten, Berlin.

Last indexed XLII, page 1523.

22 (X, No. 3.) *Appearance and Determination of Dissolved Albuminoids in Feces. O. Simon (Dresden).—Ueber das Vorkommen und den Nachweis gelöster Eiweisskörper in den Fäces.
23 *Tendency to Iodism and Study of Iodin-Starch Reaction of Stomach Content in Case of Hyperacidity. A. Bjelogolowy. —Ueber Neigung zu Iodismus und über die Jod-Stärke-Reaktion des Mageninhaltes bei Hyperacidität.
24 *Untersuchungen über Schleim im Stuhl (mucus in stools). C. Lorentzen (Copenhagen).
25 *Behavior of Pepsin in Various Stomach Affections. W. Robin (Warsaw). Ueber das Verhalten des Pepsin bei verschiedenen Magenkrankheiten.
26 *Further Experiences with "Occult" Bleeding in the Stomach. O. Schloss (Boas' clinic, Berlin).—Weitere Erfahrungen über Nachweis und Vorkommen von "occulten" Magenblutungen, speziell by Achylie und Gastritis acida. Prüfung des Heidwerts von Wismut bei Ulcus ventric. mittelst der Proben auf "occulte Blutungen."
27 *Pathogenic Importance of Molds. F. Schilling (Leipsic).—Die pathogene Bedeutung der Schimmelpilze.

22. **Dissolved Albuminoids in Feces.**—Simon has modified Ury's reaction for detection of albumoses in the feces, and states that their presence always indicates some disturbance in intestinal functioning, but not its nature. Ury's reaction is based on the fact that 50 per cent. alcohol precipitates the albuminoids in an acetic acid solution, but not the albumoses; the latter are rendered evident by the biuret reaction after de-

struction of the urobilin by boiling with hydrogen dioxid. The feces are mixed with tepid water, decanted, filtered, and the filtrate stirred in a goblet with a little fine gravel, and then filtered again. Normal stools react always neutral or alkaline, never acid. Addition of acetic acid induces cloudiness in normal stools, which in pathologic cases amounts to a thick precipitate. This precipitate is again dissolved in the excess of acetic acid, and a little potassium ferrocyanide is added. In normal conditions the fluid remains clear on a Schmidt test diet. On a coarse, mixed diet there may be a slight cloudiness, but in pathologic conditions there is often a thick precipitate. In six cases exhibiting albumin, albumoses were constantly detected by this procedure. The striking coincidence of albumin and albumoses may render the determination of the latter superfluous. Albumoses were never found in any of the tests on healthy subjects.

23. **Coincidence of Tendency to Iodin Intoxication and Hyperacidity.**—Netschajeff noticed that symptoms of iodin intoxication coincided with hyperacidity in 2 cases under his observation. This suggested research to determine whether this was a casual coincidence or a general rule. Nineteen patients exhibiting hyperacidity displayed a marked tendency to iodism in every instance but 3. Certain gastric affections are accompanied by the production of nitrites which split the potassium iodid and liberate nascent iodin. This nascent iodin is unmistakably the cause of the tendency to iodin intoxication, and its amount is dependent on the amount of nitrites in the stomach and also on the presence of an acid medium, such as is afforded by hyperacidity of the stomach content. The nitrites are evidently produced by defective action of the gastric juice on the swallowed saliva. It is possible that some of the symptoms hitherto attributed to hyperacidity may be due to the presence of these nitrites in the stomach content. This is especially liable in the cases of "masked hyperacidity." This assumption would explain the cases in which the subjective symptoms, oppression in the stomach, pains, eructations, vomiting and loss of appetite all vanished with the vanishing of the iodin-starch reaction and of the Riegler nitrite reaction, although the total acidity and the percentage of HCl persisted unmodified.

24. **Investigation of Mucus in Stools.**—The stools of all the patients at Boas' clinic are examined systematically. The patients use jars, and the stools are transferred at once to a covered glass jar and set in the "Stinkschrank," a closed cupboard with an opening into a chimney. After noting form, shape, amount, etc., the stools are placed on a Boas gallstone sieve under a faucet, over a drain. The edge of the sieve is about 8 cm. high, and the netting is rather coarse. This sieve stands in a second, larger sieve, with a much finer netting—an improvement over the single original apparatus. Water from the hydrant washes away all but the harder particles and mucus, which are left almost entirely odorless. The residuum is transferred to black vessels to be photographed at need. The mucus can be studied with various stains. It occurs constantly in all stools, although in health the proportion is small, but still macroscopically evident. When large amounts of mucus are detected in the stools, a history of digestive disturbances can always be elicited, either existant or preceding, and frequently no cause can be discovered except the catarrhal conditions demonstrated by the presence of the mucus. Many such cases are diagnosed as dyspepsia only, when careful examination of the stools will differentiate the exact cause, and suggest successful treatment. Three such cases are described in detail, to illustrate the advantages of systematic examination of the feces. One patient had suffered for years from constipation and dyspeptic symptoms, the others from diarrhea and dyspepsia. Treatment had hitherto been directed to the stomach, but without avail. The stools in one case were apparently normal, but discovery of an abnormal proportion of mucus suggested catarrh of the intestines, and treatment instituted on these lines rapidly restored the patient to health. In another case all the symptoms indicated intestinal catarrh, but the stools were found normal and the trouble was finally traced to a cancer.

25. **Pepsin in Stomach Affections.**—Robin's researches in this line at Reichmann's laboratory at Warsaw were conducted on a large number of patients. The Hammerschlag test was applied 160 times; 43 other patients with hyperacidity were also tested, and 17 with hypacidity, and 40 with lack of free HCl. He found the Hammerschlag test eminently practicable and reliable, and that the normal proportion of pepsin may be accepted as 50 to 70 per cent. In case of gastric carcinoma the proportion is low, generally between 0 and 36, but occasionally the proportion may be normal. In simple gastric achylia the pepsin was totally absent in 50 per cent. of the cases, and in the others never amounted to more than 36 per cent. He encountered cases in which the secretion of pepsin was abnormally profuse, although the proportion of HCl was normal, and proposes to call this condition hyperpepsinia.

26. **"Occult" Gastric Hemorrhage.**—Schloss remarks that time is confirming more and more the truth of Boas' announcements in regard to the diagnostic value of invisible amounts of blood in the stomach content or feces. He has made more than 500 examinations of feces from this standpoint to determine these occult hemorrhages by the Weber test. (See The Journal, 1903, xli, page 1565, abstract 92.) In 20 cases of achylia and gastritis anacida the findings were negative in 188 of the tests and positive in 6 only, in most of which the bleeding could be traced to some extraneous cause. In 9 cases of gastric ulcer the effect of administration of bismuth was studied by this means, and in no instance could any permanent benefit from the bismuth—in respect to arrest of the bleeding—be detected. During its administration the bleeding was less, and in a few instances ceased entirely, but so soon as the drug was suspended the losses of blood recommenced. Bismuth may be regarded as a valuable adjuvant for the healing of an ulcer, but the main reliance should be on repose and dieting. The bismuth evidently mixes with the secretions to form a mass which plugs up the orifices of the minute blood vessels causing the hemorrhages.

27. **Pathogenic Importance of Hyphomycetes.**—Schilling thinks that this group of fungi has been rather neglected by pathologists. He describes the "delicatessen stores" as hotbeds of these forms of fungus growth, and remarks that the advantages of "stale bread" are frequently counterbalanced by the colonies of fungi proliferating on the bread. He reviews the various works on the subject of hyphomycetes, and relates some cases of digestive disturbances due to their action.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

28 (XXX, No. 27.) *Quinquad's Sign of Abuse of Alcohol. P. Fürbringer.—Zur Würdigung des Quinquaudschen Zeichens bes. in seiner Beziehung zum Alkoholmissbrauch.
29 Zur Gewinnung spezifischer Substanzen aus Typhus-Bazillen. L. Brieger and M. Mayer.
30 Eine spezifische Präzipitin-Reaktion bei Bothriocephalus latus beherbergenden Menschen. S. Isaac and von den Velden.
31 *Ueber Heilungsaussichten und Behandlung der puerperalen Pyemie. E. Opitz. (Commenced in No. 26.)
32 *Ueber das Milzbrand-Serum und seine praktische Anwendung (anthrax serum). G. Sobernheim (Halle).
33 *Ueber Hefeseifen (yeast soaps). Dreuw (Unna's Dermatologicum, Hamburg).
34 *Xiphopagus-Duplicitas parallela. H. Singer.
35 Progress in Diagnosing in Psychiatry. L. W. Weber (Göttingen).—Fortschritte in der psych. Diagnostik. (Commenced in No. 26.)
36 *Letter from America. A. Hoffa.
37 (No. 28.) *Simultaneous Primary Tuberculous Infection Through Intestines and Lungs. Ribbert.—Ueber gleichzeitige primäre tuberkulöse Infektion durch Darm und Lunge.
38 *Study of Transformation of Tubercle Bacilli in Cold-blooded Organism. A. Weber and Taute (Berlin). Zur Frage der Umwandlung der Tub.-Baz. im Kaltblutorganismus.
39 *Increase in Nitrogen and Albumin in Stomach Rinsings and Its Diagnostic Significance. W. Berent and P. Gutmann.—Ueber vermehrten Stickstoff- und Eiweissgehalt der Magenspülflüssigkeit und seine diagnostische Bedeutung.
40 *Zytologische Untersuchungen des Liquor cerebrospinalis. E. Schlesinger.
41 Zur Technik der serodiagnostischen Reaktion mittels des Fliekerschen Typhus-bagnostikums. Clamann.
42 *Ueber die Bedeutung der Lungen-Infusionen für die Diagnose und Therapie der Lungen-Tuberkulose. Die Technik der pulmonalen Infusion beim Menschen. P. Jacob and A. Rosenberg (Berlin). (Commenced in No. 26.)
43 J. Dautrelepont zum 70 Geburtstaage (birthday).
44 *Report Concerning the Russian Wounded at the Battle of Chemulpo. Wada (Japan).—Bericht über die in der Schlacht von Chemulpo verwundeten Russen.

28. **The Quinquaud Sign of Abuse of Alcohol.**—In 1893 Quinquaud of Paris discovered a means of detecting immoderate use of alcohol by the crepitation of the phalanges. The fingers are

spread apart and placed vertically on the palm of the examiner. Nothing is felt for the first two or three seconds, and then some slight shocks, as if the bones of the fingers hit sharply against each other and against the palm of the examiner. Fürbringer has tested 472 subjects, and confirms the value of the sign as an evidence of nervous restlessness, especially in case of alcoholic intoxication. The sign is perceptible when the nervous restlessness is not appreciable by other means. The crepitation becomes exhausted under long testing, but recurs after a period of rest. In his experience, nine out of every ten subjects who responded negatively to this test were not drinkers in the ordinary sense of the term. When the response is pronounced, the probabilities are three to two in favor of the subject's being a hard drinker. A slight to moderate positive response is not a reliable sign of the abuse of alcohol; the non-drinkers predominated in his tests in the proportion of three to one.

31. **Treatment of Puerperal Pyemia.**—Opitz describes the system pursued at Olshausen's clinic in the treatment of puerperal pyemia to sustain the body in its struggle with the infectious agents and to avert further injurious influences. The nourishment is important, and, beside milk and eggs, the main reliance is on the artificial preparations of albumin in the market, puro, somatose and plasmon. To supply calories in an easily oxidized form, sugar is given in considerable amounts. This induces thirst, which in turn leads to copious drinking, and this washes out through the kidneys the products resulting from the metaholism and destruction of the bacteria. The water supply is further increased by two or three rectal injections of 500 c.c. of physiologic salt solution. Diarrhea should not be combated, but rather promoted. In the 3 fatal cases rebellious constipation was observed. Strict repose is indicated; changing the linen and much bathing are liable to be injurious. The patients should lie on their back and move only the legs. In case of decubitus, it heals remarkably rapidly when the patients are placed on a thick layer of ordinary sterilized clay. Every effort should be made to re-enforce Nature in her efforts to wall off the pus foci in the veins; the slightest movement may knock down the wall she is throwing up around it. The patients are instructed to take deep breaths for a few minutes, repeating this five times a day, to avoid pneumonia from stagnation. Alcohol is never given except to flavor milk, etc., or in the form of wine to induce a certain euphoria. Operative treatment is indicated only in exceptional cases. In case of pronounced pyemia, absolute repose, appropriate nourishment, supplemented by sugar and saline infusions or enemata, afford better results than treatment with alcohol, the after-effects of which are bad. The prognosis may be still further improved by systematic use of nuclein, as Hofbauer has recently advocated, supplemented, perhaps, by antipyrin and intravenous injections of collargol. Opitz has had little personal experience with the latter measures.

32. **Practical Application of Anthrax Serum.**—The Journal has mentioned Soberheim's method of serum treatment of anthrax in veterinary practice. He has applied it on a large scale in Germany and in South America, and relates his experiences with thousands of animals immunized against anthrax or cured by his treatment. A single injection confers immunity, apparent in ten or twelve days, and it persists for a year or more. The mishaps have been less than one per thousand in 75,000 applications.

33. **Yeast Soaps.**—Dreuw reiterates the advantages of a soap as a medium for medicinal treatment of cutaneous affections, and describes a number of combinations of yeast with various disinfectants for this purpose. The yeast soap proved particularly valuable in treatment of acne of the face, neck and back, in folliculitis and in furuncles. The combination found most effective was a mixture of 2 per cent. salicylic acid, 7 per cent. sulphur, and the neutral yeast soap, made with an excess of grease, which deprives the soap of all irritating properties. This convenient and cheap form of medication combines the antibacterial and keratolytic properties of the acid with the reducing properties of the sulphur and the specific antibacterial properties of yeast, with the non-irritating action of the soap.

34. **Another Xiphopagus.**—Singer gives the photograph of a pair of twin infants united by a bridge of bone and soft parts connecting the sternums, recently delivered at the hospital at Miskolez, Hungary. Tests with bismuth demonstrated that the intestinal systems of each are separate, and hence he is waiting only until the twins are better nourished to sever the connection between them. The total weight of the xiphopagus at birth was 3,500 gm. He begs for advice as to the best means of intervention in the case. The parents are healthy young peasants. Both heads presented at once, and delivery was impossible until one of the twins suddenly twisted completely around on its transverse axis, and the xiphopagus was born with the feet of one child opposite the head of the other, and vice versa, although their natural position is face to face and parallel.

36. **Hoffa's Impressions in America.**—In this first letter Hoffa expatiates principally on the two subjects which always make such an impression on visiting medical men—the American trained nurse, representing the realization of their highest ideals, and the reporter nuisance.

37. **Simultaneous Primary Tuberculous Infection of Intestines and Lungs.**—Ribbert describes the findings in 3 cases recently observed in which the tubercle bacilli had induced primary glandular lesions by passing through the intestinal walls without causing any appreciable lesion in the latter. In 3 other cases he found primary lesions in the intestines and primary lesions in the respiratory organs, entirely independent of each other, as shown by the direction of the lymph current and circulation. The dual infection in these cases was manifestly due to human bacilli inhaled and swallowed, as it is highly improbable that the simultaneous infection could have occurred from bovine material in the intestines and from inhaled human material in the lungs. The cases further emphasize the danger from a certain number of the human bacilli being swallowed after being inhaled into the nose and throat, thus inducing primary infection of the intestines with human tuberculosis, such as is also liable to occur from ingestion of food contaminated with the same. All these possibilities suggest that more attention should be paid in future to primary intestinal tuberculosis from infection with human material.

38. **Transformation of Tubercle Bacilli in Cold-Blooded Organism.**—The experiments described show that the supposed transformation does not occur in actual fact.

39. **Increase in Albumin and Nitrogen in Stomach Content.**—Salomon's test consists in rinsing the stomach with salt solution one hour after careful lavage of the stomach. The rinsing fluid is tested for nitrogen and albumin, and amounts over a certain standard are evidence of the presence of ulceration, as an ulcerating surface exudes constantly more or less serum and an increased proportion of the constituents of the serum testifies to such a condition. The findings in 32 cases of various stomach affections are tabulated in this communication. They demonstrate that the sign is reliable, and may afford important information, although it is unable to differentiate a simple ulcer from an ulcerating carcinoma. This must be decided by other means, which are usually available.

40. **Cytology of Cerebrospinal Fluid.**—Schlesinger's study of the cerebrospinal fluid in health and disease establishes that lymphocytosis is a valuable aid in differential diagnosis of anatomic from functional affections of the central nervous system.

42. **Pulmonal Infusion in Diagnosis and Treatment of Tuberculosis.**—The experimental and veterinary parts of Jacob's communication were summarized on page 361 of The Journal for July 30. He here relates his clinical experiences with 5 patients thus treated. All were women, just entering the second stage of tuberculosis. In others the tuberculin test was applied by direct infusion into the lung. Only one-tenth to one-twelfth part of the ordinary diagnostic dose of tuberculin was required to induce the reaction in case the tuberculous process was localized in the lung. When located elsewhere the ordinary subcutaneous dose was necessary, or even more, in order to induce the reaction. The epiglottis and vocal cords of the seated patient are cocainized and then the region below is sprayed with beta eucain and adrenalin or anesthesin. The infusion can then

be made without eliciting any reflex action. The tracheal spray tube is covered with rubber to protect the parts against injury during coughing. The patients do not seem to mind the coughing, but it should debar from this treatment patients with a tendency to hemoptysis. It has the great advantage that it clears the passages of phlegm to an extent unattainable by any other measure, preparing them for absorption of the infused fluid. The usual therapeutic amount infused was 20 to 30 c.c. of a .01 or .02 aqueous solution of tuberculin, the infusion repeated after the patient had recovered from all signs of reaction—that is, in about three or four days. It is made through a soft, flexible bougie, about 5 mm. thick, with a side opening at the tip and a guide inside, curved like a slender S. It is introduced into the right or left bronchus as desired, and the fluid is slowly injected into the projecting end with a syringe, the patient breathing deep and quietly at the time. Afterward he lies down, and the fluid then makes its way into the upper part of the lungs, sometimes inducing coughing, but never resulting in expulsion of the fluid. By lowering the shoulders the upper part of the lung can be reached by the fluid. The entire procedure is completed in ten minutes. Some of the patients have been under observation for several months, and Jacob is convinced that these pulmonal infusions are harmless, while they possess very decided therapeutic value. He is now testing other medicines on animals, hoping to discover some effectual means of treating suppurative bronchitis, bronchiectasia and bronchial asthma. He has also commenced infusion of substances impermeable to the Röntgen rays to aid in diagnostic radioscopy.

44. **The Russian Wounded at Chemulpo.**—This article is from a Japanese fleet physician and relates the events at the naval battle of Chemulpo, when the Koretz was blown up and the Variag burned. None of the Japanese were injured, but about a hundred Russians were wounded, and they were taken on board English, Italian and French cruisers. A few days later 24 of the wounded Russians were transferred from the French cruiser—the Pascal—to the Japanese floating Red Cross hospital, on account of lack of room on the cruiser. They complained that they had been crowded into narrow, damp quarters on the Pascal and half starved. Their wounds were certainly in bad condition; the physicians on the French cruiser had in most cases merely covered them with iodoform gauze and tied them up. The men were still in the same clothes, and their wounds were suppurating, fetid and gangrenous—reminding one of the pre-antiseptic era. Only two of the soldiers had been given a splint. Wada describes the characteristics of the wounds made by the Japanese shells, and remarks that some of the Russians wailed when the dressings were being changed in a way never observed in the Japanese wounded. Dry sterile gauze was the main reliance, but gauze wet with carbolic acid was used on the gangrenous wounds. The dressings were changed several times a day, and the wounds were covered with healthy granulations in the course of a few days, so that amputation was not necessary in any instance. No fluid antiseptics were used. Wine and brandy, quinin and antipyrin were given internally in case of much fever, and the cases suspicious of erysipelas were isolated. As little use was made of plaster casts as possible, so as not to interfere with the escape of the secretions. The Russians stated that the Variag had had only five beds for the sick, and that the physicians on board had been in such consternation during the engagement that they were unable to dress a single wound, although 70 men had been injured and 30 killed. The Japanese Red Cross Society was aided by a local committee of 30 ladies, who had organized for the purpose several months before, under the leadership of the wife of the Japanese consul. They had met twice a month for instruction in nursing the wounded in war, the lectures being given by the Japanese physician in charge of the hospital and others from the Japanese fleet. In conclusion, Wada offers the suggestion that it would be wise to have the crew of a man-of-war bathe and put on clean clothing before an engagement whenever possible. It would also be a wise precaution to have the clothes previously sterilized with steam or otherise.

Münchener medicinische Wochenschrift.

45 (LI, No. 24.) *Zur Diagnose des Typhus abdominalis. Rolly.
46 Fall von Trypanosomen Krankheit beim Menschen (in man). Günther and Weber (Hamburg).
47 *Ueber die Aetiologie der bösartigen Geschwülste (of malignant tumors). G. Kelling (Dresden).
48 Die Reposition des luxierten Os lunatum. Wendt.
49 Operating by Alternate Day- and Röntgen Light. R. Grashey (Munich).—Das Op. bei abwechselndem Röntgen und Tageslicht.
50 *X-Ray Cure of Severe Case of Splenic Leukemia with Much Enlargement of Spleen. Ahrens (Ulm).—Fall von Heilung einer schweren lienalen Leukämie mit grossem Milztumor durch Röntgenstrahlen.
51 Ein durch Operation geheilter Fall von congenitalem Blasen-Divertikel (of bladder). P. Wulff (Hamburg).
52 Kasuistischer Beitrag zur Differential-Diagnose der Bubonen-Pest. von Basewitz (Brazil).
53 New Model of Breast Pump. J. Ibrahim (Heidelberg).—Ueber Milch-Pumpen und deren Anwendung.
54 Improved Stethoscope. Dinkler (Aix).—Eine Verbesserung des gewöhnlichen Hörrohres.
55 Ein neues sterilisierbares Augentropfglas (eye dropper). F. Becker (Dusseldorf).
56 Ueber Diagnose und Prophylaxe der Typhus abdominalis. F. Wesener (Aix).

45. **Diagnosis of Typhoid.**—In 50 cases of typhoid fever examined by Rolly, typhoid bacilli were found in the blood in 88 per cent. In 16 instances the blood findings were positive before there was any response to the agglutination test, although the latter appeared later in the disease. He tabulates the findings in the 50 cases, and remarks that he was unable to detect any connection between the number of bacteria found in the blood and the eventual course of the disease. It is possible to keep the blood both fluid and sterile by mixing 20 c.c. with 20 c.c. of a solution made by dissolving 5 gm. peptone and 50 gm. grape sugar in 100 c.c. water and boiling for five to ten minutes. The fluid is then distributed in reagent glasses with a capacity of 50 c.c., carefully stoppered. This blood mixture can be mixed with glycerin agar and poured on a Petri dish whenever desired. The growth of the typhoid bacilli in the blood does not seem to be affected by these manipulations. Rolly has further discovered a fluid which holds dead typhoid bacilli in suspension without their sinking to the bottom of the receptacle. Addition of blood serum from a suspected typhoid fever patient then induces agglutination, the findings as perfect and accurate as by the usual technic of the agglutination test. The microscopic picture is the same as when living bacilli are used, but the agglutination does not proceed quite so rapidly—about fifteen to thirty minutes more being required. He inoculates ordinary bouillon with the bacilli, the bouillon filling one-third of an Erlenmeyer jar and sterilized. The jars are then set in the incubator for five days, well shaken two or three times a day. The contents of two or three of the jars are then poured into one, and toluol or formol added in an amount sufficient to cover the top with a thin layer. The jars are then replaced in the incubator for five to ten days, shaking them thoroughly twice a day. They are stoppered lightly with cotton, so that air can enter. Some of the bacilli clump and drop to the bottom, but others remain in suspension, the specific gravity of bacilli and bouillon being the same. The fluid is then ready for use. He takes up as many drops of the fluid as he desires for the strength of the test, using an ordinary medicine dropper, and transfers them to a test tube, to which he adds the drops of serum from another dropper.

47. **Foreign Embryonal Cells in Etiology of Cancer.**—See editorial, page 269.

50. **X-Ray Cure of Leukemia.**—Ahrens' patient was a man of 27; the reds and whites were in the proportion of 1 to 1, and his spleen was twice the size of a man's head. The first symptoms were noted a year before, soon after getting chilled in the rain after violent exercise during the military maneuvers. Ahrens treated him as Pusey and Senn have treated similar cases, and the improvement was so marked after 20 exposures to the *x*-rays that the patient considered himself well, and by the fortieth exposure the spleen and the blood findings were normal once more, and the young man was apparently in robust health. He was dismissed with instructions to return without fail every two weeks to be examined, so that the exposures could be resumed at the slightest suspicious symptom, or, better still, to take two or three sittings every week and

a trip to the mountains as prophylactic measures, avoiding mental or physical exertion. He failed to comply with this advice and resumed his active duties. He returned six weeks later with the story that, after a five-hour march, during which he had been overheated and then chilled, he felt pains in the region of the spleen, and by the next day it began to enlarge, reaching nearly its former dimensions in four days. Quinin had no influence, and the symptoms indicated a severe, acute recurrence. Eleven exposures reduced the size of the spleen to some extent, but the blood findings were not much altered, and the patient soon succumbed to the febrile course of the affection and chronic suffocation. The spleen weighed 6.5 pounds, and contained many infarcts, the liver and bone marrow with the typical leukemic findings. The spleen was exposed for five to ten minutes, and the long bones and sternum for one or two minutes each, during the course of treatment—the tubes very hard ones.

Therapie der Gegenwart, Berlin.

Last indexed page 363.

57 (XLV, No. 7.) *Milk Hygiene and Infant Feeding. Backhaus (Berlin).—Milchhygiene und Säuglingsnahrung.
58 *Behandlung von Hemorrhoidal-Blutungen mittels rektaler Clor-Calcium-Injektionen. I. Boas (Berlin).
59 *Conditions and Limitations of Efficacy of Hypnotics, Especially in Arteriosclerotic Insomnia. A. Homburger.—Ueber Bedingungen und Grenzen der Wirksamkeit schwerlöslicher Hypnotica (Trional und Veronal), mit bes. Berücksichtigung der arteriosklerotischen Schlafstörungen.
60 *Intravenöse Collargol-Injektionen bei septischen und infektiösen Erkrankungen. A. Rittershaus (Bonn).
61 Ueber Lysol-Vergiftung (Intoxication). A. Lange (Altona).
62 Ueber die Behandlung des Pemphigus Neonatorum. L. Balin.
63 Antagonism of Atropin and Morphin. B. Raaf (Bonn).—Ueber den Gegensatz von A. und M.
64 *Influence of Thiosinamin on Dilatation of Stomach Consequent on Cicatricial Stenosis of Pylorus. M. Glogner (Berlin).—Einfluss des Thiosinamins, etc.
65 Value of Creosote, Externally and Internally, for Glandular Enlargement. A. Hecht.—Zur Behandlung chronischer Lymph-Drüsen-Intumeszenzen.
66 Die Behandlung der Nachgeburtsblutungen (post-partum hemorrhage). H. Thompson (Odessa).
67 Successful Eradication of Ankylostomiasis in Hungarian Mines. E. Toth.—Ueber die Ausrottung der Ankylostomiasis in den Bergwerken von Selmeczbanya.

57. **Milk Hygiene.**—Backhaus is an authority on milk hygiene, his views having been put in practice in nearly fifty different institutions. He advocates that the preparation of milk for infant feeding should be done on a large scale in special establishments—not in the household. Three kinds of milk are thus prepared; one as closely identical to woman's milk as it is possible to produce, another a transition between human and cow's milk, and the third milk unaltered, but cleansed by contrifugation, for infants a year old and older. He gives the formulæ for the first and second kinds. In regard to sterilization, he regards pasteurization as injurious, and prefers to have the milk rapidly heated to 102 C. and kept at this temperature for fifteen minutes, and then rapidly cooled. The heat should be applied in such a way as to raise the temperature 10 C. degrees for every minute until 102 C. is reached. Milk thus treated has kept through a journey to India and China and for weeks after arrival, infants taking it to their benefit. Aseptic dairy conditions and keeping the milk constantly chilled may answer without sterilizing in certain cases, under medical supervision. Backhaus has been delivering courses of lectures since 1895 on the preparation of milk for children, his efforts always being toward the centralization of the milk supply.

58. **Treatment of Bleeding Piles with Injections of Calcium Chlorid.**—Boas reviews recent and ancient literature on the subject of the hemostatic action of the calcium salts, which his experience has confirmed. For more than two years he has been treating bleeding piles with rectal injections of 20 gm. of a 10 per cent. aqueous solution of calcium chlorid, injected, early in the morning after the bowels have been emptied. The fluid is retained. In very severe cases he repeats the injection again before retiring. The injections are painless and free from any irritating properties if the pure calcium chlorid is obtained. He has thus cured 25 cases of rebellious hemorrhoidal bleeding, and also a number of other cases of hemorrhages in the rectum from cancer or other cause, and also one case of excessive menstrual hemorrhage. He made the injection in this case a week before the molimen, and the loss of blood was thereafter much reduced. The hemostatic action of the calcium chlorid was pronounced in every instance in his experience, with but two exceptions. In one of the latter the desired effect was attained by supplementary internal administration of extract of hamamelis. The hemorrhoidal nodules are not influenced by the injections, but the bleeding is arrested. In severe cases he advises continuance of the injections daily for four weeks, repeating them afterward two or three times a week, and returning to the daily injection at any reappearance of hemorrhage. Half a dozen cases are described in detail.

59. **Hypnotics in Insomnia.**—The cumulative action of trional and veronal is explained by Homburger as due to the retention of the drug by the usual constipation. When this is combated the drugs are eliminated and there is no cumulative action at the customary doses. He describes his experiences in more than two years' application of these remedies, especially in arteriosclerotic insomnia.

60. **Collargol in Infectious and Septic Affections.**—Rittershaus found that intravenous injection of collargol had a remarkably favorable but transient effect on the subjective symptoms—enough to justify its use—and besides this, it in many cases reduced the temperature and had a beneficial action on the heart and general well-being, although generally these effects were not permanent. In erysipelas, especially the cases with meningitic symptoms, the results were so favorable that he attributes a direct curative influence to the collargol.

64. **Thiosinamin in Cases of Cicatricial Stenosis of Pylorus.**—Three patients were treated with a 10 or 15 per cent. glycerin-water solution of thiosinamin, injected subcutaneously for six to eight weeks. The total amount ranged from 1.45 gm. to 2.2 gm. of thiosinamin. Two were not influenced by the treatment, but the improvement was marked in the third case. The patient was a man of 57 with pronounced gastrectasia. Although the stomach did not retract quite to its normal outline, the subsidence of the symptoms showed that the gastric functions had been restored approximately to normal. The results justify further use of these injections of .1 c.c. of thiosinamin as described.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed XLII, page 344.

68 (LI, No. 3.) Bursting of Membranes Without Interruption of Pregnancy. H. Meyer-Ruegg.—Elhautberstung ohne Unterbrechung der Schwangerschaft.
69 *Grundlagen zur Serotherapie des Streptokokken-Puerperal-Fiebers. M. Walthard (Berne).
70 *Action of Caustics on Living Endometrium. A. Rieländer (Marburg).—Ueber die Wirkung von Aetzmitteln auf das lebende Endometrium. Beitrag zur Therapie der Endometritis.
71 *Die intraperitoneale Implantation des Ureters in die Blase (in bladder). W. Stoeckel (Erlangen).
72 Supernumerary Ureter Debouching in Vagina. Hohmeier (Hanover).—Ueber einen vaginal ausmündenden überzähligen Ureter und dessen operative Behandlung.
73 Zur Genese der Placenta Previa. Ahlfeld and Aschoff.
74 Formation of Intervillous Spaces in Early Stages of Pregnancy. J. Volgt (Göttingen).—Zur bildung der intervillösen Räume bei frühen Stadien von tubarer und intrauteriner Gravidität.
75 *Version in Primipara with Contracted (Flat) Pelvis, and Suggestion of New Procedure for Severe Cases. P. Brüse (Berlin).—Ueber die Wendung bei Erstgebärenden mit engem (plattem) Becken, und die Anwendung eines neuen Handgriffes bei schweren Wendungen.

69. **Serum Treatment of Puerperal Fever.**—Walthard reiterates that antistreptococcus serum can be effectual only when the organism is able to produce antibodies in sufficient quantities to cope with the number of bacteria present. Consequently, if the streptococci are virulent, the serum treatment inevitably fails after the disease has passed beyond the early stages.

70. **Action of Caustics on Living Endometrium.**—Rieländer's experiments and tests have demonstrated that an alcoholic solution diffuses much more rapidly and evenly over the mucosa of the uterus than an aqueous solution. The alcoholic solution is also absorbed more readily. He prefers a Playfair sound to introduce the alcoholic solution. After application of a 30 per cent. alcoholic solution of formalin the eschar resulting from the action of the caustic is being cast off by the end of twenty-four hours, and the regeneration of the mucosa

can commence at once. He did not find the tubes affected by the caustic when a sound of this kind was used. The alcoholic solution can also be used in the form of fusible pencils.

71. **Intraperitoneal Implantation of Ureter in Bladder.**—Stoeckel advocates his technic, emphasizing the importance of allowing the centrifugal stump of the ureter to project some distance into the bladder. The projection retracts during cicatrization. The functional results have been perfect in 17 cases thus operated on at Bonn and Halle, with one exception. The latter case demonstrates that traction between the ureter and bladder is liable to interfere with healing. No other technic to date has shown such good results, confirmed by cystoscopy and catheterization of the ureter. The kidney secretes normal urine and the implanted ureters show no trace of stenosis. He urges the advocates of extraperitoneal methods of implantation and of vaginal operations for urctero-vaginal fistulas, to control with cystoscopy the results attained and compare them with those he reports. His technic has not been modified since his previous publications.

75. **Version in Primiparae with Contracted Pelvis.**—Bröse has delivered all the children alive in 10 cases of primiparæ with contracted flat pelves. He proceeds to version when compelled by prolapse of the cord, irreducible prolapse of the extremities, permanently unfavorable attitude of the head, or absolute arrest of the birth—regarding always the condition of mother and fetus. He aids delivery by deep incisions in the vagina and perineum and in the os, to overcome the resistance of the contracting muscles and to prevent the head's boring into the wall of the lower segment of the uterus. To assist in the version he introduces his left hand between the head and cervix wall into the cavity of the uterus, after drawing down the foot with the other hand. The hand in the uterus protects the wall of the cervix, and counteracts the resistance of the constriction so that the head slips smoothly along the volar aspect of the hand as traction is exerted on the foot.

Riforma Medica, Palermo and Naples.

Last indexed page 292.

76 (XX, No. 16.) *Effect of Digitalis on Blood Pressure. C. Gennari.—L'azione della digitale sulla pressione sanguigna nei cardiopatici, con alcune considerazione sul rapporti fra la pressione arteriosa e la venosa.

77 *La siero-terapia della epilessia col metodo Ceni. T. Massei (Ceni's laboratory, Messina).

78 *La subcontinua tifoidea. G. Baccelli (Rome). Abstract.

79 (No. 17.) *Il metodo de Endo per la differenziazione del bacilio di Eberth. G. Ruata.

80 L'anatomia patologica e il delirio acuto (cefalopatia parenchimale acuta diffusa?). U. Alessi.

81 Case of Juvenile Tabes. L. Patola.—Contributo alla statistica della tabe giovanile.

76. **Action of Digitalis on Blood Pressure.**—Gennari reports clinical and experimental research which demonstrates among other points that the blood pressure in heart affections is usually increased on account of the peripheral resistance and the congestion in the internal organs, especially in the kidneys. The increased blood pressure is a compensating phenomenon to counteract the great increase in the venous pressure. When the left ventricle becomes too weak to increase its pressure, and the blood pressure consequently is lowered, the prognosis is unfavorable. Digitalis, by inducing diuresis and thus reducing the resistance and the congestion, is able to reduce the blood pressure to normal.

77. **Serotherapy of Epilepsy.**—Ceni's method of serum treatment of epilepsy was described in THE JOURNAL, xxxviii, pp. 789 and 843. His communication on the subject won for him the Craig Colony prize in 1902. Mazzei gave the treatment a thorough trial in 5 severe cases of epilepsy, noting the remote results after two years. No effect was perceptible in one instance, but all the other patients showed pronounced improvement. One case in particular was interesting, as the epilepsy was of a severe type and accompanied by various degenerative stigmata. The improvement in this instance was less durable than in the others. He is convinced that the Ceni technic of serum treatment may prove a most valuable adjuvant to other measures. It is simple and convenient, the patient continuing at his usual occupations, and in charge of his family physician, if desired, the serum treatment merely supplementing the ordinary measures. The serum is taken from the patient and it is thus an anti-autocytotoxin. Other patients are being treated in the same way, but sufficient time has not elapsed for final judgment of the results.

78. **Typhoid Subcontinuous.**—Baccelli applies this term to a form of malarial infection which simulates typhoid fever, but in which the symptoms are due to the action of the malaria parasite on the blood and its paralyzing effect on the nerves. The spleen may be enlarged as in typhoid fever and the onset of the fever may be sudden and it may persist with increasing intensity, with no history of any prodrome. The fever, however, usually lacks the progressive exacerbations of typhoid and occurs more suddenly, while the remissions are more pronounced and are frequently accompanied by sweats and subsidence of other symptoms. In the subcontinuous, headache is rare and is permanent, usually frontal, and the sclerotic has a subicteric tint, the mucosæ are less dry, there is no tremor of the tongue, cough, catarrh of upper air passages or fibrillary contractions of facial muscles. On the other hand, delirium is more frequent at the onset of the disease, and pronounced jactitation—restless tossing about. There may be abdominal symptoms, simulating those of typhoid, but they are generally absent. When noted they are usually paroxysmal. There is none of the regular progression of the symptoms characteristic of typhoid from Hippocrates' day to the present. The delirium, meteorism, etc., may appear the first day or may occur at any time or not at all, and the entire remission of the symptoms between the attacks and their transitory character speak in favor of malaria. The discovery of the typhoid or of the malaria germ is not conclusive, as either germ may coexist with the other. Negative findings are also inconclusive.

79. **Endo's Technic for Typhoid Differentiation.**—Ruata has been testing the method of differentiating the typhoid bacillus which has been published by Endo of Kitasato's laboratory. The bacilli are grown on a medium containing fuchsin decolored by sodium sulphite. The medium is transparent and shows up well the colonies of the typhoid bacilli, which are colorless, while the colonies of colon bacilli restore the red color to the medium. Ruata did not find the test very reliable, certainly not superior to other color differentiating tests.

Rousskii Vratch, St. Petersburg.

Last indexed XLII, page 809.

82 (II, No. 39.) *Narrow Chests in Children. I. V. Troitzky.—Uzkaya grud v dyetskom vozrastye.

83 *Attempt to Immunize Man Against Diphtheria Toxins and Study of Active Immunization in General. G. N. Boldireff.—Opit immunizatzii tchelovyeka diphtherinim toxinom i ob aktivnoi immunizatzii voobshe.

84 *Firearm Wounds of Abdomen. B. K. Finkelstein.—Ob operativnom lyetchenii ognestrelnikh ranenii briushnoi polosti.

85 *Attempt to Regulate School Hours by Physiologic Data. V. S. Ostantchuk.—Opit opredyeleniya prodolzhetelnostintchebnago dnya, etc.

86 (No. 40.) Surgery as a Science and Art. N. M. Volkovitch. Khirurgiya, kak nauka i iskusstvo i vospitatelnii zadatchi khirurga.

87 Case of Pneumonia and Pneumococcus Endocarditis and Pericarditis. I. V. Sakhatzki.—Slutchai fibrinoznago vospaleniya legkikh, oslozhnennago pneumokokkovim endo- i peri-serditom.

88 *Nyekotoriya osobennosti temperaturi pri perityphlitl. M. I. Rostovtzeff.

89 Fibromas in Anterior Abdominal Wall. M. N. Poroshin.—O fibromakh perednoi briushnoi styenki. With review of literature.

90 *Sanitary Supervision of Illuminating Gas. P. N. Lashtchenkoff.—Osnovi sanitarnago nadzora za svyetilnim gazom. (Concluded.)

91 (No. 41.) *Shiga Bacillus in Dysentery. G. N. Kazarinoff.—Palotchka.—Shiga kak vozbuditel krovavago ponosa.

92 Anatomy of Radial Artery. K. I. Susloff.—O podkozhnom polozhenii lutchevoi arterii v nizhnei ⅓-nye predplietchya.

93 *Strychnin in Sciatica. T. O. Zartzin.—O lyetchenl syedalishtchnol nevralgii strychninom.

94 (No. 42.) *Intraperitoneal Rupture of Bladder. I. P. Seldovitch.—O vnutribriushinnikh razrivakh motchevogo puzirya. (Commenced in No. 41.)

95 Paratyphoid or Coli-bacillosis? D. D. Pietneff.—K kasuitikye simularushtchikh typh zabolyevanil.

96 Operative Treatment of Trachoma. Y. A. Lurla. Ob op. lyetchenli trachomi.

82. **Narrow-Chested Children.**—Troitzky emphasizes the importance of narrow chests in the pathology of the young. They not only afford a predisposition to respiratory affections but, from the deficient oxidation of the blood, have a general baleful effect on the child's development, inducing local congestions

and lowering its resisting powers in every direction. When a child is seen to be developing a narrow chest every effort should be made to expand it and favor its normal development by hygiene and exercises. Any deviation from the laws of growth leads in the childish organism to many discords. It is the task of the pediatrist to recognize these deviations in their incipient stages and restore conditions to normal before pathologic processes have become installed. He will thus help to develop robust, strong, life-enjoying people, capable of generating in turn similar offspring. Watch out for the narrow chest and insure its proper development before it is too late. He quotes Lane's article in *Pediatrics* 1901, No. 1, besides a long list of French and German references.

83. **Self-Immunization with Diphtheria Toxins.**—Boldireff experimented on himself, injecting diphtheria toxins for thirty-six days into the cellular tissue at various points. The doses ranged from .0001 to .8 c.c. of diphtheria toxin. His blood was examined every day, and it finally acquired an antitoxic power equivalent to .4 of a Behring unit. He tabulates the findings in urine, temperature, etc., during the experiments, his general condition remaining unimpaired, the urine, temperature, etc., normal. He gained slightly in weight. Similar research on dogs showed a like result, namely, that full protection can be conferred by active immunization with minute amounts of diphtheria toxins, even a very small proportion of antitoxin in the blood proving sufficient to protect the animals. He refers to somewhat similar research by Dverzhgovsky in 1902, who injected into his own person extremely large doses of diphtheria toxins up to 1700 times the smallest fatal dose for guinea-pigs, several times the otherwise fatal dose for man.

84. **Treatment of Firearm Wounds of Abdomen.**—Finkelstein reports 6 cases. Two patients refused operation and both died. Laparotomy is generally advisable even when the stomach alone is apparently injured. In one such case the liver and pancreas were found to have been injured also, although causing no symptoms at first.

85. **The School Day.**—Ostantchuk argues that the hours spent in brain work in the lower grades of the public schools should not exceed 2.7 to 3.5 hours a day or 22 to 27 hours a week, and no home study should be allowed. He bases these conclusions on his observation of the work of the heart and other organs and physiologic research on fatigue.

88. **Temperature in Appendicitis.**—Rostovtzeff has studied the course of the temperature in 52 patients with appendicitis, and found that in the majority of the severer cases the maximum temperature was observed between 9 and 10 p. m. This maximum was observed at this late hour twice as often in the severer cases as in the milder ones, and hence may be useful for the prognosis of the affection and the indications for operation.

90. **Standard for Illuminating Gas.**—Lashtchenkoff contends that the supervision of the gas supply should be in the hands of the boards of public health, who should insist on a standard quality.

91. **Experimental Study of Shiga Bacillus.**—Kazarinoff reviews the literature, including the articles of American writers that have been published in Europe, and reports the results of extensive experimental research. His conclusions are that the Shiga bacillus is undoubtedly the cause of the dysentery of temperate climates, while the *Amœba coli* is the pathogenic factor in the tropics.

93. **Strychnin in Sciatica.**—Zartzin reports that all the symptoms rapidly subsided under strychnin in 4 out of 9 cases of severe sciatica thus treated, and in 3 cases the symptoms were materially improved. The results observed were much superior to those he had ever attained by any other measures. He injected .001 c.c. of the strychnin nitrate subcutaneously, according to Tchavoff's directions. The injections were kept up daily or twice daily in the first case, in which the sciatica was of ten years' standing, the patient a woman of 35. Within five hours of the first injection the pain had much diminished and the normal conditions were apparently restored by the thirteenth injection, but they were continued until twenty-six had been made. There has been no recurrence during the months since. The injections were made in the buttocks and the dose of .001 c.c. was never surpassed. The results were negative in only 2 instances.

94. **Intraperitoneal Rupture of Bladder.**—A German counterpart of this article was summarized in THE JOURNAL, on page 1523 of the last volume.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A TEXT-BOOK OF MECHANO-THERAPY (Massage and Medical Gymnastics). For Medical Students, Trained Nurses and Medical Gymnasts. By Axel V. Grafstrom, B.Sc., M.D., Attending Physician to the Gustavus Adolphus Orphanage, Jamestown, N. Y. Second edition, revised, enlarged and entirely reset. Cloth. Pp. 200. Price, $1.25 net. Fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

THE STUDENT'S HANDBOOK OF SURGICAL OPERATIONS. By Sir Frederick Treves, Bart., K.C.V.O., C.B., LL.D., F.R.C.S., Sergeant Surgeon-in-Ordinary to H. M. the King. New edition, revised by the author and Jonathan Hutchinson, Jr., F.R.C.S., Surgeon in the London Hospital. Cloth. Pp. 486. Price, $2.50 net. Chicago: W. T. Keener & Co.

DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Third edition, thoroughly revised and enlarged. With 175 illustrations and 6 chromo-lithographic plates. Cloth. Pp. 669. $4.00 net. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

FRIEDBERGER AND FROHNER'S VETERINARY PATHOLOGY (Authorized Translation.) Translated and edited by M. H. Hayes, F.R.C.V.S., with Notes on Bacteriology by Dr. G. Newman, D.P.H. Vol. 1. Cloth. Pp. 519. Price, $4.00 net. London: Hurst & Blackett, Ltd. Chicago: W. T. Keener & Co. 1904.

MATERIA MEDICA FOR NURSING. By Emily A. M. Stoney, Superintendent of the Training School for Nurses in the Carney Hospital, South Boston, Mass. Second edition, thoroughly revised. Cloth. Pp. 300. Price, $1.50 net. Philadelphia, New York, London: W. B. Saunders & Company. 1904.

CLEFT PALATE AND HARELIP: The Earlier Operation on the Palate. By Edmund Owen, M.B., F.R.C.S., Surgeon-in-Chief to the French Hospital. Cloth. Pp. 111. Price, $1.00 net. Chicago: W. T. Keener & Co. 1904.

ADENOIDS. By Wyatt Wingrave, M.D., Physician and Pathologist, Central London Throat and Ear Hospital. Cloth. Pp. 128. Price, $1.00 net. Chicago: W. T. Keener & Co. 1904.

NEW PATENTS.

Patents of interest to physicians issued from June 21 to July 12, 1904:

763248. Instrument for detecting and correcting defective vision. Francis M. Bishop, Newark Valley, N. Y.
762881. X-ray apparatus. Wm. B. Churcher, Cincinnati.
763304. Surgical or operating pad or cushion. Christian W. Meinecke, Jersey City, N. J., and D. Hogan, Hoboken, N. J.
763081. Applicator. Ezra E. Tope, Scio, Ohio.
763657. Electrical apparatus for therapeutical purposes. John P. Brown, Rogers, Ark.
763475. Exercising machine. Jackson F. Frazee and H. V. Whitcomb, San Francisco.
763765. Cabinet for treatment of hemorrhoids or other diseases. Benjamin F. Johnson, Pontiac, Ill.
763683. Combined abdominal hernia pad. Anthoney E. Magoris, Binghamton, N. Y.
763929. Sight-testing apparatus. August Reinhard, Milwaukee, Wis., and M. Scheinman, Chicago.
763936. Sterilizer. Fenton B. Stillwell, Montour Falls, N. Y.
763814. Mechanical appliance for cure of headache. Elijah A. Turner, Jr., Calcis, Ala.
763815. Chest protector. Charlotte Vebel, Chicago.
764349. Electro-massage device. Lee J. Chapman, Columbus, Ohio.
764188. Aseptic napkin receptacle. Augustinus A. H. Hamer, Amsterdam, Netherlands.
764470. Massage apparatus. James U. and G. Jones, Chattanooga, Tenn.
764294. Dried milk powder. John A. Just, Pulaski, N. Y.
764141. Bed for invalids. George H. Miller, Flatbush, N. Y.
764546. Lung tester. Henry Bardsley, Palmyra, N. Y.
764912. Sanitary appliance. Alexander A. Carson, Braintree, Mass.
764657. Pasteurizing apparatus. Wm. Clasmann, Milwaukee, Wis.
764564. Injection syringe. Albert Dreyer, Cologne, Germany.
764799. Massage roller. Glenn M. Donshee, Roland, Iowa.
764996. Syringe. Thomas H. Ellis, New Orleans.
764801. Surgical instrument. Charles H. Emerson, Whitall, N. Y.
765074. Catamenial sack. Thomas I. Griffith, Pittsburg, Pa.
765024. Ankle brace. Henry Lusck, New York.
765094. Suspensory. Elbert W. Munsey, Drane, Texas.
764678. Medical tablet. Louis Rosenthal, Montreal, Canada.
764681. Surgeon's operating table. Sam G. Scanlan, Chicago.
765150. Electrotherapeutic instrument. James W. Shryock, Pueblo, Colo.
764687. Exercising apparatus. George D. Shultz, Kansas City, Mo.

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Original Articles.

THE PERMANENT PRESERVATION OF ANATOMIC, EMBRYOLOGIC, PATHOLOGIC AND BACTERIOLOGIC SPECIMENS.

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PHILADELPHIA.

[From the Laboratories of the Jefferson Medical College Hospital.]

In teaching by modern laboratory methods, nothing is more important than the artistic and accurate preservation of material in such a manner as to retain permanently the natural colors and secure mounts that conveniently can be labelled, handled and exhibited. The old methods, yielding uncolored, bulky masses, possessing, save in form, little resemblance to the original, gave most unsatisfactory results, and hence museums more than five or ten years of age no longer meet the requirements of to-day. The specimens I exhibited at the Atlantic City Session of the Association received such flattering notice, and so many have written for the details of the method, that it seems desirable to publish in full the various steps necessary to attain the results shown. Except in minor details (which are essential), the method makes no claim to originality; it is the assembling of what seemed the best in several methods, published and unpublished, and still is replete with possibilities that have not been worked out. Undoubtedly the method could be applied to the preservation of botanic specimens, but having no facilities for experiment in this direction I have not attempted to adapt it to that purpose.

The method is based on the well-known Kaiserling process, and the permanent preservation in gelatin is but a modification of the old glycerin-jelly medium, long a standard agent with microscopists. Much of the detail requiring experiment has been worked out by Dr. John Funke, to whose patience and care the beautiful results obtained are largely due. Petri dishes, mounted on glass plates, were first brought to my attention by Dr. S. W. Sappington, who used ground glass, which obscured one side of the specimen, but nevertheless yielded very beautiful results.

Dr. H. E. Radasch, associate in embryology in the Jefferson Medical College, has worked out the technic of attaching letters to the specimen so that the label may be made descriptive, like the legends in our text-books. My secretary experimented with various typewriter ribbons, and eventually found that the stock article called "The Record Ribbon" met all requirements.

THE FIXATION FLUID.

The agents used in the preliminary treatment of anatomic specimens are (1) the fixation fluid, (2) the developer, and (3) the final preservative, and for these purposes I have utilized the generally accepted fluids of the Kaiserling method. The fixation fluid is composed of

Formalin (any 40 per cent. aqueous solution of formaldehyd gas serves equally well)	250 c.c.
Potassium nitrate	10 gms.
Potassium acetate	30 gms.
Water	1,000 c.c.

The salts are dissolved in the water and the formalin is then added. It is desirable, but not strictly necessary, that the salts be chemically pure; a good commercial article gives satisfactory results, but many specimens of the salts contain iron, and even traces of this metal portend disaster. For this reason no metal is permitted to come in contact with the solution or the specimens during any stage of their preparation; the only exception to this rule has been the occasional use of lead for weighting down such organs as lungs and also lipomata and other tissues that tend to float, but even for this purpose pieces of tile, brick or crockery are better. The mixture is made in fifteen-gallon jars, with lips and lids of the form commercially used for the preservation of sauerkraut.

THE DEVELOPER AND THE PRESERVATIVE.

The developing fluid is alcohol. Most writers (including Kaiserling) recommend two strengths, an 80 per cent. and a 95 per cent., but we use only the ordinary commercial article. So far as we can observe, methyl alcohol possesses no advantages.

The final preservative, in its liquid form, has the following formula:

Acetate of potassium	200 gms.
Glycerin	400 c.c.
Water	2,000 c.c.

The acetate and glycerin are thoroughly mixed and the water added. The order is probably of little importance in the preparation of either this or the fixation fluid, but in the latter one wishes to delay the addition of formalin as long as possible, as it is quite impracticable to stand over and stir the mixture after the formaldehyd is added. One word with regard to the water: Possibly distilled water is best, but some tap waters might be used; water from any mechanical filter using alum can not be trusted. Filtration of the fixation fluid is unnecessary; the preservative should be filtered through a thick pad of cotton placed at the bottom of a large funnel or percolator. As soon as the final fluid is prepared a lump of thymol (about 15 to 20 gms.), large enough to be seen and easily handled, is placed in the container, and each vessel of the final preservative should contain a piece of thymol sufficiently large to be picked out or left in the vessel when the fluid is poured out or used. When specimens are permanently preserved in this solu-

tion, a lump of thymol should be kept in the jar to prevent the growth of fungi.

THE GELATIN MEDIUM.

The solid medium in which the preparations are finally preserved is a 10 per cent. solution of gelatin in the acetate of potassium, glycerin and water mixture. This is prepared by soaking the requisite amount of gelatin in the mixture for 12 to 24 hours; the container is then placed on a water bath or in flowing hot water until the gelatin melts: this takes but a short time. The mixture is rendered decidedly acid to litmus by the addition of acetic acid, about 4 c.c. to the liter, and clarified by the use of egg albumin, exactly as in preparing gelatin media. Acetic acid favors complete coagulation of the albumin, tends to make the gelatin clearer, and, as originally suggested by Williams, acidity seems to assure better color preservation. The broken shells and whites of four eggs should be used for each liter of the mixture. After filtration the prepared medium is bottled and placed on ice until solid, and then a large crystal of thymol is thrown on top of the solidified gelatin and the container stoppered. Prepared in this way, the medium keeps until needed. When wanted, the crystal of thymol is removed with forceps and the gelatin liquefied at a low temperature. The thymol should be taken out before warming the gelatin, otherwise it evinces a tendency to fragment, melts or is dissolved in such quantity that, when the fluid is cooled, a precipitate forms, rendering the medium grayish and slightly opaque. It is well known by bacteriologists that gelatins differ, and we have found at least one kind that can not be cleared satisfactorily. The preparation that has given us the best results is that known commercially as "W. H. No. 1,866." Some gelatins seem to contain a masked coloring which causes the finished preservative to appear decidedly red: it should be a light straw color and perfectly transparent. Care is necessary to exclude iron, and hence the gelatin should be made in glass beakers or porcelain vessels; new agateware free from cracks or shales may be employed, but it is so untrustworthy that time and patience are saved by avoiding it. I have not tried copper, but judge the excess of acetic acid would render its use risky.

THE SPECIMEN.

It is of the highest importance that the material to be preserved shall be received in a proper condition. Freshness is a prerequisite; when the blood has begun to yield its coloring matter and imbibition has tinged the specimen, only a motley result can follow. Our results with specimens that have been frozen or iced for any time, even if the colors at the beginning of the process seemed good, have not been satisfactory. Nothing shows this better than a pair of kidneys received fresh from an autopsy; one carried through immediately, and the other iced or kept in the refrigerator until the next day, when its preparation is begun; when obtained the organs may have appeared identical; after preparation the resemblance is superficial. The influence of blood imbibition (I use this term for combined hemolysis and hemoglobin diffusion as the hackneyed expression of the autopsy room) is such that a specimen left in a pan or on a plate containing a little blood-stained fluid will carry the markings of the latter to the end. If fixation at once is not practicable, rinse off the blood stains and wrap the specimen in sufficient gauze, or a number of towels, to absorb any fluid that may escape; the fact that fluid escapes is proof that something is being lost, and it is attention to just such details that assures success.

THE ORIENTATION.

This is a most important step. The specimen is arranged, posed or oriented just as it is to appear when mounted; during fixation the stiffening action of the formalin gives a permanent shape even to such thin specimens as the intestine, and readjustment of such organs as the heart, lung, kidney or bladder becomes impossible. In this orientation every thread tied across the specimen will leave its mark, and each hole made will show; iron (tacks) can not be used, and even the slender entomologic pins leave small black holes; white thread (linen) is best; for pinning, wooden or quill toothpicks may be used. A number of cork blocks, 25 cm. square and 3.5 cm. thick, are especially useful for attaching and holding organs in position; intestine and other membranous specimens may be wound around such a block. The disadvantage of cork is the weight necessary to sink it, but even with this drawback it is better than glass. If both sides are to show, it is best to sew the specimen in a glass frame arranged for permanent mounting. If spread on cork or glass, four layers of thick, tough filter paper free from lint should be interposed between the specimen and the cork or glass. Cotton serves as well, but fixes tightly to albuminized surfaces; towels and cheesecloth are prone to mark the specimen with a screen effect. The cork, with the attached specimen turned downward, is thrown in the fixation fluid, and a brick placed on the top submerges the specimen and part of the cork. Care should be taken that the center of the specimen does not fall away from the cork; this can be prevented by obliquely placed toothpicks. Although highly recommended, we have not resorted to injection through the blood vessels, but for very large masses or the fixation of organs like the brain and liver it might be highly advantageous. Cysts, hydronephrotic kidneys, unopened intestine, stomach and other specimens containing cavities may be distended with the fixation fluid and sectioned later.

The formalin solution accomplishes more than one purpose. It fixes the specimen; I presume fixation is a coagulative process, at least in part, but it is more; the exact nature of the chemical change I shall not discuss at this time. The specimen stiffens, blanches, and becomes more or less friable and inelastic; the color changes appear to have ruined the mount. The fluid not only fixes, but also sterilizes the specimen, and, although surface color and contour may be preserved by surface fixation, penetration is necessary for satisfactory permanent preservation. For this reason a change to a second container of the fixation fluid is advised. The cork block or other retentive device is no longer needed, and in the second jar the specimens are packed lightly with towels or cotton at the bottom and interposed between. As soon as the first formalin solution becomes soiled it is thrown out, the second is moved back to become the first, the emptied container is washed and filled with fresh solution and replaces the second jar, now moved back to become the first. The solutions may be used repeatedly, provided specimens containing bile are excluded. Sometimes bile-stained specimens turn very green, all other colors being thereby obscured; such organs, usually livers, greatly discolor all the fluids into which they are placed. In preserving livers it is well to wash the bile from the gall bladder and rinse the surface of the organ thoroughly. I would advise, under all circumstances, that specimens of liver be carried through separately, as there is no way by which one can foretell how much bile-staining may result; some-

times no green tint develops, and beautiful color differentiations are obtained; we have no finer specimens than some of red atrophy put up over a year ago.

The most puzzling and unanswerable question, and at the same time an exceedingly important one, is how long must the formalin act? This depends entirely on the size and consistency of the specimen. A piece of stomach, intestine, diaphragm or other membrane will have fixed fully after three hours in each of the two formalin solutions. Half of a kidney should be left at least twelve hours in each solution, and a brain twenty-four hours in each solution. Prolonged immersion in the fixative solution may render development of the color impossible, but on the other hand under-fixation is sure to leave the blood coloring matter soluble, so that it washes out or diffuses in the later handling. Large specimens, such as brains, livers, and even kidneys, if not sectioned when placed in the first solution should be freely incised, or, better, cut into slabs 4 to 8 cm. in thickness before entering the second fixing solution.

THE WASHING OUT.

The next step is getting rid of the excess of fixation fluid. This is accomplished by washing in running water for fifteen to twenty minutes, after which the specimen is transferred to the first alcohol. In my estimation the success of the process depends on the care and judgment exercised in the development of colors in the alcohol. The process should always begin in the morning, as I know of no safe criterion by which it is possible to foretell the length of time that will be necessary, and, as daylight is essential to watching the evolution of color, late afternoon and evening hours must be avoided. The excess of water is mopped off and the specimen completely submerged in commercial alcohol (94 per cent.); the color begins to appear in a few minutes, and as soon as it is fairly under way the tissue should be transferred to the second alcohol, and when restoration of color is complete the organ is quickly drained and submerged in the final preservative. When the restoration of color is complete fading begins, progresses rapidly, and, once the color is lost in alcohol, I know of no way by which its return can be secured; hence the process must be watched carefully. The stay in alcohols is also influenced by the future treatment to which the specimen is to be subjected. If it be a membrane, like a piece of intestine, even twenty minutes to a half hour for the two alcohols may be excessive; on the other hand, if it be a slab of an organ, the surface of which can be shaved down to the point where the alcohol has penetrated just to the proper degree, less care is necessary and over-development less likely to prove disastrous. As soon as the color is restored further action of the alcohol must be arrested by immersing the specimen in the first container of the potassium acetate, glycerin and water mixture, where it should be fully submerged and allowed to remain for the same length of time that it was in the alcohols, after which it is transferred to the second jar of the same fluid in which the preservation may be permanent, or after one or two weeks, preferably sooner, the mount is completed in formalin-glycerin-gelatin. The first and second alcohols and the final preserving fluid are changed from time to time in the same way as already directed for changing the fixation fluid; sooner or later the first alcohol gives off strongly the odor of formalin, and the first preservative yields the odor of alcohol, when both should be changed. The method of changing suggested is the most economical, but probably is not so good as the complete renewal of all solutions; however, we have found the way advised efficient.

Specimens prepared as suggested preserve their color fairly well; to a large degree the permanency depends on the freshness of the material. Most observers lay great stress on the necessity of excluding light; probably darkness is better, but the chief difficulty lies in the macerating and solvent action of any solution, and to avoid these dangers a permanent solid medium is to be recommended, and for this purpose formalin-glycerin-gelatin is almost ideal.

FORMALIN-GLYCERIN-GELATIN MOUNTS IN PETRI DISHES.

The pieces of plate glass and Petri dishes used in preparing the mounts vary in size. The largest Petri dish that we have used is 20 cm. in diameter and requires a plate glass 9 by 11 inches. The following table gives the sizes of Petri dishes and glass plates necessary for all ordinary purposes; the conversion of the metric measurements to inches is approximate:

Petri Dishes.	Plate Glass.
20 cm.	22.5x27.5 cm., 9x11 inches
15 cm.	20.0x22.5 cm., 8x 9 inches
12 cm.	20.0x22.5 cm., 8x 9 inches
10 cm.	12.5x17.5 cm., 5x 7 inches
8 cm.	12.5x17.5 cm., 5x 7 inches
6 cm.	10.0x12.5 cm., 4x 5 inches
5 cm.	7.5x10.0 cm., 3x 4 inches

The thickness of the plate glass is important, as thin pieces are often bent in handling, and any spring tends to loosen the attached dish. No matter what the surface dimensions, I am strongly convinced that the glass should not be less than one-fourth inch, and, better, three-eighths inch in thickness; a greater thickness might be desirable, but would add materially to the bulk and weight. The Petri dishes should be free from bubbles or rings, and when placed with the edge on plate glass should not rock, thus showing that the edge is true. The specimen to be mounted is placed in the dish, and this is filled with final preservative for the purpose of ascertaining the quantity of gelatin that will be needed to complete the mount. We will say that this is found to be 100 c.c. Take 120 c.c. of the prepared gelatin, liquefied, and pour about one-half into the Petri dish, which must be thoroughly cleansed; place the specimen in this, carefully excluding air bubbles, and press it close to the bottom of the dish, using a light tile or glass weight if necessary. Even when every care is taken gelatin poured from one vessel to another tends to froth or form small bubbles which, after congelation, are difficult to remove; wherever such a bubble forms, it should be sucked up in a medicine dropper while the medium is still fluid. When properly oriented, dish and contained specimen are set aside in order to solidify the gelatin, using an iced chamber or the refrigerator, if the temperature of the room is too high. The mount may be left in this condition for several hours if desired, or mounting may be completed as soon as the gelatin is solid. Prolonged or too great cooling may cause corrugation of the surface, retraction from the sides of the dish, and permits less perfect fusion of the gelatin added later, and for these reasons is not recommended.

To complete the mount, pour on the solidified medium sufficient formalin to render the contained gelatin 0.75 per cent. formalin when the mount is completed. For example: If 100 c.c. of gelatin is necessary, 0.75 c.c. of formalin should be poured on the solidified layer. Fill the dish with the remainder of the gelatin, and place it on a piece of glass resting on the table in such a way that both can be picked up readily; while in this position put in place the glass plate that is to cover the Petri

dish. As soon as the plate is in the desired position, grasp the mount between the two glass plates, turn it over quickly, and run a ring of gelatin around the junction between the plate and the dish. This is necessary because as the gelatin solidifies it contracts, and in the absence of an excess at the line of contact between plate and Petri dish, such contraction may permit the entrance of air. Set the dish aside for a few hours (over night or longer), until the gelatin is completely set. Run a knife around the Petri dish, holding it parallel with the side of the dish, thus cutting the gelatin loose from the side; the excess may readily be stripped off. Wash the plate quickly in cold water, dry rapidly, and with a dropper run a thin band of gelatin containing 1 per cent. formalin around the line of contact between the Petri dish and the glass plate. This will quickly set, and in a day or so may be painted over with xylol balsam applied either with a brush or dropper; the first layer of balsam should be thin. As soon as the balsam ceases to be sticky to the finger, a second coat is applied, and this should be repeated until a sufficiently thick rim has been made. I have no doubt that a turn-table would be convenient for the application of the gelatin and balsam rings, but we have not found such an appliance necessary. It has been suggested that the initial gelatin ring might be chromicised by the addition of bichromate of potassium, or by painting it over with a bichromate solution after it has solidified. A number of cements, including Bell's cement, asphaltum and gold-size, have been tried, but seem to possess no special advantages.

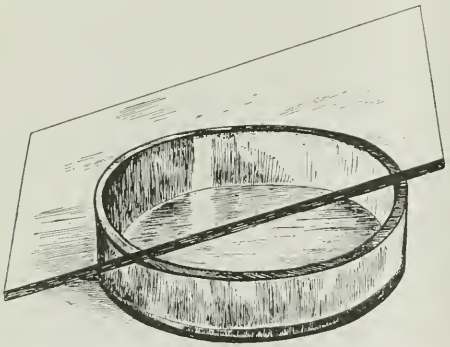

Fig. 1.—Method of applying the cover by tilting it over the dish. The specimen and contained gelatin are not shown in the illustration.

The most difficult part of the procedure is adjusting the glass plate on top of the Petri dish in such a way as to prevent the entrance of air at the time the mount is made. In the accompanying sketches (Figs. 1 and 2) an attempt is made to show how the plate cover is applied; one method is by tilting it in position, and the other by sliding it over the dish. By the latter method a slight band of gelatin is kept ahead of the advancing plate, thereby preventing the entrance of air. Dr. Funke, who has been most successful in the preparation of these specimens, likes this method for the larger Petri dishes. During the experimental work necessary to perfect the process I was more successful with the other method. As neither is satisfactory under all conditions, some worker should be able to devise a means that is better than either. We have seriously considered submerging the dish either in gelatin or in water, but the methods detailed have been adequate. In the beginning there will be some difficulty in excluding air, but with a little experience one is able to secure satisfactory results. I do not know that a little air does any harm, although our experience has been that an air bubble invariably goes directly to the place where one does not desire it. Dr. Funke suggests that specimens having irregular and corrugated surfaces that afford numerous depressions in which air bubbles may lodge should be coated with gelatin before any attempt is made to mount them. Intestine frequently requires such treatment. He advises me also that lungs and other specimens containing spaces occupied by air be placed in a vacuum or chamber in which the air is rarefied in order that the gas in the interstices may more rapidly be displaced by the gelatin. We have not tried this method, but suggest it as a possible solution of the difficulty frequently encountered in the preparation of lungs. The gelatin infiltration would be facilitated by immersing such specimens over night or longer in the medium kept liquid in the incubator.

Often a thin specimen would require so much of the medium to fill the dish that the resulting weight would make a cumbersome and unwieldy mount. This difficulty may be overcome by attaching the specimen to the dish by means of gelatin, and leaving the remaining space empty. This is best accomplished by flooding the surface of the glass plate with formalin-glycerin-gelatin; the specimen, for example a piece of intestine, is removed from the preserving liquid, lightly blotted with a towel and pressed into the gelatin, which quickly sets. The surface of the specimen to be viewed is left uncovered. As soon as the gelatin has set firmly, a slightly-warmed Petri dish is inverted over the specimen and pressed into the gelatin; the excess of gelatin outside the dish is removed with a knife or spatula; a narrow rim of gelatin painted around the junction between the Petri dish and the plate, and the seal completed by xylol balsam or other cement, as already directed. Sometimes such mounts loosen from the glass, but this difficulty has given us no trouble except in thick, weighty specimens, such as slabs of liver and bulky pieces of lungs. It could have been avoided by making thinner slices. We strongly advise this method for exhibiting the granular surface of a specimen where the unevenness would be obliterated by submersion in gelatin. It is recommended for exhibiting the granular surface of an incised lung in the red stage of croupous pneumonia, and for hemorrhagic infarcts. So far as we can see, the color preservation is fully as good as in submerged preparations. The method should be especially useful for

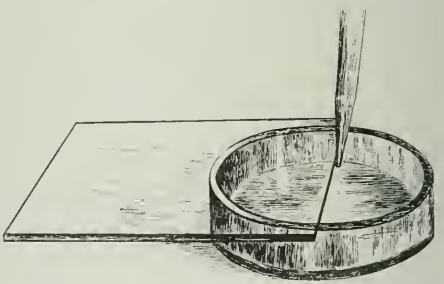

Fig. 2.—Sliding the glass plate into position. A. Medicine dropper by means of which a roll of fluid gelatin is kept in front of the advancing plate. This method is especially adapted to large mounts.

the mounting of large brain sections, or slabs, for teaching purposes. If the Petri dish be shallow, so as to throw the specimen near the surface, an excellent view can be obtained. Mounting on the surface of gelatin is adapted to the exhibition of animal parasites that have been preserved by any of the formalin methods commonly used.

The principle can be applied to gelatin plates containing colonies. If the plates are in Petri dishes it is only necessary to invert the dish on the glass plate, ring it with gelatin and complete the seal as already directed. If the old method of plating on glass, as originally advised by Koch, be used, the inverted Petri dish is warmed, a few drops of formalin placed on the gelatin,

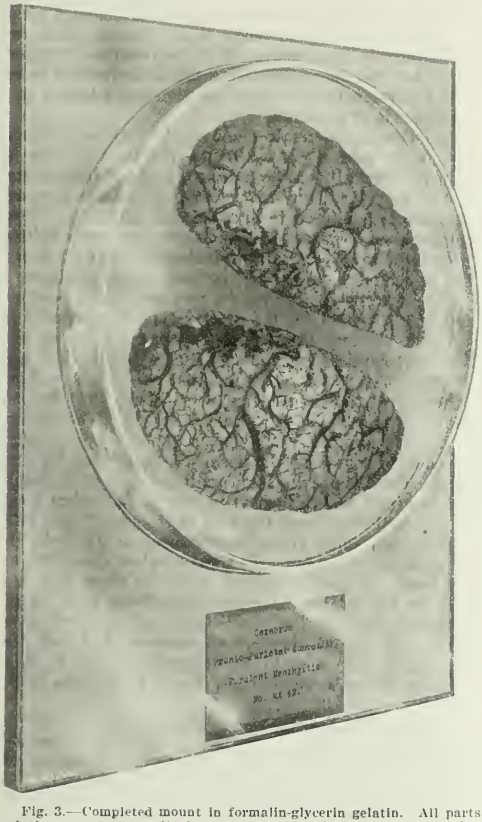

Fig. 3.—Completed mount in formalin-glycerin gelatin. All parts of the mount are well shown except the ring of cement joining the Petri dish to the glass plate; unfortunately the photograph has not brought out the transparent ring of balsam. The actual size of the glass plate is 22.5 cm. by 27.5 cm. (9 by 11 inches). The specimen is a part of the brain surface showing slight exudate and areas of hemorrhage, case of purulent meningitis.

and the dish gently forced into position; the surrounding excess of gelatin is removed, and the sealing completed.

LABELLING.

The card used for labelling is the ordinary plain index card of medium thickness; on both sides the necessary legend is typewritten, using a "Record Ribbon"; the card is now trimmed so that at each edge it will be one-eighth inch narrower than the slide or other glass intended to cover it. The card is thrown into pure formalin and turned from side to side to prevent warping. While the card is soaking in the formalin (for which only a minute or so is necessary) a slide is cleaned by any of the approved methods. As a cover for the label we use a 2-inch by 3-inch slide, selecting, of course, the thinnest and most perfect with smooth edges. A 10 per cent. solution of gelatin, while still warm, is poured on the slide, the label is removed from the formalin, blotted between folds of filter paper, and quickly pressed down into the gelatin; a piece of filter paper is laid over it, and the label forced firmly against the slide, to which it adheres. As soon as the gelatin is set, which takes but a minute or so, the slide and its attached label are placed in the formalin solution to complete the fixation of the gelatin. The area on the glass plate selected for the label is now cleansed and some gelatin poured on the surface. The label and attached slide are removed from the formalin, blotted with filter paper and pressed down on the gelatin, the label, of course, going next to the glass plate. Weights are placed on the surface of the slide to force it into position, and the gelatin is allowed to pile up around the edges. After the gelatin is set firmly, a knife is run around the edge and the excess removed, as already described for the dish. A thin layer of gelatin is painted around the edges of the slide, and this, when dry, covered by xylol balsam in the same way as already directed for fastening Petri dishes in position. Where there is room for the label, it could be placed beside the specimen within the Petri dish; however, in that position it is more difficult to read and less readily seen when the mount is placed in a case. Dr. Radasch desired to label different parts of mounted embryos in such a manner that students handling the preparations could identify certain structures. I had wished for the same thing and looked in vain for indestructible letters that could be used. Dr. Thomas C. Stellwagen, Jr., kindly made for me some amalgam letters that we attached to specimens, but the process was laborious and time-consuming. Dr. Radasch found a typewritten letter could be used; the paper containing the letter is trimmed to the desired size, immersed in formalin, removed, rapidly blotted, grasped in forceps and inserted in place while the imbedding gelatin is still fluid. He has many exquisite preparations lettered in this way, the labels constituting legends similar to those in our textbooks.

When completed, such specimens make artistic permanent mounts. (Fig. 3.) The gelatin lacks the macerating effect of fluids, and, so far as we can observe, preparations two years old are as fresh to-day as when first mounted. The mounts can be handled with wet hands; they may be washed with soap and water, and, as all parts are under glass, they are indestructible except by breaking. The fact that they are glass and appear much more fragile than they really are lead students to manifest care in handling them. Many of the preparations have been handled by hundreds of students and none has been broken. That they are not exceedingly fragile is indicated by our experience at Atlantic City. Nealy one hundred of these mounts were sent to the Session, and when the boxes were opened not one was found broken; two were dropped from the table, and one of these cracked, but was not withdrawn from the exhibit; few visitors noticed the break. In returning from Atlantic City three were broken, but the packing was not well done.

SPECIAL RECTANGULAR JAR.

While the gelatin method is especially adapted to mounts of membranes, tissues in thin slabs and relatively light preparations, there still remain a number of specimens that conveniently can not be prepared in this way. Over a year ago[1] I described a jar and adapted a clamp that, with some improvements, we are using today. This device (Fig. 4) consists of (1) a glass container, (2) a special metal clamp contrivance for securing a water-tight seal, and (3) includes two special labelling devices. The jar is 20 cm. high, 10 cm. wide and 4 cm. thick. When properly constructed the wall is practically the same thickness (0.4 cm.) at all points. Imported jars are recommended, as attempts to secure a jar of uniform thickness in this country have been unsuccessful. American manufacturers seem unable to make a jar that is not thinner at the corners, and therefore unadapted to our purposes. The clamp consists of two plates and two vertical rods which pass through the top and bottom plates, drawing these firmly to the jar by means of threads and nuts on the upper ends of the rods. The rods are split above the top plate for the reception of a label, which consists of an ordinary index card, on both sides of which the legend is written. The bottom of the jar is solid and rests on a rubber cushion; the top is closed by a similar rubber cushion that fits accurately into a recess that, in the figure, conceals it. These cushions are made of extra heavy, steam packing rubber that in cylinder heads of engines lasts for months. With the imported jar having thick sides the seal is perfect and in our mounts has remained so for over one year. If the jar be opened or the fluid changed often it may be necessary to renew these rubbers, which are comparatively inexpensive. Thin membranes, intestines and other specimens possessing too little rigidity to retain a permanent shape and position are attached to a frame made of glass rod.

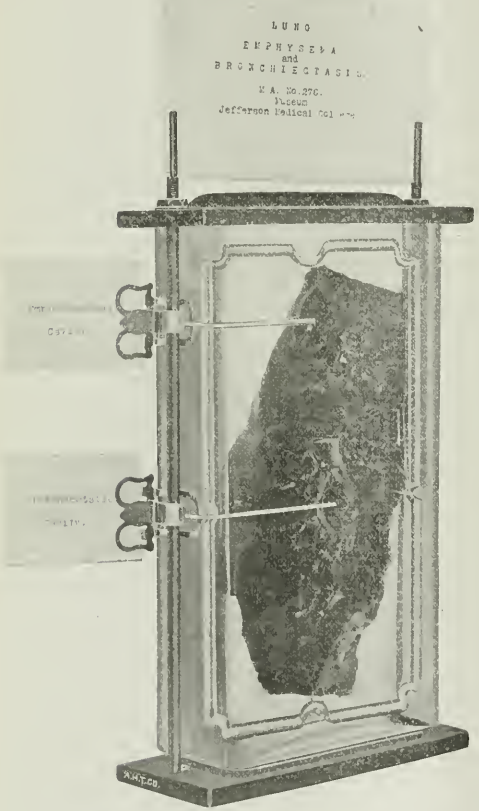

Fig. 4.—Improved rectangular jar, clamp and labelling device described in the text. The specimen photographed is a thin slab of lung showing emphysema and bronchiectasis. Contrary to the rule in such cases it is decidedly red, the high color being due to co-existing congestive condition resulting from associated cardiac lesions. This relatively bright red color has prevented accurate reproduction of the specimen. The labelling devices are well shown. In retouching the photograph the glass frame, by which the specimen is suspended, has been made unduly conspicuous, as there was no way by which we could determine how much detail would be lost in the reproduction; as a matter of fact, the frame is scarcely discernible when in position and covered by fluid. Reproduction five-twelfths natural size.

A device that seems to me would be extremely advantageous in teaching is a labelled pointer than can be adjusted vertically on the rods at the side of the jar, and is used to indicate any particular point on the specimen to which it is desired to draw special attention. These pointers can be placed at any height, are easily shifted from place to place, readily transferable from jar to jar, and any number desired may be used on one specimen.

When properly sealed the jar may rest in any position, and of all devices for the preservation of specimens in a liquid medium it is most economical in space and fluid. It requires but 5 cm. (2 inches) shelf width and 13 cm. (5¼ inches) base, so that seven jars without lateral cards can be placed on a shelf 6 cm. (2½ inches) wide and 88 cm. (36½ inches) in length. The amount of lateral space occupied by labels supported on pointers depends, of course, on the size of the cards used for such labels. Even under unusual conditions such cards should not be over 5 cm. (2 inches) in length, and as but 4 cm. of this projects beyond the base of the jar, 17 cm. (6¾ inches) will afford ample lateral space on the shelf, the depth of which remains the same as when side labels are not used. I have considered cases for these jars, and also for the gelatin mounted preparations, built on the principle used in the construction of sectional bookcases, and, should directors of museums find such jars acceptable, stacks could be arranged similar to those used in libraries where ready access to volumes is desirable.[2]

1. Proceedings of the Pathological Society of Philadelphia, June, 1903.

2. I am indebted to the Arthur H. Thomas Company of Philadelphia for the preparation of the illustrations that accompany this article.

Education of a Doctor.—The layman who reads the proceedings of a medical congress in these days will be impressed with the fact that the practice of medicine has become a very serious business, and the preparation for it an arduous undertaking. The old-fashioned doctor, who got what training he had from a voluntary attendance on two terms of didactic lectures, aided by the reading of a few text-books and a possible association with an older practitioner, started out on his professional career with everything to learn, and his success or failure depended mainly on the personal qualities which he brought to his work. Personal character and fitness are no less essential now than before, but it is simply impossible at the present time for a man to start out on the practice of medicine with the slender equipment allowable a generation ago. It is not merely that the colleges require more preparation for a degree, they require more because the practice of medicine has developed into a science to be acquired laboriously.—*Philadelphia Ledger.*

WHAT CREDIT, IF ANY, SHALL BE GIVEN THE HOLDERS OF BACCALAUREATE DEGREES FOR ADMISSION TO ADVANCED STANDING IN MEDICAL SCHOOLS? *

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PRINCIPAL CAUSES FOR THE DISCUSSION.

When beginning preparation on this paper I was surprised to find how closely the closing paragraph of my remarks before this Association last year applied to the theme of this year's discussion. The substance of this paragraph may properly begin the discussion of my topic:

The allowance to be made graduates of colleges of liberal arts and science must receive careful attention. The independent colleges and medical schools suffer by the drifting of their students to the universities that can afford both lines of work and a combined course, saving one or two years of time. The presidents of independent colleges plead for subjects that they regard as essential to liberal culture—for example, psychology—while the deans of the independent medical schools plead for their share of the stronger students with the college training. All seem agreed, however, that the matriculate possessing the baccalaureate degree, other things being equal, is better fitted for entrance on medical study than the graduate of the high school.

NEW YORK ESSENTIAL STATUTORY REQUIREMENTS.

The New York medical statute requires for admission to the licensing examination three essentials:

Educational.—1. Evidence of a general education preliminary to receiving the degree of bachelor or doctor of medicine in this state; the medical student certificate.

2. Evidence of the study of medicine for not less than four full school years of at least nine months each, including four satisfactory courses of at least six months each, in four different calendar years, in a medical school registered as maintaining at the time a satisfactory standard.

3. The degree of bachelor or doctor of medicine from some registered medical school.

The Principles of Registration.—The statute also requires that New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the state whose minimum graduation standard is less than that fixed by statute for New York medical schools.

All matriculates prior to Jan. 1, 1898, who graduated prior to Jan. 1, 1902, had to present evidence of three years' study of medicine in a registered medical school; subsequent to those dates, four years. And the earning of the medical student certificate two years prior to the date of graduation on a three years' course, when the majority of the strong schools were affording four-year medical courses, permitted the registration of most of the stronger medical schools of the United States.

For registration subsequent to Jan, 1, 1898, it soon became evident that but few medical schools of the United States could meet the New York statute if both preliminary and professional requirements were to be exacted of the school applying for registration. Under a ruling of the Attorney General, the registration by the regents of the general preliminary requirement, independent of the professional, seemed permissive. This permitted the registration of many of the stronger medical schools of the United States that formally agreed to meet the professional statutory requirements.

A widespread endeavor, however, to recognize the baccalaureate degree, as well as the degrees from schools of dentistry, veterinary medicine, pharmacy, osteopathy and the like, precluded the registration of a number of the stronger schools.

The Amendment of 1902.—After a careful discussion of the question by representatives of both the medical schools and of the medical profession of the state, an amendment to the medical act was passed in 1902, providing that:

"The regents may in their discretion accept, as the equivalent of the first medical year, evidence of graduation from a registered college course, provided that such college course included not less than the minimum requirements prescribed by the regents for such admission to advanced standing."

Meanwhile, as the amendment was passing through the legislature, it became apparent that the profession did not favor the extension of time to graduates of schools of dentistry, veterinary medicine, pharmacy, osteopathy, and the like.

THE DISCUSSION AT CONVOCATION, 1902.

A careful discussion of this question in all its bearings occurred at convocation, 1902.[1]

This discussion was participated in by representatives of both the medical and the liberal arts faculties of representative New York institutions. In continuation of the study, a suggested outline was prepared and sent to many leading educators.

Results of Discussion.—For convenience, the theme was called the "Combined Baccalaureate and Medical Course," and it seemed uniformly agreed:

1. That the baccalaureate degree should meet the university ordinances now in force, i. e., be granted on four full years of collegiate work, subsequent to at least three years' high school preparation or the equivalent.

2. That the combined baccalaureate and medical course should consist of seven full years of baccalaureate and medical work.

3. That subjects the full equivalent of the present first medical year should be found in the college and high school course.

Discussion by Correspondence.—The first question on conclusion 3 was: Is there a practical unit of measure for the first medical year, or can one be determined? And the second: Can the medical schools readjust their curricula so as to admit to the second medical year graduates of registered colleges that present the full requirements of the first medical year, tested by that unit?

In order to determine whether the medical schools and colleges of New York state could agree on such a unit of measure, an outlined first medical year's requirements in anatomy, biologic sciences, chemistry, physics and physiology was carefully prepared by representatives of the medical profession and schools and sent to representatives of the independent medical schools, to the universities maintaining both departments, and to independent colleges.

From the replies received, I quote the following representative of each:

President Stryker of Hamilton College, representing the independent colleges, writes: "As to our courses in the subjects named, you will nowhere find more thor-

* Read at the annual meeting of the Association of American Medical Colleges, Atlantic City, N. J., June 6, 1904.

1. See Regent's Bulletin, No. 58.

ough college courses in the physical sciences. And our teachers are strongly-equipped men, doing stiff work. . . . A student can have 353 hours in biology, exclusive of sophomore year; 235 hours in chemistry, and 198 hours in physics. We can give a man all that is called for. . . . Surely, we meet all you ask."

President Wilson, Princeton, writes: "We do not here in Princeton believe in the principle of combining the baccalaureate and medical courses. We have not, therefore, studied out the proper details for such a combination."

Dr. Raymond of the Long Island College Hospital, representing the independent medical school, through members of his faculty, writes: "I can see no reason why the courses in physiology, as now given in the L. I. C. H. can not be rearranged so as to harmonize with the plans suggested. I approve of the course in anatomy as outlined. I heartily approve of the plan outlined as a proper course in chemistry and physics."

Dr. Albert Vander Veer of the Albany Medical College writes in answer to the question: "Is the work too severe for the majority of the medical schools?" "No." "Is the time devoted to instruction in laboratory work properly proportioned?" "It is all right." "Can your medical school adjust its curriculum?" "It is going to be very difficult for us to arrange the subjects of anatomy and physiology, but these are conditions that will arrange themselves in due time. There must be a concession on the part of colleges as well as medical schools, and this question will have to be studied with a great deal of care. I admire the caution, but firmness, with which you are handling it."

President J. G. Schurman of Cornell University, representing an institution that maintains both faculties, writes: "It seems to me that there is more need of the extension of the course from four years to five than of the substitution of the work proposed."

Dean Polk of the medical faculty writes: "You see that I would make the reason for shortening the course, not the possession of an A.B. degree, which might mean anything, or, so far as medical study is concerned, nothing, but the previous mastery of the sciences embraced in the medical curriculum of the state of New York."

Dean Didama of Syracuse University writes: "The full equivalent of the present first medical year can not be found in the college and high school course. This university provides a joint baccalaureate and medical course of seven years. If either course is to be shortened for the benefit of the other, it should be the baccalaureate and not the medical."

Dean Richardson of Harvard University says: "Students who can finish, or practically finish, the requirements for a degree in three years, which usually takes four, but prefer waiting until a later period for graduation . . . may be admitted to this school with the understanding that their degrees will be received the following year."

Dean Smith of Yale says: "The year's work is not too severe for any medical school to which college graduates would be likely to go. The proportion of laboratory work is less than we devote to analogous subjects. It does not seem practicable to change our curriculum."

Dean Charles H. Frazier of the University of Pennsylvania writes: "First-class medical schools, willing to admit students to their second year, should not regard the specified requirements as too severe. The required hours of laboratory work are inadequate. Three years ago this school recast its curriculum, adopting the 'semiconcentration' system."

Dean Vaughan of the University of Michigan says: "The year's work is not too severe for medical schools. I do not think that the proportion between hours devoted to instruction and laboratory work is good. I do not think it would be possible for a student having taken the course as outlined in some literary school to finish his medical work with us in three years."

Dean Dodson of Rush Medical College writes: "From the point of view of this institution, it seems to me that your board has undertaken a difficult, if not impossible, task."

Dean Ritchie of University of Minnesota writes: "The work is not too severe for our school. As laid down, it is not equivalent to the work done in our laboratories. If we were inclined to admit the A.B.'s to our second year, our state board of examiners would not permit it."

Dr. Charles McIntyre of American Academy of Medicine says: "I see no reason why it should be too severe for the majority of medical schools. If the hours of lectures are supposed to be text-book work, with recitations, the ratio between the lecture and the laboratory work is a fair one. It will require some readjustment of the medical curriculum."

These replies are samples that can be increased both in number and length.

PROPOSITIONS.

1. If credit is to be given to institutions without the state of New York, more accurate registration, both of the college course and the medical course, is essential. To illustrate this proposition from the state board standpoint, let me quote from a recent letter and its reply:

Letter.—Will you have the kindness to advise me by return mail as to your knowledge of the University of Sciences Francis Joseph at Kalozvar, Hungary, concerning the degree of Universal Medical Science?

Reply.—It gives me pleasure to inform you that the Royal Hungarian University Francis Joseph is located at Klausenburg, Hungary, has a medical faculty of 12 full professors, an attendance of 106 medical students in 1901-02. The program of actual studies for the doctorate calls for ten semesters. On completing the studies, candidates enter on three examinations for the doctorate, in the presence of a commisison composed of specialized professors, under the presidency of the dean of the faculty. A candidate satisfactorily passing this examination receives the degree of Doctor Medicinæ Universæ. Admission to the practice of medicine in Hungary is obtained at the end of the examinations for the doctorate, as in France, and differs from Germany, where the state examination, independent of the university examination, is obligatory.

Let another testify concerning college degrees. U. S. Consul James H. Worman, Munich, Bavaria, writes regarding American academic honors:

On the assumption of consular duties in Munich, in 1899, I found that American academic honors were a subject of general discussion in Germany. So many German possessors of the American doctor title were illiterate persons that university men from our best institutions were looked at askance. A careful inquiry into the whole matter soon disclosed a lamentable state of affairs in some states at home. . . . In the criminal history of the United States these cases will some day figure as evidences of official corruption of the most daring character. . . . Has not the time come for an earnest and united effort of the American colleges, the educational associations, state and national, and all other bodies interested in the good repute of American scholastic and professional institutions, to harmonious action in the states of our Union for such legislation that will bring the degree-conferring power under strict state supervision? . . . A council of educators should

be entrusted with powers similar to those vested in the regents of the University of the state of New York, this council to be composed of the most eminent men in the state without any reference to political considerations. Further, that no degree-conferring institution should be incorporated without the approval of this council of education. In the self same spirit the legal section of the American Bar Association resolved, in 1897, that the degree-conferring power should be subject to a strict state supervision to be exercised in a manner somewhat similar to that which is exercised by the regents of the University of the State of New York.

The provision under the laws of New York to which these various propositions refer absolutely prevents any abuse by the academic or professional institutions of the state of their power to confer degrees.

2. Accurate registration is dependent both on examinations and inspection.

Pio A. Da—— submitted a certificate from the University of Montevideo, Uruguay, to the University of ———, United States, and was admitted to the class of 1904. The certificate showed entrance examinations for admission to secondary studies and secondary subjects as follows:

Algebra	3
First and second year French	6
Physics, parts one and two	4
Chemistry, part one	2
First and second year philosophy	3
Total, a year and a half in high school work.	18

Consul Worman says, regarding the kind of legislation state boards should effect:

The authority vested in the inspector of education has in many states not been exercised on behalf of the professional schools and colleges. Its exercise should be exacted of him by the profession in each state where such an official exists for the supervision of educational and professional institutions. Where legislation is necessary to make the authority sufficiently abundant to suppress illegal acts by incorporated institutions, it should be urged by the profession without delay and with persistency. Europeans, and especially the Germans, look on our whole educational fabric with distrust because of the swindling institutions that have been possible in certain states. The courts, weary of distinguishing between the true and the false, have ruled out all of them as private enterprises.

To illustrate another phase of the necessity of accurate registration, dependent both on examination and inspection, I quote from another recent letter from a state of Australia:

The information furnished by you will be most useful to this board, and I am directed to convey the thanks of the members for your courtesy in the matter.

In future no application for registration from Americans who do not possess the certificate granted by your university will be entertained by this board. . . . Any British qualification is registerable in this state, but the board reserve to themselves the right of refusing to register any foreign qualification.

The rules regarding registration in the other states are practically the same, with the exception that no American qualifications are registerable in Queensland, and no foreign qualifications whatever in Western Australia. . . .

I shall be glad if you will furnish me annually with a list of registered and accredited colleges of America for the guidance of this board.

3. Reciprocity between states must be based on actual requirements met by licensees, and a uniform minimum statutory requirement for all states of the Union is at present impracticable.

To illustrate: A practicing physician of the state of New York, having met requirements plainly above those of a neighboring state, was compelled by declining health to remove to that neighboring state to save her life. She was dependent on her practice for her livelihood and could enter on a profitable practice if she could secure the requisite license. The reciprocity clause of the statute in force in the state to which she would remove provided for reciprocity between states that conferred the same privileges on its licensees. There was no question regarding her professional attainment. She was denied the right to practice in the new state because the state from which she planned to move could not reciprocate the favor conferred on her by registration in the state to which she would have moved for the purpose of saving her life.

4. State control should concern itself with the minimum statutory requirement for admission to practice, i. e., the licentiate credential, and leave to the schools the determination of the maximum scholastic, i. e., the degree.

THE VALUE OF THE CONVERSATIONAL METHOD OF MEDICAL INSTRUCTION.

THE "STUDENTS' CONFERENCE."

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PHILADELPHIA.

The methods of medical pedagogy have undergone many changes during the last twenty-five years, the most important being that the antiquated didactic method of teaching has in a large measure given place to practical, clinical and laboratory teaching. Some excellent authorities now advocate the complete abandonment of the didactic method, recommending that in its place certain text-book readings shall be assigned to the student, and that demonstrations and conferences between the teachers and pupils covering this subject-matter shall constitute the essential part of the instruction. It has always seemed to me illogical to entirely do away with the didactic method, which I believe occupies an important and indispensable place in medical pedagogy; first, because there are many subjects that can be far better treated didactically than practically; second, because new and controversial matters can be far better summarized and treated by the professor whose business it is to familiarize himself with the advances of the subject than acquired by the student from text-books, and, third, because an enthusiastic and alert teacher can arouse the interest of his pupils by presenting his subject to them in a systematic, attractive and logical manner.

I do not wish to be misconstrued to favor reversion to the didactic method exclusively. I simply favor what I conceive to be an essential amount of didactic teaching, to be supplemented by work in the laboratory and by conferences.

Nearly all of our ideas are based on opinion rather than on experience, and it was with much interest that I availed myself of an unusual opportunity to demonstrate, practically and statistically, the value of the conference method of teaching.

In the Medico-Chirurgical College of Philadelphia during the years 1903 and 1904, the sophomore class of the medical department was divided into two sections for practical work in the laboratories. The section schedule was arranged in such a manner that during the first

half of the college year one section remained unoccupied for one hour each week, and in the second half of the college year the other section was unoccupied during the same hour. In order that his time should not be lost, I decided to utilize it for conferences.

The sophomore students who were to receive this advantage attend two didactic lectures on general pathology each week throughout the college year, perform about 150 hours' practical work in the pathologic laboratory, and about 80 hours' practical work in the bacteriologic laboratory. Two examinations were held during the year—one immediately after the Christmas vacation, and one at the end of the course in the month of May.

The division of the class into two sections was made according to their matriculation, and the men of the two sections should have averaged about the same in their intellectual abilities.

Section A was benefited by the conferences from the opening of the session to the mid-year examination. Other than this there was perfect uniformity in the instruction received by both sections. Forty-five men took the examination, which was written, and was a severe test, carefully conducted. The average mark attained was 82; the highest mark 98, the lowest mark 37. Taken by tens, the marks ran as follows:

100 to 90	16 men
90 to 80	12 men
80 to 70	7 men
70 to 60	6 men
60 to 50	3 men
50 to 40	0 men
40 to 30	1 man

In the same examination the men of section B, of whom there were forty-nine taking the examination, and who had had no conferences, made an average mark of 70. The highest mark attained was 100, the lowest 35. Taking this section by tens, we find a striking difference, which ran as follows:

Between 100 and 90 there were	9 men
Between 90 and 80 there were	6 men.
Between 80 and 70 there were	9 men.
Between 70 and 60 there were	12 men.
Between 60 and 50 there were	11 men.
Between 50 and 40 there were	0 men.
Between 40 and 30 there were	2 men.

We thus find that the difference between the average mark attained by the men of section A, who had conferences, and that of the men of section B, who had none, was 12 points in favor of section A. This seemed to show how great an advantage the men gained through conferences; but the question, of course, arose whether this was not an accidental difference depending on variation in the intellectuality of the two sections. We notice, however, that the highest mark made in this examination—viz., 100—was made by a man in section B who had had no conferences; also that the lowest mark —35—was also made by a man in section B. It is very striking that in section A, 16 men should receive marks above 90, but that in section B only 9 men should receive marks above 90; that in section A only 4 men should receive marks less than 60, but that in section B there should be 13.

In order to make an accurate comparison between these sections, determine their comparative intelligence and ascertain whether the conference was the cause of the extraordinary variation in the marks, the questions in the final written examination of the year were arranged to cover only subject-matter that had been taught in the second half of the year. By this means it will be observed that the results obtained by section A in its examination, covering a period during which its men had had conferences, could be accurately compared with those of section B, covering the period and subject-matter on which its men had had the conferences.

When we come to study the effects of the conferences on section B, as shown in this final examination, we find two possible sources of error, the first being that the final examination was a little more severe than the mid-year examination, and the second, that the men are apt to prepare more carefully for the final than the mid-year examination.

Forty-seven men in section B took the examination, the average mark being 75, the highest mark 97 and the lowest 21.

Between 90 and 100 there were	11 men.
Between 80 and 90 there were	11 men.
Between 70 and 80 there were	6 men.
Between 60 and 70 there were	13 men.
Between 50 and 60 there were	2 men.
Between 40 and 50 there were	3 men.
Between 30 and 40 there were	1 man.

It will be noticed that the best man in this section, who had received 100 at the trial examination, made only 97 at the final, and that the poorest man received 21 instead of 35. This seems to indicate that the final examination was more severe than the mid-year examination, which will be borne out by subsequent demonstration. The number of men receiving between 80 and 100 has increased to 22 over 15 in the mid-year examination; the number receiving less than 60 is 20, against 17 in the mid-year examination, but the general average of the whole section has been raised 5 points. This, taken by itself, is extremely suggestive, though not convincing; but when we turn to the results of section A in the final examination we are left no room to doubt the immense value of the conference method of teaching. Of the forty-four men of section A taking the final examination, the average mark was 66, instead of 82, as in the mid-year examination. The highest mark was 96, instead of 98; the lowest mark was 21, instead of 37.

COMPARISON OF MARKS.

	Final Examination	Mid-year Examination
Between 100 and 90	5	16
Between 90 and 80	7	12
Between 80 and 70	8	7
Between 70 and 60	10	6
Between 60 and 50	7	3
Between 50 and 40	3	0
Between 40 and 30	2	1
Between 30 and 20	2	0

In the mid-year examination there were only 4 men with marks below 60, but in the final examination there were 14. The average intelligence of section A seems to have been a trifle greater than section B, for the average of all of the marks for section A in both examinations is 74, and the average of all the marks of section B in both examinations 72.5. The conferences during the last half of the year increased the average mark of the men in section B from 70 in the mid-year examination to 75 in the final examination, while section A, whose men attained a general average of 82 in the mid-year examination, lost an average of 16 points each, attaining a general average of only 66 in the final examination. The final examination was more severe than the mid-year examination, as is shown by the fact that in the former the ninety-one men taking the examination made an average mark of 71, whereas the ninety-four men taking the latter examination made an average mark of 76.

The total variation in the two sections, therefore, is determined by adding the loss of section A to the gain of section B, which equals an average of 21 points per man in favor of the men who had the conferences.

It seems to me that no better demonstration of the

value of a conference can be given than is shown by these statistics.

Lest some one should misunderstand exactly what is meant by the term "conference" as here employed, it may be well to add a few words in explanation. The class of students and the professor met in a small lecture room, and all sat down. There is a certain pleasant informality about a seated professor that is wholesome on such occasions.

A leading question was asked a student whose name was chosen from the list of the class, and by auxiliary questions the thoroughness of his understanding of the subject was brought out. If it were shown by the answers that his knowledge was defective, another student was asked to point out the error. In this manner, by asking a few students many questions, and by permitting the students themselves to ask any number of questions, by immediately passing over matter that was understood and carefully explaining what was not understood, by endeavoring to determine why erroneous ideas were conceived, and by sound reasoning to bring the student's mind back to the correct channel of thought, the class progressed from day to day to a more and more thorough intelligence of the philosophy of the subject, so that they were easily able to cope with ordinary problems.

THE ELECTIVE SYSTEM IN MEDICAL SCHOOLS.

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With the growth of the curriculum in our medical schools, the urgent necessity has arisen of either lengthening the number of years of medical study from four to five, or of so adapting ourselves to the needs of the medical student that some way must be found out of the difficulty.

This increase in the number of subjects of study has arisen in two ways: 1. The development of the various laboratory subjects (and by this I include anatomy, physiology, histology, chemistry and pathology) has necessitated the devotion of practically the entire first two, to so-called theoretical branches, leaving the practical branch to the last two years. 2. The rapid development of the special branches of both medicine and surgery (gynecology is included in the latter), has taxed the number of hours in the school year to the utmost. An effort has been made in some schools to correct this latter growth, that is, practical branches, by dropping didactic lectures entirely and devoting the third and fourth years almost exclusively to demonstrations and clinical work at the bedside or in the dispensary, or hospital amphitheater. Even with the latter change, the medical schools in our larger cities have found it impossible to give every student the necessary personal contact with both teacher and patient, which is the prerequisite of thorough medical education. When we consider that the classes in our larger medical schools average from 150 to 200 in the junior and senior years, respectively, it will be readily seen that the old-fashioned amphitheater clinics can no longer be profitable to either teacher or student. I have stated above that we must find some way out of the difficulty, and I am firmly convinced that the proper application of the elective system of our medical curriculum will solve this problem better than any other method. In an article written by me two years ago I strongly advocated this system from a merely theoretical standpoint. Since the publication of my article the elective system has been adopted by the college with which I am connected, and after one year's trial both faculty and students agree that it has been a great success. The reason for this success has been that we have not applied the elective system without restriction. It was thought by our faculty that the limited application of election on the part of the students would be of far greater value than if they were permitted to select both teachers and subjects without some guidance. In the first place, we have applied the elective system to the third and fourth years only. During the first and second years the student, as in other schools, takes up his anatomy, physiology, chemistry, materia medica, histology, biology, embryology, therapeutics, surgical pathology, hygiene and bacteriology, in a more or less routine manner, so as to get a thorough foundation for the more practical work of the following two years. In addition to these laboratory subjects, elementary clinics, as they were called, were held by the professors of the third and fourth years twice a week. When the students enter the third and fourth years they find the following schedule:

JUNIOR YEAR.

SPECIFIED REQUIRED SUBJECTS.

	Hours.
1. Neurology	72
2. Physical diagnosis	54
3. Dermatology	36
4. Principles and practice of surgery	144
5. Orthopedic surgery	36
6. Operative surgery	36
7. Laryngology, rhinology and otology	36
8. Genito-urinary diseases	36
9. Clinical Anatomy	36
10. Microscopic and chemical diagnosis	66
11. Medical jurisprudence	36
12. Autopsies	36
13. Dispensary clinics	54
	678

ELECTIVE SUBJECTS.

1. Medicine (didactic work), lectures and recitations in four courses of 54 hours each: Course A. Infectious diseases and intoxications. Course B. Constitutional diseases and diseases of the kidneys. Course C. Diseases of the digestive organs. Course D. Diseases of the heart and lungs. Total	216
2. Obstetrics	72
3. Gynecology	36
4. Medical amphitheater clinics	216
5. Neurologic amphitheater clinics	72
6. Surgical amphitheater clinics	180
7. Dermatologic amphitheater clinics	72
8. Laryngologic amphitheater clinics	72
9. Gynecologic amphitheater clinics	144
	1,080
Total number of hours	1,758

SENIOR YEAR.

SPECIFIED REQUIRED SUBJECTS

	Hours
1. Medicine	216
2. Psychiatry	36
3. Chest diseases	36
4. Pediatrics	54
5. Ophthalmology	18
6. Obstetrics	72
7. Gynecology	36
8. Autopsies	36
9. Dispensary clinics	54
	558

ELECTIVE SUBJECTS

1. Neurology	72
2. Surgery	72
3. Medical amphitheater clinics	252
4. Neurologic amphitheater clinics	72
5. Pediatric amphitheater clinics	72
6. Surgical amphitheater clinics	468
7. Ophthalmologic amphitheater clinics	108
8. Gynecologic amphitheater clinics	108
	1,224
Total number of hours	1,782

In the junior year a total of 1,758 hours of instruction are offered, and in the senior year a total of 1,782

hours. Of this, 1,000 hours of instruction constitutes the year's work. Each student is required to take all of the specified subjects in his year; in the junior year these subjects amount to 678 hours; the remaining 328 hours he can make up from the elective subjects, exercising, to a large extent, his own choice in the selection of subjects which he will take. In the senior year the specified required subjects amount to about 558 hours; the remaining 442 hours may be selected from the elective subjects and clinics. Even in this selection the student receives some guidance, so that he must include among his elective subjects at least 120 hours of medical clinics and 120 hours of surgical clinics. Clinics in diseases of the chest, nervous system, pediatrics and dermatology are classified as medical. At the time of registration the student is required to designate subjects which he elects in order to complete his 1,000 hours, and will not be enrolled in the classes until his course has been approved by the secretary of the college. The secretary has authority to refuse to approve of the course elected by any student when for any reason it seems to him not well selected.

By a reference to the above table, it will be noted that surgery is compulsory in the junior year, but is elective in the senior year, and vice versa, medicine, gynecology and obstetrics are elective in the junior year, but are compulsory in the senior year.

What are the benefits of this privilege of election on the part of the student? He can so adapt his time in both years that he will not be obliged to sit on the benches in the lecture room or in the clinical amphitheater from morning till night. By a careful selection of clinical work he will have ample time to study, and yet be able to have a full curriculum and not slight any subject.

In addition to this, it gives the student more time to do special research work if he is prepared for this during his undergraduate period. This power of election on the part of the students, especially in the direction of clinical work, has had its reciprocal beneficial influence in all of the schools in which it has been applied on the faculty. The moment a clinician is aware of the fact that the size of his audience is more or less directly dependent on his ability as a teacher, he will make a greater effort to increase the same by a more careful study of his cases, so that he will not be accused of being careless in his work. He will acquire greater thoroughness in his surgical procedures. Nothing acts as a greater stimulus to teachers than this elective system, and, once introduced, I am certain it will continue to find favor in every large medical school.

In this manner a large number of students can find ample clinical and didactic work. The college can also utilize to the best advantage all of its clinical facilities within its own walls or in hospitals contiguous to it. At the same time, through this power of selecting where he wishes to take some of his clinical work, the abundant material which exists in hospitals and dispensaries at some distance from the main seat of learning, can be used to the mutual advantage of the student and of the attending staffs of these extramural institutions.

In my opinion, the elective system carefully applied is a stimulus to both teacher and student. It enables a college with large junior and senior classes to so distribute its students that no clinic is overcrowded, and there is a resultant individualization which is not possible in large classes.

THE TEACHING OF MATERIA MEDICA IN MEDICAL SCHOOLS.

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DESIRABILITY OF RESTRICTING THE COURSE OF MATERIA MEDICA.

"I must confess, if I had my way I should abolish materia medica[1] altogether. . . . Not one trace of a knowledge of drugs has remained in my memory from that time to this; and really, as a matter of common sense, I can not understand the arguments for obliging a medical man to know all about drugs, and where they come from. Why not make him belong to the Iron and Steel Institute, and learn something about cutlery, because he uses knives?" . . .

"I entertain a very strong conviction that any one who adds to medical education one iota or tittle beyond what is absolutely necessary is guilty of a very grave offense."—Huxley, "On Medical Education," 1870.

Everyone will agree with this last sentence. In most medical schools the required class attendance exceeds thirty hours per week, leaving the student a very insufficient time for home study. This condition tends naturally to become worse, for the domain of medical knowledge is constantly extending, and the teaching must follow these extensions. It is, therefore, imperative to lighten the curriculum as much as possible by curtailing such studies as are no longer essential.

A case in point is presented by the relation of pharmacology, materia medica and therapeutics. The study of the action of drugs by laboratory methods is a new branch and one which requires considerable time, which must be taken from some other subjects. It is very true that a knowledge of pharmacology facilitates the study of therapeutics so greatly that a part of the time formerly devoted to therapeutics can be assigned to pharmacology without injury. The saving, thus effected, is not, however, sufficient. What further time is needed can be profitably drawn from materia medica (including pharmacy), if the course in these branches is wisely reorganized. This can be readily done, especially if they are taught in the same department as pharmacology, as they should be, in my opinion.

No one can doubt that the action of drugs is of vastly greater importance to the medical practitioner than their natural history. The latter can only be of essential importance when the physician is located remote from a pharmacist, a condition which is rather rare in this country. Nothing prevents those who expect to be so situated from taking a special, optional course, and such should be offered by the college, if it is needed. Were there no other demand on the students' time, an exhaustive course of materia medica might be profitable to all other students, but there can be no question that the other demands are more important. Indeed, I incline to the belief that the above advice of Huxley has not been sufficiently heeded by many schools, doubtless because it is somewhat too radical.

WHAT PARTS OF MATERIA MEDICA SHOULD BE RETAINED?

How far, then, may the study of materia medica be safely curtailed? What is essential? What may be made optional and what omitted entirely? There is surely room for much honest difference of opinion in

1. It will, I hope, be understood that I do not include therapeutics under this head.

this connection. I venture to give my views, as they may serve as a basis for reflection.

I believe that the students should be given, by way of introduction, some general ideas about the classes of chemical and structural constituents of drugs. Sufficient botany should have been learned in school, and zoology is quite superfluous. The systems of weights and measures should be made thoroughly familiar. In regard to pharmacy, the student should learn the different classes of pharmaceutic preparations, their common characteristics and special uses, and he should be given (by demonstration) a broad conception of how they are prepared. A little practice in simple dispensing is very desirable. All these data will be invaluable aids in understanding the materia medica of special drugs.

As regards the latter, only those should be discussed at all which have a real, living therapeutic or toxicologic importance. Of the former the student should be required to know, in the first place, those data which are needed in prescribing: The correct Latin name (faulty orthography indicates a faulty education, in materia medica as elsewhere), the methods of administration, the most useful preparations, *and these only!*[2] Their dose, solubility, incompatibility, and in a few cases, their composition; constituents should be taught only in so far as important therapeutically or by incompatibility.

Furthermore, I believe that there should be required considerable familiarity with the appearance and other physical characters of the important drugs and their principal preparations, so that the more common poisons may be identified or excluded. This seems to me very important, and I believe that I lay rather more stress on it than is commonly done. The knowledge so obtained is also very valuable, in that it often enables the physician to adapt the medicine to the peculiarities of the patient, and sometimes, to prevent the results of an error on the part of a druggist. I require this acquaintance rather oftener in the case of preparations than of crude drugs. I need hardly add that a good deal of discrimination must be exercised in selecting the drugs to be studied. The study must, of course, be made directly from the specimen.

It will be seen that the principal abridgment which I advocate in the teaching of materia medica concerns the number of drugs and preparations to be studied, neglecting all those—and they are quite numerous—which are unimportant.[3] A further saving is obtained by limiting pharmacy, and by paying no attention to habitat, natural order, method of collection, etc. These are quite useless for practical purposes, and those students who are interested in them can easily find the information. The natural orders are sometimes useful in explaining relationships, but these can be touched on in pharmacology. In this way, and by arranging the course as indicated below, the class work in materia medica and pharmacy may be reduced to something like forty-five hours. Beside this required work, I believe that a more thorough study of the chemistry of drugs and of pharmacy is very useful, not so much by the direct knowledge which they give, but because the handling of drugs which they require gives a greater familiarity. This advantage is not sufficient, to my mind, to make them compulsory, but they may be offered as elective or optional work.

ARRANGEMENT OF THE INSTRUCTION.

The dryness of materia medica is almost proverbial and it is, indeed, difficult to render interesting a study which consists so largely of memorizing. This difficulty is enhanced by constituting the subject into a separate course, as is so often done, and especially by letting this course precede that of pharmacology or therapeutics. What interest can there be for the student in memorizing certain tabulated information which he does not fully understand, about a drug which, too often, he has never seen, and about the uses of which he has no clear idea? What opportunities I have had of observing have only confirmed my objections to this plan. I believe that only the preliminary subjects of pharmacy, etc., should be taught separately and that the materia medica of the individual drugs should be studied immediately *after* their action and uses. It is my practice to give the student his first experience with drugs by letting him use them in the laboratory, as this is the most efficient way of arousing his interest and showing him the importance of the drug. When he has in this way obtained an objective knowledge of the effects of most drugs and has become curious to have them explained, their action is studied systematically in class, and after each lecture the students are supplied with the specimens of drugs, with instructions to describe them, again objectively, in their notebooks. Around this nucleus the other information is grouped. In this way the interesting parts of the study carry the more mechanical parts, so that these are less felt. It will be noticed that lectures are not emphasized in this schema. If there is any study in which formal lectures are misplaced this is certainly materia medica. The subject is taught with us almost purely by laboratory work and recitations.

DETAILS OF THE INSTRUCTION.

The course of instruction in my department begins with a talk on the gross and histologic structure of drugs, illustrated by the demonstration of specimens and some thirty microscopic slides (two hours). This is followed by chemic laboratory work on the important classes of plant constituents (two and a half hours). Then comes a demonstration on metrology (one hour), with a sufficient number of short drills. The general pharmaceutic methods (distillation, percolation, etc.), are demonstrated, as also the manufacture of the important classes of preparations, tinctures, fluid extracts, etc., (one and a half hours). The students are required to put up a series of prescriptions, including pills, emulsions, etc. (two hours). This subject is covered by about seven hours of recitation. Several topics are then taken up which do not interest us in this connection (incompatibility, prescription writing, toxicology). This brings us to special materia medica. The locally acting drugs are studied first, so as not to anticipate the laboratory course.

I have already mentioned that the materia medica is studied in connection with the pharmacology. After hearing the lecture on a pharmacologic group of drugs the students are required to enter the important data of materia medica in a special notebook. This may be done in a separate laboratory hour, or the lecture may be correspondingly shortened, according to the number of drugs to be studied. The compilation of a special notebook has a number of advantages. It encourages the study of the specimens, because correct descriptions must be given; it can be made more concise than any

2. There is some excuse for the pharmacopeia retaining obsolete drugs and preparations, because these are sometimes used in certain localities or by the laity, but there is no reason for burdening medical students with them. It is to be wished that all state boards would discourage such questions as: "Give *all* the preparations of . . . ."

3. This refers only to materia medica. It is often desirable to say a few words about the action of these unimportant drugs in the lectures on pharmacology.

text-book, and the mechanical act of writing, like drawing, is a powerful aid to memory.

It is suggested (but not required) that the notebook be of quarto size, and that the information be entered under the following columns: Latin name; English name; if of vegetable origin, the part of the plant used and chief constituents; appearance, odor, taste, mixable with water; with alcohol; dose; remarks (strength, etc., when asked for). The appearance, odor and taste should be described from the actual specimen. All the important specimens for each pharmacologic group are exposed at a convenient place in the lecture room or laboratory, and left there until their study is entirely completed. With large classes of students, it would probably be convenient to have duplicate sets of specimens. Each bottle should be labeled, not only with the name of the drug, but also with the information whether it can be tasted freely, with caution, or not at all (I employ printed green, blue and red labels for this). I also have the bottles labeled "important" or "identification." The latter are the specimens which the student must be able to identify at examination. They comprise only those important drugs which may be readily recognized. Those which would be difficult are merely marked "important." These the student must know so that when asked whether one of them *may* be such or such a drug (say potassium bromid), he can give an intelligent answer. Colored illustrations of the more important drugs, and herbarium specimens of the domestic medicinal plants, especially those of toxicologic interest, are also exhibited at the same time. Unimportant drugs are not exhibited at all, a notice being posted indicating where they may be found in the museum, should anyone be interested.

THE MUSEUM.

The specimens in the museum should be arranged on the shelves by the groups in which they are studied. All the important and identification specimens should be on one side of each shelf, or it might be useful to have a duplicate set of these in a special case. The curator may save himself considerable time by having the bottles numbered, so that each will have a definite place; a laboratory boy can then replace them readily after they have been used. The numbering may be done by the decimal system and a card index kept, for instance, Acid.Salicyl., 78.12, being found in case seven, shelf eight, twelfth bottle.

I have had the cases constructed along the wall of the corridor leading to the laboratory, where the students are obliged to pass them frequently—on the supposition that they will, consciously and unconsciously, glance over the drugs. The doors of the cases are kept unlocked.

It will be seen the plan of teaching materia medica which I have adopted relies mainly on the individual exertion of the student. The function of the instructor is limited to frequent short recitations, periodic inspection of the notebooks and occasional tests. The latter are especially valuable for insuring an interest in the study.

Resignation of Albert Fraenkel.—Professor Fraenkel has been privat docent of internal medicine at Berlin for thirty years, and has borne the empty title of professor for the last fifteen. He has now resigned these positions, weary of waiting, perhaps for the full rank of a professor. He is a nephew and was an assistant of Traube, and is one of the most prominent investigators in internal medicine, especially in lung affections. His lectures were very popular, especially among physicians taking postgradnate courses in Berlin.

CLAY MODELING IN THE STUDY OF ANATOMY.*

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"It would be difficult to overrate the value of anatomic knowledge to every class of medical men, physicians as well as surgeons; and every one knows that this knowledge can never be acquired to any desirable degree of accuracy except by those who labor for it with the scalpel

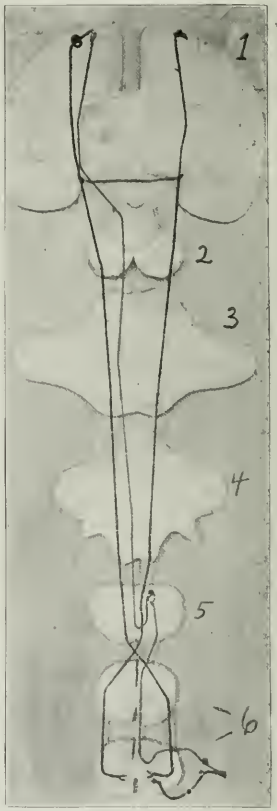

Fig. 1.—Motor and sensory conduction paths of the central nervous system, showing the peripheral and central neurons in a diagrammatic manner. 1. Transverse sections of cerebrum. 2. Mid brain. 3. Pons. 4. Upper medulla. 5. Lower medulla. 6. Spinal cord. (Modeled by a member of the sophomore class.)

in their hands." This remark, made by Dr. Samuel Chew in 1864, is especially applicable to the student of the present day. Not alone is the scalpel necessary in order to comprehend the structure of the human body, but the microscope, modeling, drawing, the study of serial sections, and other accessories must be utilized to make clear what to most students is a difficult and oftimes an uninteresting subject. Only one of the many helps in the study of anatomy will be presented in this

* Read before the Section on Neurology and Psychiatry of the Medical and Chirurgical Faculty of Maryland.

paper, namely, the use of clay modeling in the study of anatomy.

The modeling of bones from clay was first practiced at the Johns Hopkins Medical School. Since then it has been used at the Baltimore Medical College by Dr. Sydney Cone in teaching osteology,[1] also at the University of Chicago[2] and at the University of California.[3] At the latter school, Prof. J. Marshall Flint has used the method to record and preserve permanently the muscular variations found in the dissecting room.[4] If this method is used in other schools I have not been able to find any report of the work.

The method I wish especially to describe is the application of clay modeling to the central nervous system. The study of the macroscopic and microscopic anatomy of the brain and cord has been very diligently pursued during the past decade, while the subject has received more attention in the college curriculum than heretofore. The importance of teaching the subject to medical students understanding the structure of the part affected. The ideal way to accomplish this result would be to study, first, the gross anatomy of the brain and cord, and, second, to make serial sections in the three dimensions, transverse, horizontal and longitudinal, stained by the Weigert-Pal method, and study them carefully, not neglecting, of course, the study of the nerve cell and the neuroglia by the various staining methods, as the Nissl, Bethe, Bende and many others.

This necessitates not only a great deal of time, but also a vast amount of material and work. In fact, it is not practical in the medical course as now arranged, and is really post-graduate work. The best we may hope to do in the short time given this subject in most medical schools is to give the student a general idea of the subject and try to stimulate him to personal investigation after his college work is completed and he has time for research work.

The system of clay modeling tends to create an inter-

Fig. 2.—Modeling table on which are models made by members of the Class '05. Beginning with the upper row, the first model on the right represents the base of the brain and cranial nerves. 2. The cerebral hemispheres, with fissures, convolutions and motor areas colored. 3. A horizontal section of the cerebrum, basal ganglia, internal capsule, etc., represented by various colors. 4 (Middle row, right side.) A dorsal view of the medulla, pons and mid-brain, showing the fourth ventricle, position of nuclei of cranial nerves, funiculi of medulla, etc. 5. A transverse section of the pons, the longitudinal fibers are elevated. 6. A cross section of the mid brain, the important structures are in relief. 7. A transverse section of the upper medulla, the arcuate fibers represented by various colors of floss, olivary bodies, nuclei, etc., raised. 8. (Third row, right side.) A view of the mesial aspect of the left cerebral hemisphere. 9. A cross section of the spinal cord, gray matter in relief, motor cells and tracts in different colors. 10. A longitudinal section of the medulla, pons and mid-brain, showing the position of the nuclei of the cranial nerves, from the third to the twelfth, and their superficial origin. The nerve fibers are represented by floss. 11. Ventral surface of medulla pons and mid-brain. 12. Superior and inferior surfaces of cerebellum. Lobes and fissures in colors.

can hardly be overestimated, as a thorough knowledge of the anatomy and physiology of the central nervous system lies at the foundation of organic nervous diseases. Dr. M. Allen Starr, in his recent text-book on "Organic Nervous Diseases," remarks: "As the knowledge of the centers and tracts has grown, as their location and action have been made clear, the meaning of symptoms previously perplexing has become plain." As a matter of fact, it is simply impossible to have a clear and concise picture of a disease of the nervous system without first

1. Johns Hopkins Hospital Bulletin, vol. xiii, p. 143.
2. Univ. Record, vol. vii, No. 3.
3. Johns Hopkins Hospital Bulletin vol. xiv, p. 78.
4. Journal of Medical Research, vol. viii, p. 496.

est in this branch by presenting to the student's mind a realistic picture of a part that is otherwise very obscure when taught only from text-books or drawings. It requires the men to think for themselves, to use their several special senses, and when molding the various specimens, form in their minds a number of impressions that otherwise would be received only through the auditory and visual pathways. These multiple mental impressions serve to produce a lasting picture that will be easily retained. Dr. J. Marshall Flint very forcibly states this idea in the following words: "Every one apparently carries in his sensorium a very good stereognostic sense, which is easily developed by a little training. . . To the student the advantage of the method lies in the

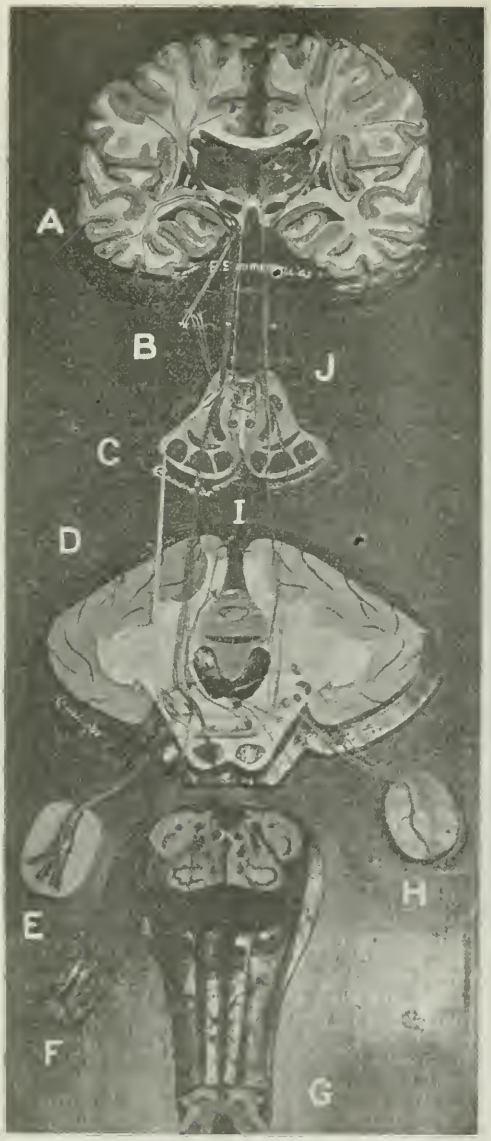

Fig. 3. An original clay model of the central nervous system to represent the origin and course of the motor and sensory pathways and the relation of the nuclei of origin and of termination of the cranial nerves to these pathways; also the peripheral or ganglionic origin of the fifth, eighth, ninth and tenth nerves. This model was designed by the writer and executed by Messrs. Canino, Summerbell and Wasson of the Class of '05. As the color scheme of this model is not shown in the photograph, its simplicity and clearness of detail can not be appreciated. A. Transverse section of cerebrum, through the middle commissure. B. Internal geniculate body; auditory way station. C. Section of mid-brain; pathways elevated. D. Transverse section of pons and cerebellum. E. Gasserian ganglion, under surface, with the three branches and motor root. F. The ganglia of the ninth and tenth nerves, showing the relation of the ninth, tenth and eleventh nerves just outside of the jugular foramen. G. The ventral surface of the medulla, above is seen a transverse section through the olives, below is a section of the spinal cord after the decussation of the pyramids. H. The ganglionic origin of the acoustic nerve. The entire course of this nerve is shown on the model, from the periphery to the temporal lobe of the brain. I. Nervus oculomotorius. J. Nervus trochlearis.

fact that he registers not only repeated visual images necessitated by the close study required to make a replica, but also utilizes his tactile sense and muscle sense as well. The superiority of the modeling over drawing lies in the fact that arbitrary laws of perspective are not required, and the student has the advantage of having his record of the subject in three dimensions, just as it exists in nature."[5] The practice of sketching microscopic sections of the nervous system is, of course, a great help to the student, but it does not give him an idea of the part in three dimensions, a point that Dr. Lewellys F. Barker emphasized so strongly in his lectures on the anatomy of the nervous system at the Hopkins in 1898. The value of a reproduction of a part of the nervous system in three dimensions is beautifully shown in the Sabin model of the medulla.[6]

The models made by the method advocated in this paper are at best crude, and are not to be compared to the artistic and realistic specimens produced by the Born reconstruction method.[7] This latter method requires a great deal of careful and exact work and is hardly practical for the average medical student. Bardeen speaks of this method as being "cumbersome and time-consuming." "Yet by no other method," he says, "can so accurate an idea be obtained of the form of those structures which, from their minuteness or complexity of relation, can not well be dissected out."[8]

The study of the central nervous system is confined as a rule to the sophomore year. During the session Weigert-Pal specimens of the brain and cord are projected on a large screen before the entire class, and the minute anatomy described, models and drawings being utilized whenever necessary. After the student has completed his dissecting he then begins to model certain portions of the central nervous system selected by the instructor. The ordinary potter's clay is used. The advantage of this kind of clay over the oil clay that is sometimes used, is that it hardens after a few days, when the models can be shellacked, colored and retained as permanent museum preparations, or kept by the students to study from; if, however, it is desired to use the clay again, or keep it soft a longer time, it is easily accomplished by adding water to the clay and then kneading it well, or keeping a wet cloth over the model, which renders it pliable and easy to handle until the model is finished, when it quickly hardens again. The models are made, not by being copied from stock preparations, but from actual gross specimens of the brain, which have been preserved in formalin; or, when modeling microscopic sections, showing the different tracts, etc., the student is allowed to refer to the drawing in the book or to the microscopic section under the dissecting microscope.

Models of microscopic sections are generally enlarged two or three times and a definite proportion maintained throughout the series. All important structures, such as the various tracts, the gray matter of the cord, the nuclei of the medulla and mid-brain, are elevated above the reticular formation. To show the entire course of pathways different colored floss is used. By this means the origin, course and termination of the various tracts is readily seen, as in Figures 1 and 3. The time usually required for the work varies from two to six weeks, depending on the facility with which the student completes the task.

When the modeling is finished the instructor reviews

5. Journal of Medical Research, vol. viii, p. 496.
6. Atlas of the Medulla and Mid-brain, by Florence Sabin
7. Johns Hopkins Hospital Bulletin, vol. xii.
8. Loc cit.

the subject with each student and criticizes the models. The best specimens are selected for the museum case, are uniformly colored, labeled and remain college property, thereby forming a valuable collection at a very nominal cost. This also acts as an incentive for the students to do careful work, when they realize that their efforts are appreciated and their models, if good, remain as evidence of something real and substantial accomplished.

The real advantage of this method is that it serves to impress on the mind of the student information in a tangible and realistic manner. It has been said that the knowledge that a man can use is the only real knowledge, the only knowledge which has life and growth in it and converts itself into practical power. If this method does nothing more than stamp indelibly on the student's mind the essential facts of the structure of the nervous system, it will not have been used in vain. The general idea obtained by this method will form a foundation for their future studies and on which a more elaborate superstructure may be erected.

A PLEA FOR A STANDARD MEDICAL CURRICULUM *

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Dean of the School of Medicine, Georgetown University
WASHINGTON, D. C.

My experience as dean during the last few years impels me to make a strong plea for the unification of curricula in medical schools. You, with other representatives of medical colleges, will recall the fact that the state medical examining and licensing boards differ widely in the minimum standard requirements for license to practice medicine, and no sooner have we adapted our curricula to the requirements of one state when we are confronted with another adjustment of studies to meet the demands of another state, and failure to do so means refusal of recognition of the school, and the holder of our diploma is not even permitted to appear for examination. I venture to say that nearly every school had to make changes last year in order to comply with the requirements of the state of Michigan.

We all admit that the problem of the medical university is to supply the community with competent medical men, and that it is the duty of the state examining boards to see that none but qualified men are licensed to practice one of the most difficult and responsible of all professions; hence the necessity of a reasonable standard of medical qualifications.

Fortunately, we have adopted a minimum standard of preliminary education required for the study of medicine, and we should formulate a similar standard of medical education, based on uniform curricula.

With a fixed minimum standard for admission, and a definite course of medical studies, with the prescribed number of hours of didactic and practical work in each branch, we may hope for a more uniform product, and if this product should reach the requirements of some of our best state examining boards, the way to reciprocity between the boards will be open, and much time and annoyance will be saved in the transfer of students from one school to another.

A review of the examinations for medical licensure presented in a very able report by Dr. Charles McIntire to the American Academy of Medicine, May 11, 1903, shows that during the year 1902 4,510 applicants were examined; of these 3,781 passed and 729, or about 16 per cent., failed. The failures are not confined to graduates from indifferent schools, but include men from nearly every reputable school in this country, such as Harvard (1—117), Johns Hopkins (1—15), Columbia (9—173), Cornell (6—53), University of Pennsylvania (8—178), University of Michigan (9—77), University of Minnesota (2—86), University of Virginia (2—28), and Rush Medical College (6—232).

The conclusions to be drawn from such a result are: 1, That our products are not up to the standard adopted by some of the state licensing boards; 2, that the applicants have deteriorated since graduation; 3, that in some instances the candidates have passed the college examinations by dishonest methods.

A study of Dr. McIntire's paper on "The Personal Equation in Examinations for Licensure," read before the American Academy of Medicine in 1902, demonstrates that the charge frequently made against state examining boards that they are too severe in their exactions is not true, for the returns of papers marked by college professors and members of such boards show a remarkable uniformity in this, that with hardly an exception the men who failed would not have been licensed by any of the boards or faculties making returns, and as a matter of fact the colleges were more severe in their markings than the boards. But whatever the cause, these painful facts confront us, and the sooner the subject is thoroughly investigated the better it will be for medical education and the ultimate welfare of our graduates. I represent a small school, but should hail with delight any schedule of studies which would result in a well-rounded medical education, and I am sure every college represented in this association will cheerfully join in an effort to secure the desired end.

It is not a simple problem, when we consider the widely divergent views entertained as to the best methods of teaching and the time allotted the study of various subjects, but it seems to me that we may profit by the experience of the older schools, and, without wishing to make any invidious comparison, I may say that, in the judgment of Major Borden, a very competent and discriminating observer, the most harmoniously educated candidates for admission into the Army medical corps were graduates from the University of Pennsylvania. His judgment may be considered absolutely impartial, for he is not an alumnus of that school, and was then as now a teacher in the school with which I am connected.

How can we expect a harmonious product, when the very exhaustive report by Dr. George W. Webster, chairman of the Committee on Curriculum of the National Confederation of State Medical Examining and Licensing Boards, published in THE JOURNAL of the American Medical Association, Aug. 15, 1903, shows that the total hours vary from 5,000 in some to a little over 2,000 in other schools. The time devoted to clinical instruction varies from 2,000 to a little over 200 hours; over 500 hours are devoted to the subject of chemistry in some schools, and less than half as many in others; anatomy varies from over 1,200 as a maximum to 200 as a minimum. One school devotes over 400 hours to the study of physiology, while another has less than 100; medicine has over 1,300 hours in one, and less than 200 in another. In other schools such important subjects as physical diagnosis, pharmacology, etiology and hygiene are not taught at all.

Impressed with Dr. Borden's observations, and determined to profit by the experience of other schools, a

*Read at the annual meeting of the Association of American Medical Colleges, Atlantic City, N. J., June 6, 1904.

close examination of their method and the arrangement of studies was made, and we have adjusted our curriculum accordingly.

The demands of modern medicine are so exacting that the curricula in vogue fifteen, twenty or thirty years ago in some of our best colleges, no longer suffice to turn out a scientific physician, and I mean by that, a man who, because of his knowledge of the sciences on which medicine is founded, has such a firm grasp and a clear comprehension of his subject matter as will enable him to become not only a successful practitioner, but also an intelligent student of progressive medicine.

The foundation sciences of medicine are physics, chemistry, biology, anatomy, bacteriology, physiology and pathology.

A knowledge of physics as applied to medicine is essential, as has been well said by Professor Vaughan, in the application of all mechanical means for the correction of deformities, for the treatment of fractures and dislocations, for the study of errors of refraction, and in the use of the microscope, ophthalmoscope, laryngoscope, *x*-ray apparatus, etc., and its general importance is appreciated by the leading medical universities of Europe. It should be taught in the first year of the medical course. We devote 40 hours to this subject. We give 144 hours of chemistry in the first year, half of which are devoted to practical laboratory work. The time devoted to embryology, histology, osteology, general anatomy and physiology is shown by the table. Materia medica very properly should be studied in connection with the biologic sciences during the first year.

In the second year anatomy, physiology and chemistry, including physiologic, medical, toxicologic and sanitary chemistry, are completed, and bacteriology, pathology and pharmacology are begun; 24 hours are devoted to minor surgery.

The student having acquired a fair knowledge of his foundation studies during the first two years, after additional instruction in pathology and physical diagnosis, is now prepared to enter on the study of medicine, surgery, obstetrics, gynecology, neurology and therapeutics, while a study of hygiene, which is the application of the laws of physiology, chemistry, physics, meteorology, pathology, epidemiology and bacteriology to the maintenance of the health and life of individuals and communities, is not only necessary for the prevention, but also the cure, of diseases and serves the additional purpose of reviewing and applying the knowledge of the sciences just mentioned.

All of the practical subjects, such as medicine, pediatrics, surgery, operative surgery, obstetrics, gynecology, neurology and mental diseases, extend over a period of two years and are taught simultaneously to third and fourth year students, both didactically and at the bedside.

In the fourth year, in addition to the practical branches, we give our students special instructions in dermatology and syphilis, genito-urinary diseases, laryngology, rhinology, ophthalmology and otology, military surgery, state medicine, morbid anatomy and medical zoology. The course in medical zoology has special reference to the animal parasites in the human subject, supplemented by practical laboratory exercises in the microscopic examination of meat for trichinæ spiralis, and of feces for determining the presence of parasites, and we have found this course very helpful to our students and of extreme practical importance. As a matter of fact, one of our graduates, Dr. Ashford, was the first to demonstrate that the grave forms of anemias found in Porto Rico are due to uncinaria Americana; the hook-worm disease has been found by Dr. Stiles to be quite frequent in our southern states, and we all know how frequently trichiniasis is mistaken for typhoid fever.

Our association was established for the purpose of promoting medical education, and yet, instead of leading others into the right path, we have been driven by the state medical examining boards and a strong public opinion, as manifested by the American Medical Association, to raise our standard of minimum requirements for admission into medical colleges. New Hampshire, New York, Pennsylvania, Ohio, Indiana, Illinois, New Mexico and Colorado practically demanded a higher standard long before we raised it, and, as a result, the diplomas of some schools are not recognized, and graduates from such schools can not appear for examination.

More recently, Illinois and Michigan have taken the initiative in establishing a minimum standard of medical education, and the example of these states is very certain to be followed by others in the near future. If we wish to retain the confidence and respect of the American medical profession, it is our duty to equip our graduates in such a manner that their diplomas will not be discredited by any state in the Union, because, in the opinion of the board, the school granting it does not fulfill the established minimum standard of medical education. Apart from the moral and ethical aspects of the question, however, I believe it will be in the highest degree good business policy to appoint a committee, which should co-operate with a similar committee appointed from the National Confederation of State Medical Examining and Licensing Boards, for the purpose of establishing such a standard.

There are now 154 colleges in the United States. Of these, 121 are regular and only 66 are members of the Association of American Medical Colleges. The number of students vary from 6 to 1,047 in the different schools. It seems to me that if the methods of teaching were more uniform the students would be more evenly distributed, which would be an advantage to students and schools alike. There is much to be said in favor of small schools, where the number of students does not exceed 250, or from 60 to 70 in a class, as it enables each student to come into more intimate relation with the teachers in laboratory and hospital work, and in connection with the system of recitations and conferences, which should be a part of the curriculum, makes instruction more personal and adapted to the special needs of the individual. The time must come—indeed, it is close at hand—when the advantage of smaller classes will be appreciated, provided we are prepared to do honest and thorough work.

It must be obvious that the reason some schools have too many students and others so few is due to the respective estimate of the relative merit in which they are held by the members of the medical profession, who are usually appealed to as referees by prospective medical students. I can not agree with those who believe that there should be a different standard in different schools and who consider it a Utopian idea to expect that all the medical schools in the country should be based on a uniform curriculum, any more than the various colleges or academies. It seems to me that the standards of state boards are no higher for the graduates of these schools than for those of the smaller schools; all must possess the same qualification. The subject of graduate work is another question. There is, of course, no reason why schools engaged in turning out special-

ists and teachers should not vary their curricula with the special needs of the student.

I realize that the weakness of our smaller schools lies not so much in the lack of funds or endowments as in the lack of methods. It does not require expensive and pretentious buildings to do the work, but it does require competent men and proper laboratory equipment and clinical facilities.

Fortunately, men always will be found in the profession willing to work in the interest of higher medical education, regardless of pecuniary reward. My own school has no endowment whatever, it being the only school in Washington which abolished night sessions ten years ago, resulting, as was anticipated, in financial losses; but we have the satisfaction of knowing that our product has improved. We have only 140 students, but in spite of this we have equipped our laboratories and established a university hospital.

The present cost of microscopes, chemical, bacteriologic and physiologic apparatus puts them within the reach of every school. A complete set of physiologic apparatus, sufficient for ten to fifteen students, can be purchased for $75.00 from the Harvard University; four sets would be quite ample in a class of 40 to 60 students. One microscope for every two students will answer very well until the funds will permit an instrument for every student, which, of course, is more desirable. It goes without saying that no school should be permitted to enter our ranks unless it is properly equipped, and no school should give courses in junior and senior studies unless it has also suitable facilities for clinical teaching. When this is done, will anyone deny that the school with 250 students will not turn out as good, if not a better, product than the large schools? How many times in our large schools is the average student called to the operating table to witness a cataract operation or abdominal section at close quarters, or to examine the patient before an operation and give to the professor and the class his opinion as to the pathology, diagnosis and methods of treatment? What is true of the surgical is equally true of the medical cases.

The time will come when all schools will be great, not in numbers, but in the quality of the product, and when this is accomplished I predict there will also be a leveling in the number of students. The average American is too practical to travel thousands of miles when he can secure equal, or possibly superior, advantages nearer home. Another advantage from a purely business point of view will be the disintegration and abandonment of projected schools unwilling to bring their institutions up to a reasonable standard. Who will patronize a school whose diploma is discredited by the majority of state examining boards, and who will dare to establish a new school unless fully equal to meet the requirements? If they should be established, the state boards will take such action as will prevent their doing any mischief.

We do not need more schools, but we need better schools. Every advantage is to be gained by the smaller schools from a uniform standard of curricula, and there is no good reason why we should not all survive in the face of an ever-growing and powerful nation, especially when there will be a more equal distribution of students with improved methods of instruction. All had a humble beginning, but by perseverance and honest work we may hope to reach the same high plane of efficiency which some have attained. Progress has crowned our past. Let our conduct raise no blush on the cheek of posterity.

Compulsory action is always to be deprecated, and yet this stares us in the face; on the other hand, much good can be accomplished by a joint deliberation between the colleges and the state boards of medical examiners, and the formation of a standard of medical education arranged in a logical order, specifying the minimum number of hours required in each study, and which will meet the views of the educator as well as the licensing boards.

In order to comply with the requirements of the Michigan State Board of Examiners, we have arranged a schedule for the Medical School of Georgetown University, which is at least suggestive.

It will be seen that the requirements do not differ materially from the average obtained in 43 medical colleges in the United States, and is really in excess of the standard curriculum recommended by a special committee of the National Confederation of State Examining and Licensing Boards, which places the minimum requirement at 3,600 hours.

The requirements of the Michigan State Board of 4,240 hours may be considered excessive, and might with advantage be reduced to 4,000 hours, devoting about 950 hours to each of the first two years' work and 1,150 hours each to third and fourth year work.

I have purposely devoted less time to freshman and sophomore studies, as the acquisition of the sciences taught during the first two years really involves more of a mental strain than the work of the third and fourth year.

CURRICULUM AT THE SCHOOL OF MEDICINE, GEORGETOWN UNIVERSITY

Based on the 4,200-hour standard prescribed by the Medical Examining Board of the State of Michigan, in force during the session of 1903-1904:

	Lecture	Laboratory work.	Total.
First Year—			
Physics	20	20	40
Chemistry	72	72	144
Osteology	24	..	24
Anatomy	150	180	330
Histology	24	100	124
Embryology	35	50	85
Physiology	75	40	115
Materia Medica	34	12	46
	434	474	908
Second Year—			
Anatomy	100	104	204
Physiology	120	40	160
Chemistry	72	96	168
Bacteriology	50	100	150
Pathology	60	120	180
Pharmacology	45	15	60
Minor surgery	12	12	24
	459	487	946
Third Year—			
Pathology	38	38	76
Clinical microscopy	..	62	62
Physical diagnosis	36	36	72
Medicine	90	180	270
Surgery	120	125	245
Orth. surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Therapeutics	90	..	90
Hygiene and dietetics	40	..	40
	548	606	1154
Fourth Year—			
Morbid anatomy and medical zoology	45	45	90
Medicine	90	180	270
Surgery	120	125	245
Orthop. surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Electro-therapeutics	12	12	24
Laryng. and rhinology	24	48	72
Opthalm. and otology	30	60	90
Dermatology and syphilis	12	24	36
Genito-urinary diseases	18	18	36
State medicine	30	..	30
	515	677	1192

First year	908
Second year	946
Third year	1154
Fourth year	1192
	4200

Physics	40
Chemistry	312
Anatomy	558
Histology and embryology	209
Physiology	275
Materia medica, pharmacology and therapeutics	196
Bacteriology	150
Pathology	226
Clinical microscopy	62
Morbid anatomy and medical zoology	90
Physical diagnosis	72
Medicine	540
Surgery	514
Orthop. surgery	48
	562
Obstetrics	160
Gynecology	168
Pediatrics	90
Dermatology and syphilis	36
Genito-urinary diseases	36
Larvng. and rhinology	72
Ophthalmology and otology	90
Neurology	72
Mental diseases	60
Electro-therapeutics	24
Hygiene and dietetics	40
State medicine	30
	4200

PROPOSED STANDARD OF A 4,000 HOURS' MEDICAL COURSE

First Year—	Lectures and Recitations.	Laboratory Work.	Total.
Physics	20	20	40
Chemistry	72	72	144
Osteology	24		24
Anatomy	120	172	292
Histology	24	100	124
Embryology	35	50	85
Physiology	105	40	145
Materia medica	34	12	46
	434	466	900
Second Year—			
Anatomy	106	78	184
Physiology	90	40	130
Chemistry	72	96	168
Bacteriology	50	100	150
Pathology	62	140	202
Pharmacology	45	15	60
Minor surgery	12	12	24
	437	481	918

Third Year—	Lectures and Recitations.	Laboratory or Clinical Work.	Total.
Pathology (morbid anatomy and medical zoology)	38	42	80
Physical diagnosis	36	36	72
Medicine	90	180	270
Surgery	120	125	245
Orthopedic surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	60	84
Neurology	18	18	36
Mental diseases	15	15	30
Therapeutics	90		90
Hygiene and dietetics	36		36
	544	448	1,092
Fourth Year—			
Medicine	90	180	270
Surgery	120	125	245
Orthopedic surgery	12	12	24
Obstetrics	50	30	80
Pediatrics	15	30	45
Gynecology	24	50	74
Neurology	18	18	36
Mental Diseases	15	15	30
Electro therapeutics	12	12	24
Laryngology and rhinology	24	48	72
Ophthalmology and Otology	30	60	90
Dermatology and Syphilis	15	25	40
Genito-urinary diseases	15	15	30
State medicine	30		30
	470	620	1,090

First year	900
Second year	918
Third year	1,092
Fourth year	1,090
	4,000

CONCLUSION.

In conclusion let me reiterate that I represent a small, struggling medical school, and if I differ from the views expressed by others, I do so with great hesitation. Apart from the ethical aspect and the imperative demands for reform throughout the medical profession, I consider it in the highest degree good business policy to advocate a plan which will improve the quality of the product and equalize the number of students, a result which can not fail to be acceptable to the larger schools and extremely profitable to the smaller schools, and I therefore beg to offer the following resolution:

Resolved, That a Committee on National Uniformity of Curricula be appointed, to co-operate with a similar committee appointed by the National Confederation of State Medical Examining and Licensing Boards, for the purpose of presenting a minimum standard of medical education, together with such recommendations as the committee may deem proper as to the division of the subjects in a four year graded course. Said report to be presented at the next annual meeting, and to be printed and distributed at least one month before said meeting.

COMPARATIVE STANDARDS OF MEDICAL EDUCATION.

Subjects.	Proposed Standard. Lecture.	Proposed Standard. Laboratory.	Proposed Standard. Total.	Average of 43 Colleges.	Michigan.	Georgetown. Present Standard.	State Medical Exam. Standard.
Physics	20	20	40	.....	.....	.....	.....
Chemistry and Toxicology	141	168	312	275	350	352	340
Anatomy	230	230	500	510	400	558	500
Histology and Embryology	59	150	209	219	200	209	200
Physiology	195	80	275	276	260	275	250
Materia Medica, Pharmacology and Therapeutics	169	27	196	118	284	196	110
Bacteriology	50	100	150	131	280	150	115
Pathology	100	182	282	295	220	256	260
Morbid Anatomy and Medical Zoology	.....	.....	.....	.....	.....	90	.....
Physical Diagnosis	36	36	72	61	120	72	55
Medicine	180	360	540	544	540	540	500
Surgery and Orthop. Surgery	276	286	562	596	540	562	540
Obstetrics	100	60	160	177	160	160	150
Gynecology	48	110	158	145	220	168	130
Pediatrics	30	60	90	72	140	90	60
Dermatology and Syphilis	15	25	40	64	60	36	50
Genito Urinary Diseases	15	15	30	.....	90	36	.....
Laryngology and Rhinology	24	48	72	67	260	72	55
Ophthalmology and Otology	30	60	90	106	540	90	95
Neurology	36	36	72	82	120	72	75
Mental Diseases	30	30	60	27	120	60	25
Electro Therapeutics	12	12	24	.....	30	24	.....
State Medicine	30	.....	30	.....	30	30	.....
Hygiene and Dietetics	36	.....	36	33	54	40	30
Clinical Microscopy	.....	.....	.....	.....	72	62	.....
	1885	2115	4000	3937	4240	4200	3540

CASE OF TETANUS SUCCESSFULLY TREATED BY ASPIRATION OF THE CEREBROSPINAL FLUID AND INJECTION OF MORPHIN-EUCAIN AND SALT SOLUTION.

JOHN B. MURPHY, A.M., M.D.
CHICAGO.

History.—Alex. S., aged 8 years, was admitted to Mercy Hospital July 10, 1904. He is one of eight healthy children and has had no previous illness. Seven days preceding admission, while crossing a dirty street, he stepped on a piece of glass, cutting his foot in two places. He received no medical treatment, except that the foot was washed by his father and applications made of a lotion and of antiphlogistin. This was prescribed by a physician without seeing the case. Five days later (six days after the accident) stiffness of the jaw began and he was seen for the first time by a physician. At this time he had had for twenty-four hours pronounced trismus, and spasm of the muscles of the neck, with occasionally contraction of the muscles of the back, but not severe. There had been no chills, fever, nor sweats. There was little redness or irritation around the wounds.

Hospital Examination.—When admitted to the hospital there was a wound one inch and a half long on the outer aspect of the anterior portion of the foot, and a smaller wound on the inner side near the heel. The trismus was pronounced, and every three to five minutes there was contraction of the muscles of the back with pronounced opisthotonos.

Surgical Treatment.—The patient was anesthetized. The

anterior wound appeared healed, but on separating the edges a piece of glass and some debris were found in it. A smaller piece of glass with pus was found in the posterior wound. These had been there for seven days. The pus was examined for tetanus bacilli and none found; an anaerobic culture was made with no result. The wounds were curetted, cauterized with a 95 per cent. solution of carbolic acid and packed with iodoform gauze. The patient slept a short time after the anesthetic. Then the convulsions came on every ten to fifteen minutes and lasted one to three minutes. His temperature was 99.8 degrees; pulse 110.

Treatment by Antitetanic Serum.—On July 11 he was given three full doses of antitetanic serum, without effect. The convulsions increased in frequency and were almost continuous.

Treatment by Morphin-Eucain Injections.—On the morning of July 13 a lumbar puncture was made and 16 c.c. of cerebrospinal fluid withdrawn. It was cloudy in its appearance to the naked eye. At the same time, through the needle, 3 c.c. of the following solution were injected into the subarachnoid space:

℞	B. eucain	gr. iss	|09
	Morphin sulphate	gr. 1/3	|02
	Sodium chloridi	gr. iii	|18
	Distilled water	ʒiiiss	105|

This had been sterilized by boiling. The patient slept four hours immediately following the injection, and through the night slept an hour and a half at a time. The spasms were of shorter duration and he had only eight in the succeeding twenty-four hours. His temperature the evening of July 13 was 102 degrees and his pulse 120.

Course and Recovery.—On July 14 a spasm occurred at about 4 a. m. which was the most severe he had had since the injection. At 11 a. m. another puncture was made and 15 c.c. of fluid withdrawn. This looked comparatively clear. Four c.c. of the above solution were again injected. He slept four hours following this injection. Pulse was 100, temperature 100 degrees. He had eight spasms between this and noon of the following day, July 15, when they began to increase in frequency. The spinal canal was again punctured, 15 c.c. of fluid withdrawn and 4 c.c. of the morphin-eucain solution injected. He had no spasm until late in the afternoon and only an occasional mild spasm through the night. At noon, July 16, 15 c.c. of fluid were withdrawn and 4 c.c. of the solution injected.

July 17 his condition was so good that no injection was made. In the night the spasmodic contractions again occurred, and by the next morning they were being repeated every hour, though of mild severity. He could now talk well and had had a good night's rest. On July 19 the usual aspiration and injection were made. On July 20 he had a few very mild spasms.

On the morning of July 21 the spasms were a little more severe, although at intervals of three or four hours. At noon there was another aspiration and injection made. Following this there was no spasm; his condition improved; the trismus gradually subsided and he was discharged cured July 31.

THE DOSAGE.

It will be noted that the quantity of morphin in each injection was 1/75 of a grain, and of eucain 3/50 of a grain. These were extremely small doses, and as it was my first case I feared to increase the quantity. There was no sweating, headache nor collapse, symptoms so frequently noted after injections of cocain for spinal analgesia. It will be recalled that at the time cocain was first used for analgesic purposes, it was believed the injection of any solution in the spinal canal would produce these symptoms. The injections immediately relaxed the spinal muscles, and they remained relaxed for considerable periods of time, hence the patient had a good opportunity to sleep and rest from the time he received the first injection. It is my belief that the strength of the eucain portion of the solution should be increased so the patient would receive 1/6 or even 1/3 of a grain with each injection. Furthermore, that the aspirations and injections might be repeated with greater frequency. There seemed to be no ill effect from the withdrawal of the fluid, and after the third day the fluid showed no polynuclear leucocytes.

SUGGESTIONS FOR FUTURE CASES.

I believe eucain is much safer than cocain; first, because it admits of boiling for sterilization; and second, because there is less idiosyncrasy to intoxication. As these patients die, many of them from exhaustion from the spasms, and some from the severity of the spasms of the respiratory muscles themselves, I feel that this can be entirely overcome with the injections. I have not had an opportunity to try it on other cases, and publish this merely as a preliminary report—as this is the season in which tetanus is most frequent—that others may be induced to try it. I do not know whether the benefit was attributable to the extraction of the cerebrospinal fluid or to the injection of the solution, or both. The fact the fluid withdrawn on the first, second and third days contained pus, and after that none, would lead one to believe that possibly the diminution of pressure in the cerebrospinal cavities aided the fluid in overcoming the infection, just as in epidemic cerebrospinal meningitis, repeated spinal puncture relieves the pressure and gives the greatest percentage of recoveries.

There is no reason why the cerebrospinal cavities can not be washed out in severe infections with salt or other neutralizing solutions by the following method, which I shall put into practice in the first case of cerebrospinal meningitis coming under my observations: First, make a drill puncture of the cranium over the lateral ventricle; insert a fine needle until the cerebrospinal fluid escapes; second, insert a needle into the spinal canal in the lumbar region and allow a normal salt solution to flow, under hydrostatic pressure, from the needle in the right ventricle, down through the foramen of Magendie and the spinal canal, to, and out of the needle in the lumbar area. This can be accomplished on the cadaver, as I have demonstrated. Permanent drainage of the cerebrospinal canal has been almost uniformly fatal, and should not be instituted.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART I. A HISTORICAL SKETCH.

(*Continued from Page 403.*)

(C) DR. HAMILTON'S ADMINISTRATION (1879-1891).

In 1879 Surgeon-General Woodworth died, and was succeeded by Surgeon John B. Hamilton. The new head of the service vigorously pursued the policy inaugurated by his predecessor in office. The regulations were revised and brought up to date, embodying the substance of circulars and orders issued since 1873. Stricter accountability for public property, improved discipline, greater amount of relief furnished at a relatively less cost, and greater accuracy in the medical statistics were the objects attained by rigid enforcement of regulations.

During the first four years of Dr. Hamilton's administration, the National Board of Health, created by the law of 1879, was in active existence, and the public-health work of the service did not increase in consequence. The law under which the National Board of

EDITOR'S NOTE.—This article began July 30. The Army Medical Department was discussed May 7, 14, 21, 28 and June 4.

Health operated expired by limitation, June 2, 1883, and the Marine-Hospital Service took charge of national quarantine and public-health matters under the quarantine law of 1878, which then became operative. A contingent appropriation was made by Congress for the prevention of the introduction and spread of epidemic diseases and the maintenance of quarantine at points of danger. This appropriation supplied the necessary funds for quarantine and epidemic work, which the quarantine law of 1878 failed to provide.

In 1884 the assignment and collection of the hospital tax from seamen was abolished, and the same act provided that "the expense of maintaining the Marine-Hospital Service should hereafter be borne by the United States out of the receipts from duty on tonnage provided for by this act, and so much thereof as may be necessary is hereby appropriated for that purpose."

In January, 1886, Surgeon-General Hamilton resumed the publication of the "Weekly Abstract of Sanitary Reports," as required by the act of 1878, which had been temporarily suspended during the activity of the National Board of Health.

The quarantine stations which were established by the National Board of Health were mainly refuge stations, and when the service took charge of these in 1883, their equipment was deficient. Surgeon-General Hamilton recommended that "the national quarantine stations be made permanent, and that they be equipped with all the necessary appliances known to modern sanitary science for the treatment of infected vessels and their cargoes, so that not only may immunity from the importation of contagious diseases be secured at those stations, but such security be had with the least possible obstruction to commerce." In 1888 a law was passed perfecting the national quarantine system on the Atlantic and Gulf coasts, and providing for the establishment of three stations on the Pacific coast. An appropriation of $500,000 was made to carry out the purposes of this act.

During the first year of Surgeon-General Hamilton's administration, the Secretary of the Treasury issued a circular, which specified that all persons applying for either renewal of license or original license, as pilots of steam vessels, should be required to undergo a visual examination, to determine the presence or absence of color blindness, and that the examination should be made by a medical officer of the Marine-Hospital Service, whose certificate of good color sense should be essential to the issuance of a license.

Surgeon-General Hamilton provided a "Handbook for the Ship's Medicine Chest," for the guidance of masters of vessels carrying no doctor. Section 4569 of the Revised Statutes compelled the carrying of a medicine chest by such vessels, but neither specified what the contents should be nor provided instructions for its use. This "Handbook" supplied the deficiency, gave lists of necessary medicines, and in simple language directed the masters what to do when skilled medical assistance was unobtainable.

During this period the medical officers were required to report not only on the sanitary conditions of their hospital, but also on existing conditions in the cities in which they were stationed. The hygiene of the merchant marine continued to receive the attention of the service, and from the control of outbreaks of smallpox or other contagious disease among sailors, especially on western lakes and rivers, it was but a short stride to the supervision of local epidemics and the prevention of their spread.

The service assisted the local authorities in controlling the epidemics of yellow fever in Florida and Texas in 1882, and in all subsequent epidemics have succeeded by the detention camp in preventing the spread of the disease without resorting to "shotgun" quarantine.

The first detention camp was established (1888) on the south bank of St. Mary's River (the boundary between Georgia and Florida), and was called Camp Perry. Refuge camps near infected cities were not new, but an inland quarantine where suspects were detained only long enough to demonstrate that they were not infected and then permitted to proceed north was a novel procedure at this time.

In 1889 the Secretary of the Treasury detailed Surgeon-General Hamilton to attend the Sixteenth International Medical Congress at Berlin, Germany, and to study European hospital construction. The surgeon general visited may large European cities, studied their hospitals, and made an exhaustive and critical report on the systems employed in their construction.

The regulations of the service since the reorganization required that all applicants for the service should be examined by a board of officers, and appointed to the lowest grade, that of assistant surgeon. The examinations were severe and the standard of excellence demanded was high, and in consequence 80 per cent. of the applicants were rejected. The surgeon general considered statutory provision confirming the regulations on this point necessary for the maintenance of this high standard of excellence, and in 1889 Congress enacted that, after passing a satisfactory examination before a board of service officers, the applicant was to be commissioned by the President, by and with the advice and consent of the Senate, appointment to the service to be made only to the lowest grade, that of assistant surgeon.

Assistant surgeons were to be promoted to the rank of passed assistant surgeon after four years' service and the passing of an examination, and promotion to the rank of surgeon only after due examination.

To provide additional protection to the country at large in preventing the spread of contagious disease from one state or territory to another, the interstate quarantine law of 1890 was passed by Congress. In June, 1891, Supervising Surgeon-General Hamilton resigned, and was succeeded by Surgeon Walter Wyman, who was then chief of the quarantine division.

(To be continued.)

TRAVEL NOTES.

IV.*

LEPROSY IN THE HAWAIIAN ISLANDS. THE PROPOSED ESTABLISHMENT OF A GOVERNMENT BACTERIOLOGIC INSTITUTE.

NICHOLAS SENN, M.D.
CHICAGO.

HONOLULU, July 14, 1904.

The inhabitants of the beautiful Hawaiian Islands, comparatively free from the devastating infectious diseases so long as they enjoyed the blessings of isolation from the outside world, have been made painfully aware of the dangers of the dissemination of disease from man to man. They have experienced the benefits and blessings as well as the evils and curses arising to them from a new civilization brought to their

* The first article in this series, "Travel as a Means of Post Graduate Medical Education," by Dr. Nicholas Senn, appeared in THE JOURNAL, July 23, page 261; the second, "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30, page 328; the third, "Spain and Ramon y Cajal," by Dr. Lewellys F. Barker, Aug. 6, p. 403.

palm-clad shores by white men in search of new lands and fabulous wealth. Some fifty years ago the first case of leprosy came to the little island empire from the distant Orient. As usual with the primitive peoples of the islands of the South Sea this dreadful disease found a fertile soil in the natives, with so little resistance to all infectious diseases, acute or chronic. It spread with alarming rapidity, and it became evident unless rigid measures were enforced in the way of absolute and early segregation, that from this cause alone, the entire population would become practically extinct in less than half a century. In 1866 the number of known lepers had reached 105; in 1876, 677, in 1886, 590, in 1897, 1,100, and when I visited the Molokai settlement two years later I found that the number of lepers had reached 1,300.

Fig. 1.—Tubercular leprosy in a young native girl.

When I visited the islands a second time I was informed that the number of lepers, owing to the fearful mortality among them, had been reduced to 1,100. The nationalities of the lepers is shown by a report made in 1898, of which number 984 were natives, 62 half castes, 32 chinese, and 5 Americans.

SEGREGATION.

When it was found necessary to enforce segregation a commission was appointed to select the most favorable location, climatic and otherwise, for the unfortunate exiles. This commission acted wisely in selecting a tongue-like projection of the island of Molokai, isolated on two sides by the ocean and from the remaining part of the island by an almost perpendicular cliff, the Pali, 2,000 feet in height, which is crossed by those who are permitted to visit the settlement over a shelf-like path hewn out of the solid rock. A trip over such a mountain path demands much physical exertion, and more than an ordinary interest in making the visit. The laws regulating and enforcing segregation are more stringent here than anywhere else. They include a divorce of married people if the man or wife so desire, and exclusion from society for the remainder of the leper's life. If the healthy husband or wife is willing to share the fate of the doomed consort she or he is permitted to share the banishment, with the understanding that the exile is for life, and with no expectation of ever seeing remaining relatives again, this side of eternity. On the other hand, the exiled man or woman is free to marry again, an inmate of the leper settlement. The government recognized that what certainly appear as hard, and even cruel, measures, were intended for the benefit and protection of the mass of the population That these severe laws met first with violent opposition on the part of the lepers and their devoted relatives and friends is very natural, among a people who are very unselfish and tender The officers were intrusted with carrying the laws into effect The physicians who made the diagnosis and the police who

Fig. 2.—Tubercular leprosy in a Hawaiian.

had to apprehend the suspect and attend to their transportation to the settlement met with many difficulties, and in some instances sustained personal violence.

A FIGHTING LEPER.

There is one instance on record where a leper resisted not only the police force but an entire company of infantry. He hid himself in a mountain cave, accompanied by his faithful wife, the only access to which was over a narrow path, where men had to walk in single file. He supplied himself with firearms and ample ammunition, and declared that anyone who came within range of his gun would be killed. When the soldiers were sent to secure him he only did what he had threatened, and killed the first four who headed the file. The attempt was never repeated, and the desperate leper had the satisfaction of being relieved of sufferings in his lonely cave, being cared for by his devoted wife. Just when he died and where his mutilated body found its last resting place no one knows, as his wife took the precaution to hide his remains in some lonely mountain place, to protect it from being interfered with, and her efforts, so far, have been successful.

THE LEPER SETTLEMENT.

The leper settlement is made up of two villages, on opposite

sides of the promontory. From the very beginning the unfortunate inhabitants of this strange and ideal settlement have been treated in the kindest and most humane manner. Under royal rule, when the islands formed a republic, and now under a territorial form of government, large sums of money, on an average $100,000 a year, have been spent to procure all possible comfort. The settlement has churches, schoolhouses, stores, and even places of amusement. The lepers live in little homes, to many of which a pleasant garden spot is attached. This parental care on the part of the government, and the home life are what have removed all opposition to segregation.

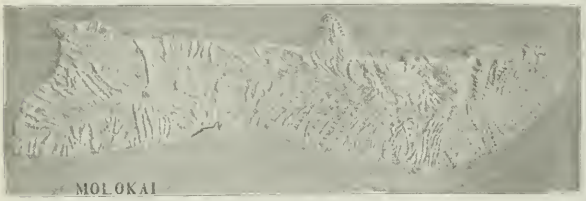

Fig. 3.—Island of Molokai.

Lepers now seek admission to the settlement of their own accord. It would be difficult, and, I think, impossible to find a place better adapted by nature for such a purpose. The equable climate all the year around, the cooling, refreshing land and sea breezes, the surf baths, the abundance of salt-water fish, the excellent water supply and natural sewerage advantages furnish comforts and advantages, by nature and man, that could not be found anywhere else.

Fig. 4.—Anesthetic leprosy in a native woman

A GOVERNMENT BACTERIOLOGIC LABORATORY AND STATION FOR THE SCIENTIFIC STUDY OF LEPROSY.

The government owes an important duty in furnishing protection to its citizens against infectious diseases. To the physicians leprosy still remains a strange disease. We know its microbic cause, we have become somewhat familiar with its pathology, we are powerless in curing it, or even in retarding its ravages and relentless course. A successful treatment must and will be found. There is no other place in the world where more effective work could be done. The lepers are here. They are a docile, gentle people, who will heartily co-operate with a scientific man to find the much-needed remedy. The annexation of the Hawaiian Island places this great field of scientific research within easy reach of the United States. Little Japan has placed a small colony of lepers and sufficient funds at the disposition of the distinguished Professor Kitasato to discover a remedy for millions of people scattered all over the world. Why can not the rich and enterprising government of the United States embrace this great opportunity to find a remedy for such a loathsome and hopeless disease like lepra. With the acquisition of island possessions in the Pacific and Atlantic the danger of the spread of the disease in our own country is being vastly increased. Let the United States take care of the leper settlement at Molokai, spend $100,000 in the erection of a laboratory for the study of leprosy, pay a recognized scientist at its head with a salary of $10,000 a year, and thus place itself in line with other countries, who are now doing what they can on a much smaller scale in bringing leprosy within range as a curable disease. Hawaii would hail such a step with joy, to be relieved of the heavy annual expense in caring for its leper children, and in co-operating with the general government in scientific research, calculated to lead to the discovery of a cure for a disease so widely spread, and which has proved itself so obstinate to all kinds of treatment so far suggested and

Fig. 5.—Baldwin Home for leper boys, Kalawao, Molokai.

tried, and for the dissemination of which stern exile has been the only means. The time is ripe for the United States to act. Let the mass of the American medical profession agitate this matter and let the delegates bring it to the attention of our energetic and humane congress and such prompt action is sure to bring about the desired result.

THE ISLAND OF MOLOKAI AS A HOME FOR LEPERS.

As can be seen from the accompanying small sketch of the island of Molokai (Fig. 3), the leper settlement occupies only a very little of it. It seems to me that in view of the many lepers that will come under our charge it might be advisable to devote the whole island of Molokai to homes for lepers. There is only one limited tract of land owned by Mrs. Myers and her children which is of any considerable money value. The balance of the island could be bought very cheaply. The Hawaiian lepers should remain where they are, but the remaining part of the island could be readily converted into pleasant leper homes. The entire island is large enough for colonies representing different nationalities which could be established sufficiently far apart to guard against international friction. It would not be difficult to locate pleasantly 3,000 additional lepers on the opposite shore and mountainous part of the island. This suggestion is worthy of consideration

(To be continued.)

Clinical Report.

A CASE OF BRASS MOLDER'S AGUE.

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CHICAGO.

Patient.—J. G., aged 33 years, Polish, married, brass molder, has been under my personal observation one year. He entered St. Mary's Hospital July 17, 1904.

Family History.—Father and mother died of old age; disease unknown to patient. Two brothers and two sisters alive and healthy; one brother died of some acute abdominal affection.

Personal History.—Measles and scarlet fever as a child; otherwise well until present illness. No venereal history.

Present Illness.—Patient came to this country fourteen years ago and began working at an occupation in which he continually inhaled and was exposed to an atmosphere laden with minute particles of brass filings. One year later his symptoms began. He first noticed palpitation of the heart, accompanied by pain in precordial region; also pain in abdomen of a dull character, sometimes lasting several hours. Numbness and cramps in arms and legs, together with difficulty in moving the extremities were not infrequent phenomena. A prominent symptom was a fine tremor, most marked in muscles of the face, hands and fingers. On several occasions he had distinct chills lasting several minutes. Constipation was very obstinate requiring cathartics constantly. Patient's appetite gradually became impaired. He was troubled with bronchitic symptoms which were severe. From time to time he was confined to bed for periods of one or two weeks. Recently severe headache, attacks of vertigo and dizziness and a burning sensation in the epigastric region has been noticed. His hair has fallen out lately and his memory is failing. As to habits, he is a habitual user of alcoholic beverages, which he thinks aggravate his condition; he does not use tobacco in any form.

Examination.—Medium-sized man, height 5 feet 6½ inches, weight 126 pounds; emaciated; sallow, anemic, unhealthy looking complexion; has lost 25 pounds in the last month. Marked baldness of head; also some loss of both pubic and axillary hair. Tongue coated heavily, foul breath; shows a beautiful green zone or border along the gingival margin of the gums, which can not be removed by ordinary scraping. Teeth in good condition. Pupils react to light and accommodation; eye grounds normal. Skin tinted yellow; dry, scaly. Sensation normal; electrical reaction normal. Patellar reflexes exaggerated, especially on right side, where there is a repeated clonic response to a moderate tap. Ankle clonus present in both. Cremasteric and corneal reflexes normal. Fine tremor in fingers, hands and facial muscles; also wasting of said muscles, speech indistinct and tremulous. No glandular enlargement; osseous system negative. Arteriosclerosis marked. Lungs slightly emphysematous. Heart, liver and spleen normal. Abdomen negative, some epigastric tenderness and a loose tenth cartilage.

Urinalysis.—Negative; Marsh test negative. Examination of feces, chemical and microscopic, negative.

Examination of Blood.—Differential count of 120 fields:

Hemoglobin		80 %
Red cells	4,960,000	
White cells	10,800	
Small lymphocytes	110	18 %
Large lymphocytes	65	10 %
Eosinophiles	10	.016 %
Polymorphonuclear leucocytes	400	66 %

Treatment.—At the beginning the patient was treated symptomatically; iodid of potassium in a saturated solution was given until physiologic reaction appeared. The literature was scanned, but without giving much information. Milk, given very hot, but not boiled, afforded a good deal of relief. It was given with the idea that it would precipitate both zinc and copper into insoluble albuminates. No marked improvement followed the use of bromids and iodids. During the acute attacks morphia in ½ to ¾ gr. doses was administered hypodermically with only slight cessation of pain. Quinin hydrochlorate and sulphate were given for the chills without effect. The patient was given large doses of zinc phosphid and sulphate of strychnia for the tonic effect. On his entering the hospital it was discovered that anything hot was soothing to him and relieved his pain; hot water was then tried, to which was added gum camphor, 5 grains to a pint of hot water; he would drink at times two to three pints of this with great relief. The local application of a large mustard plaster over the entire abdomen gave relief at times. Total abstinence from all meat was followed by improvement, and he has since been put on a strictly vegetable diet, with no return of symptoms. It is strange that hot water with small doses of camphor gum should give relief. It is worthy of a trial.

New Instrument.

SUTURE SCISSORS AND SUTURE REMOVER IN ONE INSTRUMENT.

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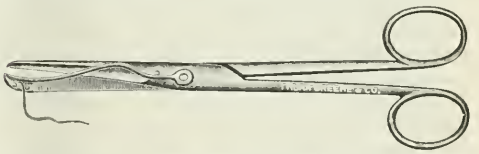
It is customary for a great many surgeons to stitch up lacerations of the cervix with non-absorbable sutures, such as silkworm-gut. Lacerations of the perineum are more frequently sewed up with such material. When such sutures are used it is often difficult to remove them. The reasons for this are obvious: 1. Sutures within the cervix are deeply situated; 2, there is usually not sufficient light; 3, sutures occasionally are buried beneath congested, inflamed or overlapping tissue; 4, there is very little room to work; 5, it is difficult to use two instruments within the vagina, viz., one to hold the end of the sutures, and the scissors to cut the sutures; 6, the view is obstructed so that it is difficult to secure the suture without wounding the portio vaginalis. A few of these difficulties are experienced in removing perineal sutures.

It occurred to me that a combined instrument might be made so that the sutures could be hooked up, cut and withdrawn, all with the same instrument. Such an instrument I have had constructed. It consists of an ordinary 7-in. straight



scissors, with a hooked point on the lower blade. On the flat side of this hooked point is fastened a block of steel about 1/16 of an inch wide, corresponding with the curve of the hook, extending ½ of an inch along the flat surface of the lower blade, and fastened a little below the level of the cutting surface. The hooked point is rounded and dulled so that it will not wound the soft tissues. A spring, extending to the point of the upper blade, is fastened by the screw holding the two blades. It has a surface at its extremity to correspond with the curve and width of the block on the lower blade. Two pins a little in front of the screw, hold the spring, making it firm above and below. The opposing surface of the spring and block are roughened so as to hold the suture firmly. This is more necessary for silk sutures. A suture that is to be removed is caught up with the hook, the scissors closed, and the spring clamps the suture onto the block before the cutting surface of the blades sever the suture. When the suture is cut, traction is made on the scissors; this pulls the suture out of the tissues. Care should be observed to get the knot on the side of the spring. These scissors can be used for removing sutures from any locality, but will be found especially useful in removing sutures located deeply, as within the cervix.

The advantages for such an instrument are that one hand is used, and thereby the view is not obstructed; the sutures can be caught up with the hook, quickly cut and removed.

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MEDICAL EDUCATION IN THE UNITED STATES.

The present issue of THE JOURNAL is the fourth annual educational number, and contains statistics regarding medical education in the United States, covering the year ending June 30, 1904. The information contained in this statistical study was obtained largely from the colleges directly, and has been certified to by some one in authority in each school, so that we have every reason to believe that all the data are as correct as can be obtained. It has been no easy task to gather all this information, and any errors that may have crept into the work are only such as are likely to occur when information is gathered from many sources. Only one college in the United States (not including the Manila and San Juan schools) flatly refused to give any information, but the data which might have been obtained would not have changed the totals appreciably. We take this opportunity of extending our thanks to all those who aided us in gathering these statistics.

A perusal of our study will show that medical education, so far as students and colleges are concerned, has not changed materially during the past year, although a slight improvement is noticeable in the advances made in the length of the college term. This improvement is, on the whole, very gratifying, inasmuch as it shows the disposition of all the schools to better medical education. In the statistics contained in this number, we have embodied some new features which, we are convinced, will be of interest to medical educators.

Number of Medical Students.—The number of medical students in the United States for the year ending June 30, 1904, was 26,138—a decrease of 1,477 below the year 1903. Of this number, 23,662 were in attendance at the regular schools; 1,105 at the homeopathic; 1,014 at the eclectic, and 357 at the physiomedical and nondescript schools. There was a decrease in the attendance of the regular schools of 1,268 below last year, and a decrease of 1,216 below the year previous—1902. In the homeopathic schools, there was a decrease of 393 below that of 1903, and a decrease of 512 below 1902. The eclectic schools have been increasing steadily since 1900. In 1904, 1,014 students attended the eclectic schools, an increase of 166 over the attendance of the year previous—1903. The physiomedical and nondescript schools show an increase in attendance of 18 over the previous year, the attendance in 1903-04 being 357. This increase, however, occurred in the nondescript schools and not in the physiomedical.

TABLE OF MEDICAL COLLEGE ATTENDANCE.

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med. and Nondescript.	Total.
1880.....	9,776	1,220	830	...	11,826
1890.....	13,521	1,164	719	...	15,404
1900.....	22,710	1,909	552	..	25,171
1901.....	23,846	1,683	664	224	26,417
1902.....	24,878	1,617	765	241	27,501
1903.....	24,930	1,498	848	339	27,615
1904.....	23,662	1,105	1,014	357	26,138

Number of Graduates.—The total number of graduates for the year ending June 30, 1904, was 5,747, an increase of 49 over the preceding year. The increase in 1903 over 1902 was 699, so that the increase during the present year was much less than that of the year previous. Of course, there are 9 more colleges this year than there were last year, but 3 of the 9 were not in session, and the others, with the exception of 1, taught only a portion of the medical course. Although the graduates have increased slightly, the matriculants have decreased considerably, and we must assume that the decrease has occurred largely in the freshmen classes, partly because of the increase in entrance requirements, partly because of the increase in fees and general expense of the medical course, and, perhaps, because of the prosperity in the business world in general, which usually lowers the attendance in the professional schools. In some colleges there was a decided falling off in the freshmen class, while in others there was a very slight increase. The falling off was noticeable, particularly, in those schools that raised their entrance requirements. The decrease in the number of graduates in the homeopathic schools—19—represents the lowest number of graduates since 1902. The eclectic schools show a decrease of 3 in the number of graduates below last year, and the other school a decrease of 1. In the regular schools, on the other hand, there has been an increase of 102 over 1903.

TABLE OF MEDICAL COLLEGE GRADUATES.

Year.	Regular.	Homeopathic.	Eclectic.	Physio Med. and Nondescript.	Total.
1880.....	2,673	380	188	..	3,241
1890.....	3,853	380	221	..	4,454
1900.....	4,715	413	86	..	5,214
1901.....	4,879	387	148	30	5,444
1902.....	4,498	336	138	27	4,999
1903.....	5,088	420	149	41	5,698
1904.....	5,190	371	146	40	5,747

Number of Colleges.—Our report last year showed that there were at that time 157 medical colleges, 3 of which did not grant the degree of M.D., but taught only the first two years of the medical curriculum. Since then 1 college has passed out of existence, and 10 new ones have been formed, making a total of 166 colleges at the present time. Of these 133 are regular, 19 homeopathic, 10 eclectic, 3 physiomedical, and 1 institution which teaches all the "pathies" and "isms," including osteopathy. Of the regular colleges, 2 are not yet active, and 7 do not grant any degree. Of the latter number, 6 teach only the first two years of the medical course, and 1 only the first year. Two of the regular colleges are located in our island possessions; one is the Med-

ical Department of the University of Porto Rico at San Juan, and the other the Medical Department of the San Tomaso University of Manila, P. I.

COLLEGES IN STATES AND CITIES.

ALABAMA—2.
Birmingham 1
Mobile 1

ARKANSAS—1.
Little Rock 1

CALIFORNIA—8.
San Francisco 5
Oakland 1
Los Angeles 2

COLORADO—3.
Denver 2
Boulder 1

CONNECTICUT—1.
New Haven 1

DISTRICT OF COLUMBIA—3.
Washington 3

GEORGIA—3.
Augusta 1
Atlanta 2

ILLINOIS—16.
Chicago 15
Galesburg 1

INDIANA—6.
Indianapolis 4
Fort Wayne 1
Bloomington 1

IOWA—5.
Iowa City 2
Des Moines 1
Sioux City 1
Keokuk 1

KANSAS—3.
Lawrence 1
Topeka 1
Kansas City 1

KENTUCKY—7.
Louisville 7

LOUISIANA—2.
New Orleans 2

MAINE—1.
Portland 1

MARYLAND—8.
Baltimore 8

MASSACHUSETTS—4.
Boston 4

MICHIGAN—6.
Ann Arbor 2
Detroit 3
Grand Rapids 1

MINNESOTA—3.
Minneapolis 3

MISSISSIPPI—1.
Oxford 1

MISSOURI—15.
St. Louis 6
Kansas City 6
Columbia 1
St. Joseph 2

NEBRASKA—3.
Omaha 2
Lincoln 1

NEW HAMPSHIRE—1.
Hanover 1

NEW YORK—11.
New York City 8
Albany 1
Buffalo 1
Syracuse 1

NORTH CAROLINA—4.
Raleigh 2
Davidson 1
Wake Forest 1

OHIO—10.
Cincinnati 4
Cleveland 3
Columbus 2
Toledo 1

OKLAHOMA—1.
Norman 1

OREGON—2.
Salem 1
Portland 1

PENNSYLVANIA—7.
Philadelphia 6
Pittsburg 1

PHILIPPINE ISLANDS—1.
Manila 1

PORTO RICO—1.
San Juan 1

SOUTH CAROLINA—1.
Charleston 1

TENNESSEE—11.
Nashville 4
Knoxville 2
Chattanooga 2
Memphis 1
Jackson 1
Sewanee 1

TEXAS—8.
Galveston 1
Fort Worth 1
Dallas 5
Texarkana 1

VERMONT—1.
Burlington 1

VIRGINIA—3.
Charlottesville 1
Richmond 2

WEST VIRGINIA—1.
Morgantown 1

WISCONSIN—2.
Milwaukee 2

Three colleges are exclusively for women; 60 for men; 103 are co-educational; 4 hold only night sessions, and 2 both day and night sessions. There are 7 schools to which only colored people are admitted. Four schools operate under the continuous course system, the year being divided into quarters, the student being allowed to attend only a specified number of quarters or semesters in each calendar year. Sixty-six regular schools, 4 homeopathic and 1 eclectic college have a university connection or affiliation. The baccalaureate and medical degrees are granted at the end of six years' study by 6 colleges, and at the end of seven years by 1 college.

Seventy regular colleges are members of the Association of American Medical Colleges, 12 belong to the Southern Medical College Association. 18 of the homeopathic schools are recognized as in good standing by the American Institute of Homeopathy, and 8 of the eclectic colleges are members of the National Confederation of Eclectic Medical Colleges. Many of the colleges not in these associations abide by their entrance requirements.

A study of the following comparative table of medical colleges is of interest. The regular schools have increased in number since 1903, while the other medical colleges number as many as last year. It must be remembered, however, that last year only 3 schools gave instruction in the first two years' work of the medical curriculum, whereas this year 7 schools were engaged in doing this preparatory work. Each of these preparatory schools are integral parts of recognized universities, and this work, therefore, is accepted as a full credit by other medical colleges. By subtracting these 7 colleges, and also the 2 schools in Porto Rico and Manila, from the number of regular medical schools, it gives us an actual increase of only 2 colleges which grant the degree of M.D., or a total of 156.

COMPARATIVE TABLE OF MEDICAL COLLEGES.

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med. and Nondescript.	Total.
1880.....	72	12	6	..	90
1890.....	93	14	9	..	116
1900.....	121	22	8	..	151
1901.....	124	21	10	4	159
1902.....	121	20	10	4	155
1903.....	121	19	10	4	154
1904.....	133	19	10	4	166

Length of Terms.—A study of the length of terms in months, of the various medical colleges, discloses some very interesting facts. Of the 163 schools from which we were able to obtain the necessary information, 40.3 per cent. have a course of at least eight months' duration. Only 16.3 per cent. have a course of less than seven months' duration. The figures are as follows:

TABLE OF COLLEGE TERMS.

Term.	Schools.	Per cent.
6 months.....	27	16.3
7 months.....	44	27.0
7½ months.....	22	13.5
8 months.....	34	20.8
8½ months.....	13	7.9
9 months.....	19	11.6
*10 months.....	4	2.4

*Night schools.

Nearly all the shorter term schools are located in the South, where medical educators feel that the conditions are such as to prohibit a longer term. Most of the nonsectarian schools have seven months' terms. A very small percentage of the regular colleges have less than a seven months' term. Many of the colleges which last year had seven months' terms have adopted the eight and nine months' terms for the coming year. It is probable that another year will see the passing of the six months' school. Of course, the term "months" is elastic, inasmuch as seven months means anywhere from twenty-six to twenty-eight weeks; eight months, thirty to thirty-two weeks, and nine months, thirty-three to thirty-six weeks. It would be far better to regulate the length of each annual course by specifying a defi-

nite number of teaching days or number of hours spent in college.

Women in Medicine.—It is of interest that in spite of the apparent passing away of colleges for women, the number of women medical students and graduates has been increasing steadily. During the past year only 2 of the 3 colleges for women were in session, but 97 colleges are co-educational, which may account for the increase in women students. During the past year 1,129 women were engaged in the study of medicine—4.3 per cent. of the total number of medical students, and 244 graduated—4 per cent. of the total number of graduates. Of the total number of matriculants, only 183 were in attendance at the 2 woman's colleges, and 46 graduated from them.

THE COUNCIL ON MEDICAL EDUCATION.

With the appointment of the Council on Medical Education[1] at the Atlantic City session, the American Medical Association again voices its interest in the subject of medical education, and commits itself to an active participation in the efforts which are being made to elevate the standards of medical education in this country. It is interesting that this step should have been taken at a meeting held within a few days of the death of the founder of the Association, whose dominant idea in proposing the organization of the profession, over fifty years ago, was the improvement of medical education. The Council is to consist of five members, appointed by the President of the Association, and its functions are defined as follows:

First, "to make an annual report to the House of Delegates on existing conditions of medical education in the United States."

Second, "to make suggestions as to means and methods by which the American Medical Association may best influence, favorably, medical education."

Third, "to act as the agent of the American Medical Association, under instructions from the House of Delegates, in its efforts to elevate medical education."

The plan to be pursued by the Council was left indefinite, and it will doubtless be its first business to determine what lines of work it will undertake and what its relations shall be to the several other organizations having a similar purpose. Notwithstanding the gratifying advance which has been made in medical education in this country in recent years, as was well stated by the resolutions creating the Council, "the existing standards of medical education are not satisfactory as compared with those of other great powers." The conditions are ripe for a vigorous, concerted movement by all who are interested in the elevation of the medical profession in the United States. In this movement the Association, with its enormous and increasing membership and its thorough organization, may be a factor of great importance. It must proceed, however, with due regard to existing conditions, and will do best to co-ordinate its activities with those of existing organizations seeking the same end. Some conditions peculiar to this country are mentioned in the resolutions to which we have referred, which state that "our form of government makes it impossible, or at least improbable, to obtain governmental control of medical education." The numerous medical colleges which have to do with the education of the student and the several examining and licensing bodies which guard the portals of the profession, are creatures of the several states, and beyond the reach of national control. We can not have in this country, therefore, a body like the British Medical Council, which has direct official control of the several medical schools and of their students. In its relations to the American Medical Association, and so to the general profession, the new Council is analogous to the Committee on Education of the British Medical Association, appointed in 1898.

Another matter of importance is the existence of several national associations exclusively devoted to one or another phase of medical education, among them the Association of American Medical Colleges, the Southern Medical College Association, the National Confederation of Examining and Licensing Bodies, and the American Confederation of Reciprocating Examining and Licensing Medical Boards. While the efforts of these associations have not always been as vigorous and effective as might have been desired, nevertheless each of them has special purposes in view, and is especially well adapted to the accomplishment of these purposes. At the same time, they have some lines of effort in common, and much of the ineffectiveness of their previous activities has been due to the unnecessary and wasteful duplication of effort and the lack of co-ordination and co-operation. The idea we have in mind may be illustrated by reference to some of the special acts by which the standards of medical education must be elevated.

There is a general agreement that the preliminary education for admission to our medical schools falls far short of that which the conditions of the time require. What should these standards be? Should the fitness of each student be determined by examination (and if so, by whom), or by the presentation of credits from certain recognized preparatory schools? If credits are to be accepted, who shall determine what institutions of general learning are to be recognized for this purpose?

The curricula of our numerous medical schools differ very greatly in the relative amount of time assigned to the several medical branches, and also as to the methods by which they are taught. The degree of this absurd and illogical diversity has been well set forth by Dr George W. Webster's recent paper, to which we refer elsewhere. Something must be done to secure some degree of uniformity.

The numerous and rapid changes which have been made in the curricula of our medical schools in recent years have resulted in a sad lack of mutual understand-

1. See Frontispiece.

ing on the part of the medical schools, and it is becoming very difficult, in many cases, for the officials of an institution to pass intelligently on the credits of a student from another school seeking admission to advanced standing. This same lack of understanding and knowledge, together with an utter absence of any uniform system in the issuing of credits, has made it possible for dishonest students to impose on the officials of a school by the presentation of altered or forged credentials, a very serious abuse greatly in need of correction.

All of these matters belong properly to an organization of those engaged in the actual work of medical education, such as the Association of American Medical Colleges, though it might easily happen that the efforts of this association to advance along these lines would be more vigorous and successful with the prompting and co-operation of a body like the Council on Medical Education.

One of the most obvious needs of the time is some plan by which the numerous medical colleges may be compelled to live up to the standards which they set forth in their announcements. It is difficult to see how this end can be attained without a system of efficient and rigid inspection by an authorized and authoritative official. It would seem that such inspection could best be accomplished by an appointee of the Confederation of Examining and Licensing Boards. First, because the members of this confederation have actual need of the exact information which would be gathered by such an inspector; and secondly, because the examination by such an official, whose unfavorable report of an institution might result in the refusal to recognize its diplomas by most of the state examining boards, would be almost compulsory in its effect. Two other items naturally come within the province of this confederation. Now that a license to practice can be obtained in most of the states only by passing an examination conducted by the state board, the character of these examinations and the method of their conduct has come to be a matter of great importance, and it may be safely asserted that the present conditions are far from satisfactory. It is only necessary to allude here to the enormous importance of reciprocity in licensure between the several states.

Another important matter which might properly come within the province of the Council on Medical Education, is the suggestion of some plan by which the large and increasing amount of clinical material in the many hospitals springing into existence in the smaller cities can be utilized for the purposes of practical medical education. There is enough material of this sort to almost provide an interneship of one year for every medical graduate. It is only necessary, for the accomplishment of this desirable end, that the several medical faculties should be brought in touch with those in control of these hospitals that they may co-operate with each other. There are many other avenues of effort through which the standards of medical education can be elevated, but along most of these one or more existing organizations are already directing their efforts. What is especially needed at the present time is some means by which these various organizations may be made to co-operate effectively. Such an end could be best secured by a joint conference of authorized representatives of these organizations held under the auspices of the new Council on Medical Education. The Association might, of course, endeavor to enforce certain standards of preliminary and professional training by exacting compliance with such standards as a prerequisite for membership in the Association and its constituent societies. With the rapidly changing standards of the last few years, it would be difficult to formulate a list which would be at the same time just and effective. It is questionable, too, whether such an effort would not seriously interfere with that supreme purpose of the Association at the present time, to gather within its membership every reputable and right-minded physician. For the present, at least, we believe that the Association through the new Council will perform the largest service to medical education by the exercise of its moral force and by utilizing through co-operation the forces of the existing organizations to which we have referred.

THE EDUCATION OF THE INTERNE.

It is generally conceded by the medical world that the education of the young physician is not completed when he leaves the medical school. Just what proportion of students in the United States take a year or more of hospital work after graduation is impossible to say. The Mosely Commission stated that, according to its information, 50 per cent. of all students took such a course. In our opinion this percentage is too high, but whatever the actual numbers, it is certain that most of us consider such hospital experience indispensable, and that ambitious students strive for it. The reason that the number of graduate students entering the hospitals is not larger is lack of opportunity—not lack of applicants. From one to two years of what might be called practical apprenticeship is the privilege sought by the earnest student. To gain this privilege he often undergoes special training for a competitive examination; he delays for the period of his interneship his start in the world and his establishment in his profession.

The courses in the medical schools are subject to constant revision and improvement, and we are gradually rejecting the old method of didactic lectures to crowds of students and are substituting careful personal instruction to small groups. Indeed, the last decade has seen an almost revolutionary change in the methods of the schools. The interneship is the coping stone of the structure, and it is worth while to ask whether the methods of the hospital have kept pace with those of the school.

In old times the student entered the medical school and went to lectures as he pleased. He was there to pick up knowledge as best he could. The professor had no personal responsibility toward him. It may be asked fairly whether this haphazard system does not still survive in many of our largest hospitals. Does the hospital service, for which the interne sacrifices so much, count for all it should in equipping him for his profession?

Let us recall what occurs when the young graduate at last gains entrance as interne to the wards of one of our largest hospitals. In the first place, he finds himself overwhelmed by the number of patients committed to his care. To get through the routine work of the day usually taxes his powers to the utmost, and leaves him neither time nor energy for detailed work on the unusual and instructive cases. Thus he is in great danger of forming at the outset the habit of handling his cases superficially—a habit which ruins him as a diagnostician. Yet it is here in the hospital that he should acquire, under careful guidance, the methods to be followed throughout his professional life. Many of us can recall with shame and amusement the helter-skelter "rounds," the hasty taking of histories, the farce of physical examination in cases which did not commend themselves to our youthful intelligence as interesting or unusual. We have since found out, to our sorrow, that it is these same unimportant cases which are most likely to prove stumbling-blocks to the superficial diagnostician.

In contrast to the hasty methods of such hospitals, there is much to be said for the leisurely learning which some of us enjoyed as we accompanied an honored Nestor on his daily rounds in a large family practice. The number of cases seen was insignificant compared with those handled by the interne, but the sum of accurate observations at the end of a day was probably much greater. Dr. Toulouse, superintendent of one of the French public hospitals for the insane, speaks as follows of the interne service of such hospitals in words which apply only too well to the hospitals we are discussing:

> Those internes who really wish to learn are deterred by the obstacles which they encounter at the outset. The services are overcrowded; the daily round is so hurried that the inexperienced newcomer is overwhelmed by a crowd of details. Before this accumulation of subjects which call for careful study the interne gives up the struggle for a scientific system of work. "There are too many," he says, in despair, and it can not be too often repeated that there are, indeed, far too many.

It would be unfortunate enough if this were the only result of allowing the interne to be thus overwhelmed by his material, but there is still another consequence which is even more detrimental to the scientific attitude of mind: We mean the undue self-confidence which the interne is likely to exhibit when he rises above his first sense of helplessness. It is fair to say, however, that this overconfidence, this eagerness for independent experiment, is not the fault of the interne alone. In the last analysis the failure of the hospital to give the proper training to its internes lies at the door of its attending men. In the first place, the staff of some great public hospitals is encumbered with men who are incapable of teaching internes, and who have obtained their positions through political influence in order to gain prestige. There are other men, able practitioners, but occupied by their private practice, who are content to allow their names to adorn the roster of the staff without personally appearing in the wards. This leaves the legitimate work of the attending men to be performed by a totally inadequate number of physicians and necessarily frees the interne from proper supervision.

We know that there are those who will take issue with us on this point. We know the arguments usually urged: that this absence of supervision gives a man self-reliance and ingenuity; that many of our most brilliant surgeons are the product of such training, or rather of such lack of training, but we are firm in our belief that careful supervision and instruction are invaluable, and that the brilliant surgeon and diagnostician has emerged in spite of no training rather than because of it.

Why should we expect to reverse all educational laws at the entrance of the hospital? When the graduate in electrical or mechanical engineering leaves the technical school, it is insisted by the great railways and factories into whose employ he enters that he go through a progressive apprenticeship under skilled foremen. He is not allowed to experiment with costly machinery on his text-book knowledge, much less with human life. Would it not be better, for instance, that an interne should be taught to perform version under a skilled obstetrician, rather than that he should arrive at the proper method after a series of more or less disastrous independent experiments? Why do our students go to the German hospitals. It is not so much because of insufficiency of material at home; it is rather that they are certain of receiving in the wards the personal instruction of the best men in Germany.

Of course, what we have said does not apply to all American hospitals. There are those whose service is not surpassed by any in the world. On the other hand there is a true story of an interne who was seen in one of our large hospitals, and who, when asked how he was getting on, blithely replied: "O splendidly; I like it so much better than ———— (mentioning an admirable instance of a carefully conducted hospital). About all you can do there is to follow the doctors around and watch what they do, but here the attending men are just figure-heads and never interfere with us."

What certain great free hospitals in this country need is a reorganization of the medical service which shall secure an adequate number of internes, and attending men who shall not be "figure-heads."

PRACTICAL EXAMINATIONS FOR LICENSURE.

More than a quarter of a century has elapsed since the enactment in Illinois of the first effective medical-practice act in the United States. The movement for the effective control of the admission to the practice of medicine, thus inaugurated, gaining momentum with the passing years, has advanced with especial rapidity in the last decade, until, at the present time, there are few states or territories in which the right to practice can be secured except the applicant submit himself to some sort of a test of his ability. The most significant feature of this recent progress is the requirement of an examination conducted by the licensing board, in addition to the presentation of a diploma from a recognized medical school. The licensing body is thus entirely divorced from the teaching body, and as these examinations are the sole avenue of entrance to medical practice, their character and conduct become a matter of supreme importance.

Are these examinations, as now conducted, of such character as properly and adequately to test the fitness of the applicant to practice his profession. Are they in line with the modern methods of medical education? During this quarter of a century the modes of instruction in our numerous medical schools have undergone a radical change. The didactic lecture, and the lecture illustrated by the presentation of a patient in the arena or the performance of an operation (an exercise usually misnamed a clinic), have been supplemented, and to a notable extent, supplanted by laboratory and other practical methods. It has come to be universally recognized that no person can become proficient in the study of disease and the treatment of the sick, at second hand—*solely* by the reading of books, listening to lectures, or the recitation of lessons committed to memory, however useful these means of instruction may be in connection with those of a more practical character. Such proficiency can only be obtained by the study at first hand of the things themselves; by the training of the powers of observation, and of manual dexterity by their actual exercise.

A board of medical examiners is a body appointed by the state to protect its people against incompetent persons laying claim to the special knowledge and training which are requisite for the intelligent practice of medicine. *A priori* its function is, therefore, to demand evidence of such ability by such tests as will adequately demonstrate it. Such evidence a purely written examination can never afford. Such written tests, moreover, as are now universally in vogue, are an anachronism as a means of the examination of students who have been trained in the laboratory, the dissecting room, the practical courses in operative surgery, and in the actual contact with patients in the dispensary and ward clinic. They put a premium on the obsolete methods of memorizing of text-books—of "cramming," in a word, which are the *bête noire* of all modern educators.

Radical changes need to be made in these examinations in the immediate future. While written papers as the most ready and convenient means of testing the applicant's knowledge, should continue to be required they ought to be supplemented by as many practical tests as possible. Almost all of the medical branches lend themselves very readily to such practical examinations, which may be held without unreasonable expenditure of time, and with materials which can be obtained without serious difficulty. In gross anatomy the applicants may be required to identify and describe cross-sections and dissected parts and to indicate, on the living subject, the important landmarks and the outlines of underlying structures; in histology, neurology and embryology, to identify and describe mounted specimens under the microscope; in bacteriology, to identify micro-organisms in culture and in cover-slip preparations; in pathology, to identify and make diagnoses from gross and microscopic specimens. In the clinical branches such methods are also available. The examination in medicine should include identification and significance of mounted cover-slips of blood, urinary sediments, sputum, feces, and other body products; he should demonstrate his facility in the methods of physical exploration on the living subject, for which purpose healthy individuals would suffice quite as well as those who are sick. In surgery, operations on the cadaver, the application of bandages and other surgical dressings, and the preparation of himself, and a cadaver, serving as a patient, for an aseptic operation, might easily be required. In obstetrics, the manikin, with suitably preserved specimens of the fetus and the female pelvis, furnish means of testing his knowledge of obstetric procedures and his facility in their performance.

The materials necessary for such examinations would gladly be furnished to the examining boards by the medical schools, laboratories and hospitals, at a minimum cost and in many cases without cost. To the statement sometimes made that such examinations are not feasible, it is sufficient to reply that they have been in vogue in Great Britain and the nations of Europe for many years.

MEDICAL STANDARDS AND THE PUBLIC SERVICES

The question of a standard of medical education which, in other nations, is simplified by the intervention of the national authority, either directly or indirectly, is in the United States rendered difficult of solution by the absence of such central authority. Yet it is a fact that the National Government is interested in this matter, in that it has in the permanent personnel of at least four of the great executive departments a large number of physicians. In three of them—the Department of War, the Navy and the Treasury which latter embraces the Public Health and Marine-Hospital Service—a high, and as near as practicable a fixed standard has been made a prerequisite to admission to the permanent medical service.

In any serious movement looking to a national standard, the public medical services should be taken into consideration and their uplifting influence made of use and correlated to the requirements of such a standard. Examinations for admission to the Medical Department of the Army became habitual in 1832, and a knowledge of Latin and of physics was first required in 1849. In the Navy the first medical examining board was organized in 1825. A literary degree is not demanded of candidates, although evidences of marked lack of general education constitute a cause for rejection. Although in the three public services the examinations are conducted by boards which have no connection with each other and under regulations which differ as to minor details, yet the qualifications required of candidates are approximately the same in each. As the candidates for admission to the public services are drawn from all the schools and all parts of the Union, they are presumably neither better nor worse than those who come before the state boards of examiners for license to practice. The subjects covered by the examinations are also practically identical. Therefore a fairly accurate comparison between the average standard of the state boards and that of the public services may be made by finding the percentage of rejections in each. In twenty states, being all from which the figures could be obtained, it was found that during the last five years 75 per cent. of the candidates examined have been successful and 25 per cent. rejected. A summary[1] of the results of the examinations of 5,027 candidates for license to practice held by the boards of thirty-seven states during the year 1903, showed that 14 per cent. were rejected. In the examination for the three public services, not including those rejected for physical defects, out of a total of 1,035 examined, 347, or 33.5 per cent., have been successful, and 688, or 66.5 per cent., have been rejected.

We find here a standard respectable alike because of the number of competitors, the importance of the positions competed for, the broad sphere of its operation, embracing all the states, and because it is applicable to all schools of good standing. While evidently too high for adoption by state boards, it is valuable as a comparative standard for them, and should be considered in devising plans of interstate reciprocity. It is also worthy the attention of teaching bodies, especially as it has been found necessary for each of these services to maintain at the National Capital a post-graduate school of high grade for special instruction in subjects which are peculiar to their needs, or which are insufficiently taught in even the best medical schools. The subject of hygiene, including etiology and preventive medicine, which, as shown by Dr. Webster's tables,[2] receives an average of only forty-six hours in the entire course of 124 medical schools, is the only subject taught in one of these service schools, and may fairly be considered the *raison d'être* of all of them. Whether in the crowded condition of the medical curriculum and the ever-widening sphere of medical science, it will be possible to give the general practitioner a more satisfactory knowledge of preventive medicine is doubtful. If not, the time has come to recognize preventive medicine as a well-marked specialty, and one of supreme importance to communities, states and the two branches of the military service.

1. The details of this summary are on pages 514 to 517 of this issue. Incidentally it is interesting to compare the percentage of rejections in the past five years (25 per cent.) with those in 1903 (14 per cent.). Did the raising of the standards of the state boards cause more failures a few years ago, and have the colleges since reacted to the stimulus and given their students better preparation so as to thus reduce the percentage of failures?

THE TABLE OF STATISTICS OF COLLEGES.

On pages 504 and 505 will be found a table giving the states containing medical colleges; the name of each college; the population of the city in which the college is located; the number of men and women registered as students during the session of 1903-04, and also the graduates (men and women) of 1904; the total number of teachers, and the number of weeks in the college year. The suffixes, R., H., E., P. M., stand for regular, homeopathic, eclectic and physiomedical. Much of the information to be derived from this table has been set forth in the editorial on medical education in the United States, page 466.

DISTRIBUTION OF MEDICAL STUDENTS.

The table showing the "Distribution of Medical Graduates," on pages 514 to 517, has its accompaniment in the table on pages 506 to 509, showing the states from which the medical students of each college come. New York, Pennsylvania and Illinois furnish the majority of the medical students in this country. Next come Indiana, Tennessee, Texas, California and Massachusetts. Some of the states, such as Arizona, Delaware, Idaho and Florida, furnish a very small quota. Densely populated cities and states, in which the people follow mercantile pursuits, furnish the majority of physicians, whereas the mining and cattle states furnish comparatively few. The local conditions and the occupation of inhabitants of cities and states certainly influence the inclinations and propensities of men and women to study medicine. Of the 26,138 medical students registered during the session of 1903-04, only 361 are not included in this table, so that it is sufficiently accurate to permit of making deductions. These 361 students were registered in six or eight colleges, most of which are small, and can be disregarded in summing up. Two of these schools are of some size, and as the majority of their students come from Kentucky and Indiana, the totals of these two states would be increased considerably.

THE UNIFORM MEDICAL CURRICULUM.

The report[2] on the curricula of American medical colleges made by Dr. George W. Webster, Chicago to the National Confederation of State Medical Examin-

2. Report on the Curricula of American Medical Colleges. George W. Webster, N. Y. Med. Journal, July 23 and 30, 1904.

ing and Licensing Boards, at its meeting in Atlantic City, discloses some very interesting information with reference to the inequality in the number of hours devoted to the teaching of the various subjects of the medical curriculum. To some studies of but little significance and importance, a great deal of time is devoted, while to others of prime importance to the physician, too little time is given. Apparently, in some schools, the professor of hygiene or of anatomy, or of chemistry, is a very strong man, and the entire faculty has been built up around him; in fact, it is a one-man school. Again, it is possible that an additional number of hours are devoted to work in the chemical or other laboratory in order to occupy the student's time. Certain it is that a disproportion exists in the number of hours devoted to the various subjects. Dr. Webster has obtained his information directly from the colleges, yet it is evident that in some cases a discrepancy has crept in because, for example, it is beyond the possibilities of human endurance to put in sixteen hours a day in the college, even if this included the time to be devoted to study. Dr. Webster has compiled a table showing the average number of hours devoted to each subject in the curricula by 125 medical schools. Although these figures can not, perhaps, be accepted as forming an ideal standard, yet they serve the purpose of permitting of the construction of a standard curriculum which is to be adopted as a minimum for the degree of M.D., as follows: The course shall consist of four terms, in four separate calendar years, each term to consist of thirty weeks of work, exclusive of holidays, and of at least five hours of college work each day, and thirty hours in each week, or nine hundred hours per year of actual work. The entire course of four years shall consist of not less than thirty-six hundred hours of required work. Any elective work should be in addition to the above. Clinical work should constitute at least one-fourth of the total number of hours in the four-year course. The adoption of a standard uniform curriculum, says Dr. Webster, will be in the interest of higher medical education. It will give to each subject that relative importance which rightly belongs to it. It will enable students to receive due credit for work done in any recognized school which adopts and conforms to this standard. It will serve as a basis for reform in state board examinations, and will make possible the interchange of licensure—reciprocity. The medical degree will have a reasonably uniform standard of value, and will mean something to its holder.

DISTRIBUTION OF MEDICAL GRADUATES.

We have tabulated—on pages 514 to 517 of this issue of The Journal—the reports of the state examining boards for the calendar year 1903. We consider this table well worth the careful inspection of all who are interested in the advancement of medical instruction. It is so arranged that by reading from left to right the individual medical colleges of the United States and Canada which grant degrees may be studied or comparisons readily made. It shows where the graduates of each college are locating, the number who passed (P) and failed (F) in each state, the total appearing in all states from which we have received reports, together with the totals of those who passed and failed, as well as the percentage of failures. Graduates of foreign colleges (this does not include Canada) locating in the United States are likewise shown. Reading from above downward, the figures are given by states, thus allowing an easy comparison as to the number locating in each, the colleges represented, and the totals of those who were passed and rejected and the percentage rejected. It will be seen that 5,027 applicants were examined in thirty-seven states, of whom 14.2 per cent. failed. Some state boards are more severe than others. It is also interesting to note that some state boards appear to be lenient toward their own colleges, the graduates of these failing in more instances before the examining boards of other states. The colleges of the few states from which we were unable to get full reports would undoubtedly have a better showing in our table had such reports been received, possibly from the leniency hinted at above, but more certainly from the fact that a very large percentage of medical college graduates come from and locate in the state which is the home of the college. All the states are not represented in the table Several still do not require examinations. Of those requiring examinations, the large majority promptly sent us reports. Others failed to respond even after repeated requests. Some pleaded lack of clerical help, but some of these failed to respond even after The Journal had offered to pay the expense of copying the records. But the most astonishing reply received to our request was the refusal of the examining board of one state to send the itemized report of failures asked for, since they feared that the reports, if published, might put some medical colleges in a bad light! The Journal wishes to express its thanks for the hearty co-operation that, as a rule, has been received from the various boards. The requirement of examinations in some states is but comparatively recent, and methods of record keeping are still in the evolutionary stage, and will doubtless improve. The Virginia State Board published in detail the grades in each separate subject in which each applicant was examined. This is of great value to the colleges concerned, since they can see in what subjects their graduates are weak, and take steps to strengthen the instruction in the department concerned.

Miscellany.

New Colleges, and Colleges Discontinued.—During the year the following colleges were incorporated: College of Physicians and Surgeons, Los Angeles, Cal., to begin work Oct. 1, 1904. Bell Medical College, Dallas, Tex.; the first session began Oct. 1, 1903; the first and second years of the medical course are being given by the University of Indiana, Bloomington; Fordham College, New York; Lombard College, Galesburg, Ill.; West Virginia University, Morgantown, W. Va., and the University of Mississippi, Oxford. The University of the State of Washington is considering the formation of a medical department. The National University Medical Department of Washington, D. C., has been discontinued. Last year we announced the institution of a medical department by the Southwestern Presbyterian University, Nashville, Tenn., but we have been informed that work in this department has not yet begun, and probably never will be.

Affiliation of Toledo Medical College.—The Toledo Medical College is contemplating an affiliation with the University of Toledo.

Medical Department University of Missouri Lengthens Its Course.—This school is now working under a full four-year graded course, which has been recognized by the Association of American Medical Colleges as being up to the standard.

Canadian Students in United States.—In the table indicating homes of students, page 506, those marked "foreign" include Canadians. This will explain the number in the foreign column in certain colleges located near the border.

States That Have No Medical School.—The following states and territories contain no medical college: Arizona, Delaware, Florida, Hawaii, Idaho, Indian Territory, Montana, Nevada, New Jersey, New Mexico, North Dakota, Rhode Island, South Dakota, Utah and Wyoming.

Affiliation Contemplated by the Sioux City College of Medicine.—Plans are being discussed considering an affiliation of this school with Morningside College. Each school is to retain its identity, but the courses are to be combined in such a way that a student can complete his literary and medical work in six years, as is being done by other medical schools having a university connection.

Index to Articles on Medical Education.—The following partial list of articles bearing on the subject of medical education during the past year is given here for the convenience of those who may wish to look up the subject further. It does not lay claim to completeness.

Medical College, Responsibilities of, Carl S. N. Hallberg, Med. Standard, N. Y., August, 1903.
Colleges and Their Clinics, John Hunter, Canada Lancet, January, 1904.
Curriculum, E. A. Schafer, Brit. Med. Jour., Oct. 10, 1903.
Education and Preliminary Requirements, Geo. H. Simmons, THE JOURNAL A. M. A., May 7.
Education in London, London Letter, THE JOURNAL A. M. A. April 2.
Education in the U. S., Frank S. Billings, Med. Herald, St. Joseph, Mo., July, 1903.
Education, Relation of Academic to, W. H. Wathen, Am. Prac. and News, Louisville, Aug. 1, 1903.
Education, Some Aspects of, John H. Musser, THE JOURNAL A. M. A., June 11, 1904.
Graduate, What Is to Become of the, John L. Irwin, Jour. Mich. State Med. Soc., April, 1904.
Instruction: a Plea for Greater Uniformity, N. R. Coleman, N. Y. Med. Jour., Aug. 1, 1903.
Instruction in the United States, Semaine Medical, Paris (No. 44).
School, Chemistry of the, J. H. Long, THE JOURNAL A. M. A., April 9.
Schools, Requirements for Admission to, N. S. Davis, Jr., THE JOURNAL A. M. A., Aug. 15, 1903.
Studies in Europe, John Sutherland, St. Paul Med. Jour., October, 1903.
Teaching, New Era in, George E. Nitzsche, Dominion Med. Monthly, May, 1904.
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Medical News.

CALIFORNIA.

College and Hospital Under Way.—The excavation for the new $175,000 Angelus Hospital and for the building for the College of Physicians and Surgeons of Los Angeles was commenced July 14. The college building is to be ready October 6.

Students' Hospital Will Be Enlarged.—The joint committee on health from the student body and the faculty of the University of California, has decided to build an addition to the present building, which will increase the capacity of the hospital to 40 patients and will also provide the necessary accommodations for nurses, store rooms, service rooms and the like.

Examiners Lose Case.—On July 22 Judge Fritz dismissed the charge of practicing medicine without a license, which the State Board of Medical Examiners had preferred against Dr. E. Schmoll, San Francisco, holding that while the accused might have violated the law technically he had not done so deliberately.

Faculty Dines.—In order to get the workers in the new College of Physicians and Surgeons, Los Angeles, into closer touch, a banquet was held, July 16, at which 25 members of the faculty were present, and remarks were made by the president, Dr. Charles B. Nichols; the dean, Dr. Benjamin F. Church; the secretary, Dr. J. H. Schults, and the treasurer, Dr. James H. Seymour.

COLORADO.

Eye, Ear and Throat Men.—The ninth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology will be held in Denver, August 24 to 26, under the presidency of Dr. Edward Jackson, Denver.

Phipps Sanatorium Opened.—The Agnes Memorial Sanatorium at Montclair, founded by Laurence C. Phipps, at an expense of more than a quarter of a million, and dedicated to the treatment of pulmonary tuberculosis in memory of his mother, Mrs. Agnes Phipps, was formally dedicated with fitting ceremonies July 2.

Receive Degrees.—A class of 32 was graduated from the Denver and Gross College of Medicine. Prof. Victor C. Alderson and Rev. Charles S. Olmsted made addresses, and Prof. Herbert A. Howe of the Denver University conferred the degrees. In the evening the graduating class was given a banquet by the faculty, at which Dr. Sherman G. Bonney was toastmaster.

Personal.—Dr. Patrick V. Carlin, Denver, has been elected a member of the Board of Education for the City and County of Denver.——Dr. Arthur T. Blachly, Delta, has been appointed resident physician at the Hayward (Wis.) Indian reservation.——Dr. Carl Parsons has been made resident physician at the City and County Hospital, Denver.——Dr. J. M. Jordan has been appointed assistant county physician of Denver County, vice Dr. Seymour T. Jarecki, deceased.

DISTRICT OF COLUMBIA.

New Naval Medical School Building.—Ground has been broken for a hospital building in connection with the Museum of Hygiene and Naval Medical School, for which $125,000 was appropriated by congress. The building will be on the pavilion plan, with a central administration building and east, west and south wards.

Georgetown Graduates.—The Fifty-fifth annual commencement exercises of Georgetown University were held, June 7, when 32 men were graduated in medicine. Dr. George L. Magruder presided, President Daugherty conferred the degrees, and Assistant-Surgeon General George Tully Vanghan of the U. S. Public Health and Marine-Hospital Service delivered the doctorate address.

Personal.—Dr. Charles W. Richardson, Washington, has gone abroad.——Dr. Charles B. Purvis, Washington, has resigned from the Board of Medical Examiners, and Dr. Daniel S. Lamb has been appointed to fill the vacancy.——Dr. Patrick A. Lloyd has succeeded T. G. Jones as chief resident physician at the Casualty Hospital, Washington.——Drs. Ray D. Adams and Mahlon Ashford have succeeded Drs. Samuel L. Owens and Abrahams, as resident physicians at Georgetown University Hospital.

ILLINOIS.

Lawn Fete for Hospital.—The lawn fête given by the St. Francis Hospital Association at Evanston last week, netted $1,400 to the funds of the hospital.

Langdon Released Under Bonds.—Dr. P. K. Langdon, recently extradited by the English authorities, was brought back to Kankakee, July 14, by the sheriff, and on July 19 was released under a bond of $10,000, will be brought before the grand jury in October.

Personal.—Dr. John W. Bowling has been chosen to succeed Dr. John F. Barton as local surgeon for the Louisville and Nashville and Baltimore and Ohio railroads at Shawneetown. Dr. Frank Gardner has returned from Europe and is visiting in Sublette.——Dr. Frank N. Armstrong, Richmond, was seized with apoplexy while in McHenry, July 25.

Chicago.

To and From Europe.—Dr. Edmund J. Doering, sailed for Italy August 9.——Dr. Edward T. Alford has returned from Europe.

Patients Rob Physician.—Dr. Johann Harraes was held up in his office, July 26, robbed of $390 in cash and $500 in jewelry by two men who posed as patients.

Augustana Hospital.—At the recent meeting of the directors of this hospital it was announced that $20,000 had been bequeathed to the institution by the late Thomas D. Lowther.

Personal.—Dr. H. Gideon Wells has been made dean of medical work in the University of Chicago, vice Dr. E. P. Lyons, resigned to accept a position in Washington University, St. Louis.

Swedish Hospital Incorporated.—Articles of incorporation were issued, July 20, for the Washington Park Hospital, to be built near Washington Park. The institution has a capital stock of $50,000, and has at present accommodation for 30 patients in a building at Sixtieth Street and Vincennes Avenue.

Deaths of the Week.—Acute intestinal diseases caused 120 of the 473 deaths for the week ended August 6; consumption, 58; violence, 44; heart diseases, 34; Bright's disease, 33 and pneumonia, 27. The annual death-rate per 1,000 was 12.78, which compares very favorably with 14.29, the rate for the corresponding week of last year.

July Mortality.—The deaths for July were 1,958, 213 more than were reported in June, and 432 less than occurred in July, 1903. The death rate for the month was 11.95 per 1,000. The deaths under one year were 122 less, and those between 1 year and 5 years 106 less than in July, 1903. The health department attributes the low mortality to propitious weather and a remarkably good water supply. Acute intestinal diseases heads the list of death causes, with 333; consumption comes next with 233, and then follow violence, with 184, Bright's disease with 144, heart diseases with 143 and pneumonia with 123.

IOWA.

Accidents.—Dr. Thomas J. Maxwell, Keokuk, was run over by an automobile, spraining and abrading his knee.——Dr. Leo Louis, Parkersburg, sustained internal injuries and injuries to head by being thrown from his buggy July 24.

Fee Bill Adopted.—At a mass meeting of Des Moines physicians, July 28, at which 35 were present, a fee bill was adopted, providing for minimum charges of $2 to $5 for day visits; $3 to $5 for night calls; $15 for obstetrics, and charges for subsequent calls, and $2 for life insurance examinations. This fee bill is to be in effect after September 1.

Medical School Improvements.—At a meeting of the trustees of the Sioux City College of Medicine, August 3, a number of improvements for the college building were decided on. These include the rearrangement of the interior of the building, the provision of an additional lecture room, and the purchase of more microscopes and other equipment for the laboratories.

Personal.—Dr. Robert E. Conniff, Sioux City, has been elected president of the State Board of Medical Examiners.—Dr. Henry Matthey, Davenport, has been elected president of the State Board of Health, and Dr. Josiah F. Kennedy, Des Moines, secretary and editor of the Iowa Health Bulletin.——Dr. Henry Albert, professor of bacteriology in the Iowa State University, Iowa City, has assumed his duties as head of the bacteriologic department of the state.——Dr. R. E. Robinson, Waverly, sailed for Europe July 16.——Dr. Benjamin F. Campbell, after a year of post-graduate work in Chicago, has resumed practice in Burlington.

KENTUCKY.

Addition to Faculty.—Dr. Carl Weidner, Louisville, has been given the chair of pathology and histology in Kentucky University Medical Department.

Twice Acquitted.—Dr. Sarah A. Murphy, Louisville, who has twice been charged with murder by a criminal operation, was acquitted for the second time, July 14, the judge ruling that the prosecution had failed to establish a case.

Wathen Suggests Merger.—Dr. William H. Wathen, Louisville, announces that he thinks that the tremendous competition from medical institutions in other cities necessitates the consolidation of the five medical colleges in Louisville into two great universities.

Cars Must Be Sanitary.—The State Board of Health has entered on a vigorous campaign against unsanitary cars, paying especial attention to plush car seats, both for day cars and sleeping cars. It threatens to indict all railway companies whose lines enter the state unless they provide sanitary cars, sanitary bed clothing in sleeping cars, and adequate ventilation.

Personal.—Dr. Miles C. Dunn, Henderson, has been made chairman, Dr. Robert H. Moss, Niagara, temporary secretary, and Dr. Silas Griffin, Henderson, health officer, of the newly organized Henderson County Board of Health.——Dr. James W. Stephens, Hopkinsville, second assistant physician at the Western Kentucky Hospital for the Insane, has been made first assistant physician at the Central Kentucky Hospital for the Insane, Lakeland.——Dr. Malcolm H. Yeaman has succeeded Dr. Josiah G. Furnish as superintendent of the Central Kentucky Hospital for the Insane, Lakeland.

MARYLAND.

Many Autopsies Unnecessary.—The Baltimore County Commissioner declined to pay bills for postmortem examinations. The president expressed the opinion that many of them were unnecessary.

Typhoid Epidemic.—There are 80 cases of typhoid fever at Mount Savage, Allegany County, the result of a contaminated spring, which has been closed by the health officer. The disease is confined, with two exceptions, to men and boys. One death has occurred so far. The three physicians are kept busy night and day, and nurses have been sent from Cumberland.

Personal.—Dr. Thomas C. Baldwin, Gemmills, has resigned as health officer of the Seventh District, and has moved to Baltimore. The vacancy has been filled by the appointment of Dr. Eugene W. Hyde.——Dr. John E. Bolte, Harrisonville, was stricken with hemiplegia, August 4.——Dr. Charles W. Goldsborough of Walkersville had his arm severely lacerated by two dogs, while visiting a patient, August 4.

Baltimore.

Baltimore Medical College has new laboratories of operative surgery and clinical pathology and a new museum.

Purification of Water.—The water engineer is purifying the city drinking water with copper sulphate with apparent success.

Johns Hopkins Hospital.—The new surgical building (heretofore described in THE JOURNAL) will be ready for occupancy at the opening of the next session October 1.

The Health Status.—The health report for July shows a considerable decrease in infectious diseases as compared with the same month in 1903, namely: from 446 to 284. The general mortality is about the same.——During July at the public baths there were 61,232 visitors, of whom 8,406 were females, the largest number on record.

Modified Milk May Be Bought.—The Thomas Wilson Sanitarium is operating five milk dispensaries in Baltimore, where for ten cents a day three pints of properly modified milk can be obtained for feeding infants. Each dispensary has a physician and nurse, and any practitioner can order a supply of milk for the poor as long as needed.

University of Maryland.—A department of pharmacy has been created. A new dental building and new laboratories of physiology and pathology have been constructed. A fund has been set apart by the trustees for research work. Lectures on the history of medicine will be delivered weekly, commencing October 8. There is a fine medical library and collection of current journals.

Maryland Medical College.—Dr. J. B. Schwatka has been elected dean, vice Dr. J. William Funck. Drs. Charles E. Simon and Pearce Kintzing have been added to the faculty. The former will give a practical laboratory course in clinical diagnosis to all members of the graduating class; the latter a course on physical diagnosis and clinical medicine. The plans have been formulated and the money raised for the new Franklin Square Hospital, but the work of building will not be begun until after the next session.

The Smallpox Crusade.—The recent crusade against smallpox was highly satisfactory. In all 72,850 persons were vaccinated, of whom 37,750 were treated by the 25 special vaccine physicians, 5,100 by the health wardens, and 30,000 by private physicians. The total cost to the city was $6,750, $3,750 of which paid for special salaries, and the remainder for vaccine points. Factory and mill owners now recognize the necessity of the measure and demand vaccination certificates from their employes. The effect of the crusade is shown in the fact that in May 6 cases of smallpox were reported, in June 5 cases, and in July only one case.

Personal.—Dr. J. B. Schwatka sailed for Europe August 4. He was given a reception by his friends the day before he sailed.——Dr. William H. Welch left here, August 8, for San Francisco, where he is to deliver the Lane lectures on infection and immunity.——Dr. William Osler is chairman of the Department of Medicine of the International Congress of Arts and Science, to be held in St. Louis, September 19 to 25. Among the speakers from Baltimore will be Drs. William S. Thayer and Howard A. Kelly.——Dr. Isham R. Page is at Northport, Maine.——Drs. J. William Funek and Seth S. Ullrich are spending the month at Ocean City.——Dr. Henry M. Hurd will spend September in the Adirondacks.——Dr. H. Boyd Wylie is at Mountain Lake Park.——Drs. John N. Mackenzie and William T. Howard are at Narragansett Pier.——Dr. S. Gibbons Smart of Roland Park has removed on account of his health to Bedford City, Va.——Dr. M. Gibson Porter, Lonaconing, has taken charge of his practice.——Dr. Charles C. Bombaugh is at Newport.

MASSACHUSETTS.

Domestic Science for Nurses.—The Children's Hospital, Boston, has added to its curriculum for nurses a four-months' course in Simmons College, the new training school in domestic science.

Milk and Noise.—Brookline has not only followed Boston in making a careful bacterial examination of the milk supply of the town, but in requesting the dealers to use more caution about early morning noises, much of which has been shown to be unnecessary.

Sudden Rise in Mortality.—After a series of weeks of most unusually low death rate, the Board of Health of Boston reports for the week ended August 6, 250 deaths, or an annual rate of 21.15 per 1,000. The great increase was in young children, 21 deaths during the week being ascribed to "cholera infantum." It is fair to presume that physicians use this term to cover cases of ileocolitis, for not a case of true cholera infantum has been received at the Boston Floating Hospital this summer, and over 500 patients have been treated there during the past four weeks.

Summer Statistics.—For the ten weeks ended August 6 there were reported in Boston 1,824 deaths, an average annual death rate of 15.57 per 1,000. There were 465 cases of diphtheria, with 31 deaths; 101 cases of scarlet fever, with 3 deaths; 119 cases of typhoid fever, with 19 deaths; 548 cases of measles, with 15 deaths; 401 cases of tuberculosis and 225 deaths; 140 deaths from pneumonia, 3 from whooping cough, 179 from heart disease; 28 from bronchitis, and 30 from marasmus; 410 died under one year old and 575 under five years. In one week there was no death from diphtheria reported, the first time since 1901. In one week the death rate was only 11.58 per 1,000, and in another 12.06.

MISSOURI.

Will Elevate Standard.—The following requirement was approved by the State Board of Health, and became operative July 5:

> Every applicant for license to practice medicine in the state of Missouri shall present documentary evidence of having a university or college degree or high-school diploma; in lieu thereof, said applicant must pass a satisfactory examination before the state superintendent of public instruction on all branches embraced in a four years' high school course.
>
> This is an absolute requirement, and no applicant will be allowed to enter the examination without having complied with this order.

Licenses Revoked.—The State Board of Health, on July 6, revoked the license to practice medicine of Dr. Samuel F. March, secretary of the Kansas City Eclectic Medical University, who was charged with issuing irregular affidavits to students who graduated from the college last spring. He was summoned before the board and admitted that the affidavits were irregular. The board also revoked the license of J. F. Duvall, charged with obtaining a license from the board on one of the irregular affidavits of Dr. March. A license to A. S. McCleary was refused because his affidavit was also one of the irregular ones sworn to by Dr. March. The applications of five other members of the school's graduating class of last spring were considered. Their records were found to be clean and the board voted to issue them licenses.

NEW YORK.

Convalescent Ward.—A convalescent ward is being built at the Fresh Air Mission Hospital at Athol Springs.

Personal.—Dr. John Van Duyn has resigned from the Syracuse Board of Education.——Drs. Nathan W. Soblet and William S. Rambo, Rochester, have been appointed local examiners in midwifery.

Disinfection of School Books.—The Buffalo Department of Health is disinfecting 109,650 volumes of books of the public schools by the use of formaldehyd gas. Since this work has been undertaken by the city there has been a decrease noted in contagious diseases, particularly scarlet fever and measles.

Joint Meeting.—After due consideration on the part of the officers of the Northern New York Medical Association and of the St. Lawrence County Medical Society, it has been decided to hold the meeting of both bodies on October 18, at Ogdensburg, N. Y., the association holding session during the afternoon and the society in the evening.

High June Mortality.—The total deaths for June were 10,997, or about 1,500 in excess of the average for that month in the last five years. This is partially to be accounted for by the increase in deaths from violence in New York City, due to the *General Slocum* holocaust. Deaths from cerebrospinal meningitis were the same as in April, and those from consumption exceeded the deaths from this cause in June, 1903, by 150.

State Commission in Lunacy Appointments.—Dr. Sidney D. Wilgus, New York City, has been appointed by the State Commission in Lunacy as chief examiner, with a salary of $5,000. The last legislature passed a law creating a state board of alienists to act in concert with the United States examiners at the port of New York in the inspection and return to their own country of all emigrants suspected of insanity, epilepsy or imbecility. As assistant examiners and members of the board the commission appointed Dr. George D. Campbell of New York City, and W. E. Sylvester of College Point, each with a salary of $3,000.

New York City.

Summer Home and Hospital for Poor Children.—Miss Margaret L. Chanler has transformed her house into a summer convalescent home and hospital for poor children, especially of Christ Church parish.

Shrady Resigns.—Dr. George F. Shrady, after nearly forty years of continuous service, has resigned the editorship of the *Medical Record*, Dr. Thomas L. Stedman, who has been associate editor for nearly twenty years, being appointed in his place. The personnel of the editorial staff, it is said, remains as before Dr. Shrady's resignation.

Contagious Diseases.—For the week ended July 30 there were reported to the sanitary bureau 341 cases of tuberculosis, with 170 deaths; 202 cases of diphtheria, with 24 deaths; 183 cases of measles, with 8 deaths; 88 cases of scarlet fever, with 8 deaths; 83 cases of typhoid fever, with 13 deaths; 11 cases of varicella; 1 case of smallpox, and 25 deaths from cerebrospinal meningitis.

Rockefeller Institute Plans.—The plans for the Rockefeller Institute have been filed and work will be begun soon. It is estimated that the building alone will cost $325,000. Mr. Rockefeller has already donated $1,200,000. In addition to the most perfectly equipped hospital in the world, there will be scientifically constructed accommodations for horses and other animals to be used for purposes of inoculation. One of the first enterprises of the institute will be the endeavor to find and identify the germ of dysentery, and to ascertain means of preventing and curing the disease.

NORTH CAROLINA.

Wake Forest School of Medicine has commenced work on its new building, which is to cost $30,000. The cornerstone was laid at commencement time, and Dr. J. Allison Hodges, Richmond, delivered the address before the medical class.

Donation for Negro Hospital.—Dr. William H. Sprunt, Wilmington, has donated $10,000 to build an annex to the James Walker Memorial Hospital, to be used in erecting a dormitory for nurses, and a building for the exclusive care of negroes.

Smallpox in the State.—For the year ended May 1, 1904, 5,370 cases of smallpox were reported, 914 more than for the previous year, with 69 deaths. In Guilford County there were but 101 cases, of which 94 were among the whites. Robeson County reports 1,000 cases, of which 300 were among the whites. In Madison County there were 587 cases, all but 12 being among the whites. The disease was of a bad type in Davidson County, where 25 deaths resulted.

Commencements.—North Carolina Medical College, Charlotte, formerly the Davidson Medical School, at its first commencement exercises, graduated a class of 17. Dr. J. Howell Way, Waynesville, delivered the doctorate address, and Dr. J. T.

Monroe, Davidson, presented the diplomas.——The Medical Department of the University of North Carolina, Raleigh, held its graduating exercises at Chapel Hill. A class of four received diplomas, and Dr. Louis J. Picot, Littleton, delivered the address of the evening.

State Society Election.—The fifty-first annual meeting of the Medical Society of the State of North Carolina was held at Raleigh, May 24-26. The following officers were elected: President, Dr. David T. Tayloe, Washington; vice-presidents, Drs. Charles A. Julian, Thomasville, John T. Burrus, High Point, and Isaac W. Faison, Charlotte; secretary, Dr. J. Howell Way, Waynesville; treasurer, Dr. Grimada T. Sykes, Grissom; Dr. Chase P. Ambler, Asheville, orator, and Dr. John H. Tucker, Jr., Henderson, essayist. The society is to meet at Greensboro next year.

NORTH DAKOTA.

Cass County Physicians.—Dr. John D. Hennings, Fargo, has been appointed physician of Cass County, with the following assistants: Drs. Krekore H. Mallarian, Fargo; A. F. Goffelee, Grandin; Evan Hyslin, Kindred; Samuel Mitchell, Mapleton; Kelsey, Erie; Hezekiah J. Rowe, Castleton; Henry G. Fish, Wheatland; William Scanlan, Page, and John W. Campbell, Tower City.

State Society Meets.—At the meeting of the North Dakota State Medical Society in Fargo, much time was taken up in the consideration of the new constitution and by-laws to correspond with those of the American Medical Association. Dr. James A. Rankin, Jamestown, was elected president; Dr. Paul Sorkness, Fargo, vice-president; Dr. Ernest C. Wheeler, Fargo, secretary, and Dr. William H. M. Philip, Hope, treasurer.

June Vital Statistics.—During June 288 births were reported to the State Board of Health and 118 deaths. Fourteen cases of tuberculosis were reported, with 11 deaths; 7 cases of typhoid fever, with 2 deaths; 22 cases of diphtheria, with no deaths; 21 cases of scarlet fever, with 1 death; 8 cases of measles, with 1 death; 6 cases of smallpox, with no deaths; 9 cases of other contagious diseases, with no deaths, making 15 deaths from contagious diseases.

OHIO.

Must Include Anatomy.—The Ohio Medical University, Columbus, will no longer allow credits on the degrees issued by colleges unless the prescribed courses shall include anatomy and other essential studies.

Mayor's Veto Sustained.—The last official communication of the late Mayor Jones of Toledo to the city council was a veto of an ordinance granting right of way to physicians and ambulances, on the ground that it established a special privileged class. The veto was sustained by a vote of 9 to 7.

Anti-Tuberculosis Dispensary.—The trustees of Western Reserve University, Cleveland, have voted to take part in the conflict against tuberculosis by establishing a dispensary in connection with its medical department, whose function will be chiefly preventive. It registers those infected with the disease, locates houses in which tuberculous people live, educates the people along fundamental hygienic lines, and its agents visit the homes of the sick, and give instruction in the care of those afflicted with the disease.

Toledo University Department of Medicine.—The Toledo University has established its medical department, Toledo Medical College. The work under the new auspices will begin next month. The following-named men have been selected as faculty of the new department:

Drs. William A. Dickey, dean; Park L. Myers, secretary; Joseph T. Woods, emeritus professor surgery and clinical surgery; John North, emeritus professor nose, throat and lungs; Hon. D. R. Austin, emeritus professor medical jurisprudence; Drs. William J. Gillette, professor gynecology, abdominal surgery and clinical surgery; William A. Dickey, professor principles and practice of medicine and clinical medicine; Daniel E. Hnag, professor therapeutics, microscopy and clinical medicine; Park L. Myers, professor chemistry, toxicology and state medicine; Willis W. Grube, professor clinical medicine and lecturer on anesthetics; Oscar Hasencamp, professor principles and practice of medicine and electro-therapeutics; James Donnelly, professor principles and practices of surgery and clinical surgery; David F. Bowman, professor of obstetrics; Elmer W. Heltman, professor ophthalmology and otology; Lyman A. Brewer, professor surgical and clinical surgery; Bernard Becker, professor surgical pathology; John S. Pyle, professor physiology and embryology; James A. Duncan, professor proctology; Louis Miller, professor nervous diseases; Julius H. Jacobson, lecturer on physical diagnosis and clinical surgery at Lucas County Hospital; George F. Wells, LL.B., professor medical jurisprudence; Drs. Herbert E. Smead, professor of pediatrics; Howard L. Green, lecturer on minor surgery; Charles Louy, lecturer on osteology, syndesmology and assistant demonstrator of anatomy; Adolph J. Girardot, lecturer on materia medica; William H. Fisher, lecturer on gynecology and clinical surgery; Albert L. Sternfield, professor histology, pathology, director of biologic laboratories and instructor in clinical microscopy; Nelson H. Young, lecturer on mental diseases; Edwin D. Tucker, lecturer on dermatology; Louis M. Dolloway, lecturer on nose and throat; Madison E. Baldwin, lecturer on genito-urinary diseases; James T. Lawless, special lecturer clinical surgery, St. Vincent's Hospital, and L. A. Levison, lecturer on anatomy.

PENNSYLVANIA.

Typhoid Fever at Pittsburg.—The bureau of health reports the prevalence of typhoid fever in Pittsburg and states that the number of cases bids fair to equal or surpass the record of last summer.

Butler's Water Supply Improved.—Tests of the water supply of Butler have been made at varying intervals since the epidemic. In all 25 tests have been made, and all thus far have been favorable. The last two tests were conducted by Dr. Francis C. Phillips of the Western University of Pennsylvania, who reports that the specimens contained 15 and 21 bacteria per cubic centimeter, and that the colon bacillus was not found.

Philadelphia.

To Enforce Vaccination.—The report of the 50 medical inspectors for last week shows that 6,674 visits were made, that 960 vaccinations were performed, and that 194 persons refused to submit. The names and addresses of these individuals are registered in the department of health and rigid measures will be instituted to enforce vaccination.

Health Report.—The city's health continues exceptionally good. The deaths reported for last week aggregated 428, a decrease of 6 from last week and an increase of 5 over the corresponding period of last year. Smallpox has entirely disappeared, no cases having been reported since July 9. This is the longest period the city has been totally free from the disease for several years. Typhoid fever, on the other hand, continues present throughout the city, though the disease is most prevalent in the district of Kensington. The cases reported for the week numbered 84, an increase of 22 over last week. There were 179 cases of contagious disease reported.

Health of Pupils.—The report of the inspection of public schools for April, May and June shows that of 155,707 children examined, 6,936 were excluded because of disease. In 5,150 the eyes were affected. Of this number 1,807 were obliged to wear glasses; 317 schools were visited, comprising the combined grammar and primary, the grammar, primary, combined primary, consolidated, combined grammar, kindergarten, and special schools. Among the principal causes mentioned for the exclusion of the pupils were: Pediculosis, 3,854; ringworm, 434; defective vision, 421; eye affections, 429; tonsillitis, 349; impetigo, 407. The inspection is to continue monthly after the schools open next month, as the results show that the general health of the pupils is decidedly improved.

Hospital Work for July.—At St. Agnes Hospital 164 patients were treated in the wards; 593 new cases and 2,103 old cases were treated in the various dispensaries.——In St. Joseph's Hospital 298 patients were treated in the wards and 2,507 patients in the different dispensaries.——In the Presbyterian Hospital 422 patients were treated in the wards, and 2,382 in the dispensary.——In the Medico-Chirurgical Hospital 193 patients were treated in the wards, 1,313 in the surgical dispensary, and 1,325 in the eye department. A total of 5,899 patients was treated during the month.——Three hundred and thirty-five patients were admitted to the wards of the Pennsylvania Hospital; 2,193 were treated in the receiving wards, and 5,746 in the out-patient department.——In the wards of the Episcopal Hospital 287 patients were admitted and 285 discharged, and in the different dispensaries 7,711 patients were treated.

FOREIGN.

French Donations to the Russian Red Cross.—The ambassador of France to Russia has presented to the Russian Red Cross the sum of $23,000 raised by subscriptions through the lay press of Paris.

Number of Medical Students in Germany and Switzerland.—The number of medical students enrolled in the universities of Germany for the current year is 6,049. In Switzerland there are more women than men studying medicine, the total being 1,654, of whom 801 are women, mostly Russians.

Record-Breaking Fees.—The community of Kallstadt, Germany, has about 1,100 inhabitants, and has recently installed a medical school inspector with the annual salary of 25 marks, or about $6.25. He is to have about 155 school children to

inspect four times a year. He thus receives four cents for each child, or one penny for a single examination.

Warning Against the Study of Medicine.—The organized profession in Germany has issued a circular warning youth against the medical career. It points out the over-crowding of the profession in comparison to the population, and depicts the material depression prevailing in its ranks from the lack of restrictive legislation against quacks and of regulation of the sickness insurance societies.

Ross and Weir Mitchell Elected to the Paris Academie de Medecine.—The candidates for the two vacant places of corresponding members in the medical section of the French National Academy of Medicine were Ronald Ross of Liverpool, our own Weir Mitchell, Mosso of Turin, Ehlers of Copenhagen, Unna of Hamburg and Pick of Prague. Ross and Weir Mitchell were elected by large majorities at the meeting on July 19.

Konig's Retirement.—Frank König of Berlin has just witnessed the completion of the model surgical clinic erected for him at the Charité, and now he retires, as he has passed the age of 72. His successor is already announced, A. von Eiselsberg of Vienna, Billroth's favorite pupil. He has already been connected with a German university, having been professor of surgery at Königsberg, 1895 to 1901, after having served a term at Utrecht.

Loss to Science of a Living Students' Manikin.—The death is announced of the Vienna woman, who supported her family by serving as a subject for the study of the upper air passages. She had followed this means of livelihood for twenty years, and had cultivated her vocal organs so that she had voluntary control over them and could hold them still, even when they were being touched, thus affording incomparable opportunities for study of the respiratory organs. She had also learned so that she could tell the investigator when his instrument was following a false route or any other mistake was being made. She always carried a number of "foreign bodies" in a black bag, and would introduce one at a time into the upper air passages and allow the student to search for and extract them.

Russian Tributes to their Japanese Opponents.—The *Russische med. Rundschau* quotes a Russian physician, who has lived long in Japan, to the effect that the most astonishing cleanliness and system reign in all the Japanese Red Cross hospitals and dispensaries. The beds are wide and remarkably neat. A letter from a Russian physician at the seat of war (Wafangou), published in the last *St. Petersburg. med. Wochft.*, describes the battles of June 13 and 14 as "frightfully bitter." "Nothing was to be seen and heard but smoke, dust, noise, thunder and tumultuous din. The Japanese came on with an altogether unexpected and all-compelling energy. Our troops behaved nobly, but no one could withstand the firing. The tops of the hills were literally swept bare of foliage, and after the battle looked like ploughed fields."

New Technic of Sex Determination.—Ducceschi and Tallarico of Florence, Italy, recently described researches which signalize a new, rational and ingenious mode of studying the problems of the determination of the sex of the embryo. Their communication was presented to a local scientific society and published in the *Archvio di Fisiologia* for July. It is based on the recently established fact that after injection into an animal of the elements constituting an organ in an animal of a different species, the serum of the first animal acquires a destructive action for the organ in question. They assumed, for instance, that injection into a gravid animal of substances known to have a specific, destructive action on the testicles, would entail the passage of these substances into the fetal organism, and have an inhibiting action on the development of the male sexual organs, while the female sexual organs would not be affected. Consequently, if the injection were made in the earliest stages of gestation, before the sex of the fetus was actually established, it would prove the determining factor in deciding the sex of the embryo. They have been experimenting with an orchi-toxic serum on gravid guinea-pigs, and although their experiences are as yet very limited, they suggest a promising field for further research.

Discovery of the Micro-Organism Causing Pulmonary Phthisis.—Prof. Otto von Schrön of Naples is one of the most venerated masters of pathologic anatomy of the Italian school. He has recently announced that tuberculosis and phthisis of the lungs are two separate morbid entities, although very frequently they may occur together in the same individual. The causal agents differ in each, by their structure, morphogenesis and biologic characteristics. The accumulations of caseous material in the phthisic lung are not necrotic tissue as hitherto supposed; they are formed by a highly organized germ, which grows in threads and branches, an arborescent microbe, with distinct fructification, taking stains readily, in all the phases of its morphogenetic evolution. It can be obtained in pure cultures by the drop method or in symbiosis with the bacillus of tuberculosis in cultures *in vitro*. The phthiseogenic microbe substitutes the lung tissue, and does not cause necrosis like the toxins of the tubercle bacillus. Each phthisic cavity presents three layers, the outer one formed by the evoluting forms of the microbe, while the inner layers are the dead and decaying forms, sometimes with and sometimes without the presence of tubercle bacilli. It has a certain superficial resemblance to hyphomycetes, but differs in essential points. The arborescent ramifications can be seen with a Zeiss oil immersion 1/18, but Schrön has devised a technic for investigation by which the ramifications can be seen with the naked eye. We find life in the caseous material where we supposed there was nothing but death and decay. He calls it the filiform microbe, as the thread formation is its most striking characteristic, possibly compelling its classification among the fungi. It passes through a phase of thread and capsule formation, with a racemose and lichenoid growth, and finally into mucous metamorphosis, which is the stage in which it appears usually in the sputa. It does not take the same stains as the tubercle bacillus, but stains readily with certain others. The products of its secretions are prisms with a hexagonal base, polarizing light, while the products of the tubercle bacillus are non-polarizing rhombi. Both forms of crystals are generally found in the sputa of phthisic subjects.

Correspondence.

Co-ordination Between Clinical and Didactic Work.

PHILADELPHIA, Aug. 2, 1904.

To the Editor:—May I avail myself of the opportunity, which your Educational Number will give, of expressing some views on medical education arrived at after a number of years' service as a teacher of clinical medicine? The remarks I shall have to make relate to the practical branches only; the teaching of the purely scientific subjects is quite another matter. I wish further to add that my remarks have reference to the senior year of study. Physical diagnosis, clinical pathology and history taken properly belong to the pre-senior years.

It would be impossible to draw up an ideal scheme for the teaching of medicine and surgery without taking into consideration available material, its distribution and other local conditions, the number of students, etc. Whatever the conditions, there must be a co-ordination of different methods of teaching and a suitable apportionment of the student's time. When laboratory and clinical teaching were introduced into the curriculum of medical schools many were led to the conclusion that the didactic lecture was doomed to suppression, a conclusion which seems to me unwise and unwarranted by experience. It may be freely granted that the amount of time devoted to such lectures in some schools is still excessive, but, on the other hand, it is too exalted appreciation of practical work that would supplant the lecture entirely. The presence of the teacher, the *vox viva*, and the resulting impression made on the average student's mind give the didactic lecture an advantage over text-book study that is real and appreciable. Practical work must not be compared with the lecture, for no amount of clinical material and no reasonable lengthening of the medical course would make it possible for the student to gain the desired acquaintance with disease in its many variations through practical work done in the medical school. The comparison properly lies between didactic work and text-book study, and here certain advantages are undoubtedly on the side of the lecture. Reading must, of course, form a supplemental part of the student's training, and I am not disposed to deny that there may be a student now and then who could with advantage omit the lecture in favor of study, but such individuals are exceptional.

The subdivisions in the practical teaching of medicine and surgery now commonly recognized are: The clinical lecture, clinical conference, ward class, work in the wards of the hospital and dispensary, and laboratory classes. Each of these

has a separate sort of usefulness and must be given a share of the total available time in accordance with local facilities. Nowhere, however, can the best results be achieved unless the advantages of these different methods of instruction are secured.

The ward class is valuable according to the way in which it is conducted. My experience with students at the University of Pennsylvania has been that they learned more of that which it is most important to learn, in ward classes than in clinics, clinical conferences or work in the wards. The ward classes are composed of not more than ten men, and each group is taken to the bedside by an instructor, who usually demonstrates but one case during the hour. The instructor reviews this case thoroughly, taking up the history, the symptoms and the physicial examination systematically. The classes are small enough to allow each student to percuss, auscultate, etc. The important advantage of such a class is that it teaches *method*, and it is method more than a mere collection of facts that should be taught in practical courses. Compare such a class with the large "ward classes" of the English schools and the advantage of the former becomes obvious. The English ward class, as I have seen it conducted, is a class of from 20 to 30 men, who walk through the ward, stopping at one bed after another, to be shown some interesting feature in this or that case. The result of such a plan must be to teach superficiality and unmethodical work. In reality this is not a ward class at all; the same instruction could be given equally well as a large clinic.

An institution committed to the small ward class method must be prepared to supply a large number of instructors for the subdivision of the class in several fold as great as when the larger classes are given. At the same time the number of teaching hours given to each student will necessarily be less than could be given to larger groups, but the advantage of the method more than compensates for the reduction in hours, whatever appearances may seem to indicate.

The value of ward work depends on the system and to a large extent on the student. Our method is to assign the members of the fourth-year class to duty in the wards, each student being placed in charge of certain beds. During one hour each day he is required to examine his patients, make blood counts, urine examinations, etc., under direction of the resident physician; the following hour one of the physicians or assistant physicians makes the "rounds" accompanied by all the students working in that ward. At each bed he questions the student in charge and discusses the case briefly with all. Valuable as this method is when combined with the ward class (or, better still, when preceded by the ward class), the ward visit taken by itself would be inadequate. It gives the student a certain responsibility and independence which brings out his best work under proper guidance, but unless the supervision is immediate and constant (which is almost impossible) it fails, unless provision is elsewhere made to teach the required method.

The clinical conference is properly compared with the larger ward classes alluded to before. Our method is to assign two students to a case in the ward and to discuss this case with a group of from 25 to 50 students before whom the two, specially selected to study the case, make their report a week after the assignment. A number of the students may be called to the bedside to confirm or correct assertions of those reporting the case, thus increasing the interest of the class and at the same time utilizing the material for the benefit of the greatest number possible. The advantage of the clinical conference is that it gives the student the greatest independence in case study, with the subsequent advantage of criticism by his fellows and the instructor. It can not, however, supplant the ward class or ward work.

The general clinic or clinical lecture has somewhat the same advantages as the didactic lecture in so far as the spoken words of an experienced teacher impress themselves on the student's mind more indelibly than the best text-book descriptions, and the practical demonstration of the method of obtaining a history, of conducting a physical examination and of forming deductions is of incalculable advantage. It may be said that but few of the students in a large clinic are near enough to the operations or even the visible signs in medical cases. This is undoubtedly a defect of the general clinic, but its other advantages make it indispensable in a properly rounded medical course. As long as judgment based on experience and deduction are a necessity to medical diagnosis, the practical exposition of a master's method will be a useful part of teaching. Physical examination, the procedures of microscopic and chemical investigations and the systematic consideration of symptoms may be better taught in the ward class, laboratory, didactic lecture or library, but diagnosis in its broadest sense and refinements of treatment are best imparted in the clinic.

Work in the hospital dispensary or out-patient department and laboratory classes are properly a part of the pre-senior year of study, as they are in most respects preparatory to the finished work of the last year and necessary to the student's proper utilization of the advantages of his final year of study.

Whatever proportion of time is properly allotted to each of the methods of practical teaching, it is always important that the peculiar advantages of the methods be recognized to the end that their individual merits may be realized. Clinics are sometimes conducted as didactic lectures, while ward classes or conferences are converted into clinics. Such changes detract from the system as a whole and defeat its proper purpose. Above all else, the most essential requisite to successful teaching is a well conceived system conscientiously carried out

ALFRED STENGEL.

The Failure of the Laboratory Worker as a Practitioner.

GALESBURG, ILL., Aug. 1, 1904.

To the Editor:—I was one of those who enjoyed the hospitality of the University of Pennsylvania during the dedication of its new medical laboratories at the close of the Atlantic City session. I was greatly impressed, as every one of the Association members must have been, with the evident completeness of the great building for the purposes for which it was designed. I was also interested in viewing the exhibit of the work which had been done in recent years by the students in the medical department, the exhibit from the course in surgical pathology being especially fine. From Philadelphia I went to one of the coast cities in the East, where a large number gather each year for medical instruction. There I learned personally of some of the methods of instructing medical students, both graduate and undergraduate.

It has been my privilege and pleasure within a few years to have associated with me some of the younger men who were the products of the present educational methods in medicine. I regret to say that what they brought to me, practically, was not an unalloyed advantage. In three instances they had been sent out from as many recognized schools. One graduate, indeed, was thrice the recipient of a gold medal for proficient and accurate work during his medical course. But in the small laboratory of a fairly successful practitioner, and away from the apron strings of their instructors, the accurate and therefore usable knowledge which these young men possessed, was a minus quantity. To one who had been trained in a large eastern school at a time in the long ago, when twenty lessons comprised the course in histology, pathology and bacteriology, it was felt that these young men were needed. They came, and they all went the same road. For pathology they brought guesswork; for bacteriology, guesswork; for blood and urinary examinations, guesswork.

Now, some one in defense of these young men, may say that the above statements can not be literally true, if the young men were of average ability. But their average ability was, and is, unquestioned; and they were given every facility for scientific work. True it is, that they possessed knowledge of these subjects, but it was rudimentary to the degree that it did not rise above the rule in any well-regulated physician's office making no pretensions to special knowledge. With an experience such as this, educational methods in medicine had an added interest.

In the city last referred to I visited one school which, however, does not possess the degree giving power, but whose facilities for good clinical work are recognized everywhere. In the four weeks that I was there I saw and heard some things that, partially, at least, explain why my assistants, when they came out of school, were not ready to practice medicine any more than were their forefathers. To illustrate: One young man who had been in practice six years came in to take a course on the blood and urine. He had but two weeks to devote to these subjects, and knew nothing of them except what was gained from his college course six years before. He commenced his work by studying the urine with the microscope, and continued this until two days before he was to leave the school. In the remaining two days he was given instruction on the blood. This consisted of the writing in a book by the instructor of the names of the various objects found in the blood plasma, also a demonstration as to the method of counting the red blood corpuscles. This was the first day. The second and last day of the course was devoted to counting the white blood corpuscles, and the exhibition of a number of slides showing the various forms of the malarial plasmodium.

During the course the instructor was overheard to remark to this would-be seeker after medical knowledge that he was very fortunate in taking special instruction on these subjects, because in the regular graduate schools it was impossible to devote the time necessary for their proper understanding. This instructor must have known, because he holds a professor's chair in one of the eastern graduate schools.

I know this to be an extreme illustration; but, unfortunately, when we attempt to grade up we find enough of incomplete medical instruction in all of the schools, both east and west, to account for the personal experiences related above. And so I am going to venture the criticism, without knowing much about the subject—except from the standpoint of the user of the products of these methods—that too much that is impracticable for use by the busy practitioner working alone, is attempted in our schools.

Many patients will prevent the unaided physician from even attempting an accurate diagnosis; hence medical men are drifting into specialism, because they instinctively feel that this will give them a better opportunity to see a larger number of cases of one class. All things being equal, it will; but the result usually is that we then have a one-sided practitioner, which is unfortunate both for medicine and the public. After the specialist has learned his limitations he calls to his aid other specialists. This has brought about the newest phase of the practice of medicine, known as "passing them around."

As a general proposition, the man in medicine, be he general practitioner or specialist, working alone, is seriously handicapped because time prevents his using the very methods that would mean so much for him in the betterment of human health. The lone specialist, under these conditions, can not hold his place; and the general practice of medicine will likewise fail to progress in proper measure until some method can be adopted whereby the profession, in larger numbers, can really use the facts provided by the schools and laboratories. Too many subjects are imperfectly taught; the profession crowded with more than it can carry in the way of undigested knowledge. This can be said of all professions, and all teaching; but it ought not to be true of medicine. The public has been taught of late that the science of medicine is traveling in seven-league boots. This is true in the greater measure only of that part which deals more particularly with the investigation and experimental side of medicine. I repeat, unfortunately, the results attained by this class of workers can not find its highest place until it can be utilized by all. The schools and laboratories are never going to get this knowledge into the hands of the profession while the present methods for its dissemination are depended on. The supply is greater than the ability of the average man to use it.

That a way to use it will be found finally I am convinced. I am not so sure but that the way has already been pointed out. The men who have formed (in the larger cities mainly) the more or less loose alliance whereby it is possible to follow the reprehensible practice of passing patients around, point the way. These practitioners are usually a bunch of specialists who are agreeable to each other.

The ideal state will be when these men are gathered together in one office and under a joint management. A patient entering such an office would be thoroughly examined during his first consultation. The results of such an examination, submitted to the general medicine man of the combination, or the surgeon, would insure in the beginning that consideration which is absolutely necessary for the patient's ultimate and best welfare. Only by some such method as this can the advanced work of the colleges and laboratories be utilized.

J. F. PERCY.

Indorsement in Lieu of Reciprocity Between State Licensing Boards.

CAMDEN, N. J., July 5, 1904.

To the Editor:—I take pleasure in forwarding you resolutions on the New Jersey method of interstate exchange of medical licenses, which I introduced at the last meeting of the National Confederation of State Examining and Licensing Medical Boards, Atlantic City, June 6, 1904. After discussion the resolutions were ordered to lie on the table, to be printed by the secretary, distributed among the members and presented for consideration at the next meeting. I would be obliged if you would print them in THE JOURNAL. E. L. B. GODFREY.

Secretary of the State Board of Medical Examiners of New Jersey.

THE PROPOSED RESOLUTIONS ON INTERSTATE INDORSEMENT VS. INTERSTATE RECIPROCITY.

WHEREAS, National legislation can not affect the question of state jurisdiction in medical practice without the surrender of definite state sovereignty, and

WHEREAS, State medical examination is the basis for state medical license, or the indorsement of a license issued after an approved examination of another state, and each state is the judge of the qualifications of its medical licentiates, and

WHEREAS, It is manifestly unjust and a cause of open complaint by the profession to compel an experienced physician, licensed after a state examination, to undergo a second examination (practically a re-examination in the same elementary branches) on removing from one state to another, when the requirements for medical license in the two states are substantially the same, or lower in the state from which indorsement is asked; therefore,

Resolved, That it is the sense of this confederation that, among those states whose standards of requirements are equal or substantially the same, their licentiates by examination who can meet the moral, academic, medical and examining requirements of the state whose indorsement is asked, are entitled to and should be indorsed, irrespective of reciprocity.

Resolved, That when the standard of requirements of any two states are unequal, it is in the interest of the profession that the state having the lower requirements should indorse the examined licentiates of the state having the higher requirements, irrespective of reciprocity, when such candidates can meet every legal and educational requirement of the indorsing state.

Resolved, That reciprocity limited by statute to reciprocating states, which demands equal rights and privileges in return as conditions of indorsement, with the purpose of compelling recognition of its own licentiates, is detrimental to and retards the progress of the profession, because: 1. It restricts the extension of indorsement by its limitations. 2. It causes hardship to the profession because of its uncertain tenure. 3. It excludes indorsement from states having higher requirements by reason of which reciprocity can not be effected. 4. It refuses recognition to distinguished physicians of non-reciprocating states. 5. It recognizes neither the merit of a state examination nor that of the licentiate as compared with reciprocity. 6. It tends to maintain standards at the level of the lowest reciprocating state, and offers no inducement for a state to raise its standards above those of its reciprocating neighbors. 7. It practically involves an omnibus indorsement, without inquiry as to the status of the individual candidate, and without discrimination, since all licentiates of a state stand legally on an equal footing. 8. It is impractical for adoption by any considerable number of states, because of the difference in state laws, standards and population.

Resolved, That reciprocity based on a voluntary agreement of state boards is, like statutory reciprocity, impractical, because: 1. There is no uniformity in state laws and no ability to enforce them. 2. When differences arise between examining boards, in respect to the status of colleges, the grade of examinations or the eligibility of candidates rejected by one board for examination by another, there is no law, national, interstate, or state, to adjust the differences or to enforce the agreement, which may be broken at the pleasure of either board and without redress.

Resolved, That interstate indorsement, authorized by statute and exercised at the discretion of a state medical licensing board, irrespective of reciprocity, based on the substantial equality of educational requirements, on a state examination satisfactory and approved as to kind and grade, and on the individual merit and the professional qualification of the candidate for indorsement, is far better than indorsement based on either statutory or voluntary reciprocity, and tends more than either to further the cause of higher medical education and the autonomy of the profession throughout the country. 1. It is good state policy, since it neither

denies citizenship nor the right to practice to any physician entitled through merit to its privileges. 2. It makes the state the sole judge of the qualifications of its licentiates by enforcing the same requirements for indorsement as for examination for license, thus placing all licentiates on the same footing. 3. It accepts a state examination for what it represents as an examination, but not as more important than the merits and qualifications of the candidates for indorsement. 4. It tends to raise and maintain a high standard of education by making a license from a state with high requirements more widely acceptable for indorsement than one from a state of low requirements, and thus admits of early national application. 5. It requires legal evidence of individual merit as well as professional qualifications for approval for indorsement, and this tends to reduce to a minimum the indorsement of irregular, itinerant practitioners. 6. It puts a premium on character and education and renders the best practitioners eligible for indorsement in every state. 7. It indorses both the state and the individual candidate, and failure of a state to reciprocate, therefore, does not afford either a legal or valid reason for rejecting any of its licentiates who can meet every requirement of the statute. 8. It may accept any of the examined licentiates of a state for indorsement, or only those examined and licensed under the most recent requirements.

Resolved, That a state that will not indorse the examined licentiate of another state where the standards are co-equal, or of a state where the standards are higher, stands as a hindrance to medical progress, because: 1. It does not recognize the efficiency once proved by examination in a state of co-equal or higher requirements. 2. It limits the working sphere of the profession. 3. It exacts the same requirements for license from the physician, duly licensed after an examination in a co-equal state and experienced by years of practice, that are exacted from the inexperienced graduate.

Resolved, That indorsement, therefore, irrespective of reciprocity, should be granted to examined licentiates of states whose standard of requirements is co-equal or higher, when the candidate for indorsement can meet in all respects the requirements of the statute governing the practice of medicine.

THE UNCONSTITUTIONALITY OF INDORSEMENT.

SAULT STE. MARIE, MICH., Aug. 1, 1904.

To the Editor:—The resolutions submitted by Dr. Godfrey, at the meeting of the National Confederation of State Medical Examining and Licensing Medical Boards, were promptly tabled by the confederation, but, unfortunately for the cause of reciprocity, were ordered printed and distributed, with the possible effect of again clouding the reciprocal atmosphere (I see that the *New York Medical Journal* indorsed them, June 18) in an attempt to solve a simple problem by a method which is clearly unconstitutional and impracticable, and which lacks even the merit of an ordinary knowledge or understanding of the present status of medical reciprocity in the several political divisions of the United States. These resolutions ignore, altogether, the fact that over a dozen of the better states are at the present time exchanging licenses through reciprocity agreements on a perfectly satisfactory and practical basis, and that any one or all of such reciprocating states, through actual experience, can testify to the incorrectness of the conclusions and deductions recorded in the resolutions mentioned.

These resolutions are based on the fundamental principle that interstate reciprocity and interstate indorsement are only practical and of value when applied to those practitioners who obtained their licenses on the basis of an examination before a state board of medical examiners. As this class of practitioners represents less than 10 per cent. of the reputable physicians in the United States, and include only those of recent graduation, the expressions used in the resolutions, i. e., "hardship to the profession," "refuses recognition to distinguished physicians," "placing all licentiates on the same footing," etc., seem ludicrous and ironical in the extreme. I would ask in all seriousness, how many of the eminent practitioners of this country have obtained their state licenses on the basis of an examination before a state medical board?

Several of the state medical boards, including that of New Jersey, are committed to the policy of recognizing for interstate exchange certificates of registration or licenses obtained solely on the basis of an examination on stated subjects before state medical boards. It may be of interest to these boards to learn that any scheme of medical reciprocity which includes only licentiates who obtained their medical licenses on the basis of a state board examination, and which excludes licentiates who obtained their medical licenses on the basis of a college diploma, is unconstitutional, and unquestionably would be held so by any one of the several state supreme courts or the United States Supreme Court, for the following reasons:

1. State legislatures have authority to make reasonable provision for determining the qualifications of those engaged in the practice of medicine, and in connection therewith to create a tribunal, whether called a court or a board of registration, to administer such provisions.

2. State legislatures have up to a certain date provided as a qualification for registration or license subsequent to the passage of medical acts, a single examination of a certain grade, either by a state board of medical examiners or by a faculty of a medical college recognized by a board of medical registration and examination in lieu of such examination. More recent legislation in many states provides, however, for a double examination for license—one by a recognized faculty, and one by a medical board.

3. Up to the date of a double examination requirement by a state board, the legal status of a college faculty examination fully equals that of a state board examination.

4. It is, therefore, illegal and unconstitutional for a medical board to recognize as a qualification for license a state board examination and refuse recognition as a qualification for license a recognized medical college faculty examination up to the date when the law required the double examination qualification.

5. It is not legally competent for a medical board whose state law provides for medical reciprocity to adopt, even silently and without resolution, the policy of non-medical reciprocity. The law presumes proper action by the board in all its provisions, and boards could be compelled, through mandamus proceedings, to administer rightly a reciprocity provision equal to that of an examination provision.

The legal point in the matter centers on the examination qualification as a requirement for license, and the fact that two kinds of examinations are equally recognized in law up to the date of a double examination requirement. In order to understand the legal point involved, it is necessary to separate the *fact* from the *form*, the latter representing the diploma from the college and the certificate from the board, and the former representing the examination by which the diploma or certificate was obtained. The form is of very minor importance and is useful only for identification purposes, but the fact (the examination) contained in the diploma or certificate is the material substance affected by reciprocity.

The American Confederation of Reciprocating Examining and Licensing Medical Boards formulated the following qualifications in May, 1902, which are in harmony with the legal points raised above, and its members (fourteen in number) are exchanging licenses on the basis of these qualifications.

ARTICLE II.

The object of this confederation shall be to establish reciprocal relations between the medical examining and licensing boards of the states, territories, districts and provinces of the United States, the purpose of which being that thoroughly worthy and well-qualified physicians and surgeons, who have been legally authorized to practice under the laws of one of said states, territories, districts or provinces, may be given legal authority and be admitted to practice in any state, territory, district or province, represented in this confederation, without a repetition of the tests of qualification to which such practitioner has submitted.

QUALIFICATION 1.

A certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than 75 per cent. was awarded, the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification; provided that in case the scope of said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

QUALIFICATION 2.

A certificate of registration or license issued by the proper board of any state may be accepted as evidence of qualification for reciprocal registration in any other state; provided that the holder of such certificate had been engaged in the reputable practice of medicine in such state at least one year; and also provided, that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the legal examination test in such state.

Dr. Godfrey's resolutions make much of inequality of state requirements and the difficulties to be met in adjusting them, and advocates indorsement in lieu of reciprocity as a remedy. Qualification 1, as quoted, provides the only legal, equitable and practical methods, viz., the supplemental examination,

Under the provisions of Qualification 1 it matters not if the requirements of one state are very much higher than those of the other state. The inequality can be adjusted equitably in every case without inflicting any hardship on the applicant, and at any time, and it allows for the raising of standards in states at such times and under such circumstances as made necessary by local conditions. This qualification eliminates completely a "repetition of the tests of qualification" to which a practitioner has submitted, and this "repetition of the tests of qualification" is the sole reason given for reciprocity. No reputable or worthy practitioner can possibly object to fulfilling qualifications which he has not previously fulfilled.

Qualification 2 applies to those reputable practitioners who obtained their state licenses on the basis of a faculty examination (college diploma) previous to the date of the double examination requirements (college diploma and state certificate) in states. Under this qualification no state is required to accept an applicant whose diploma dates subsequent to the date of the double examination test in such state. In other words, the applicant, if he had applied for registration in such state at the time of his graduation, would have been accepted. Therefore, the state, under Qualification 2, dates back the application. The applicant, in addition to a standard qualification recognized as such at the date of issue, at this time also possesses several years of practical experience, which is in itself a legal qualification asset, and has, further, been investigated and recommended by the state in which his professional work has been done.

Could any provision for reciprocity be fairer, more equitable, more consistent with constitutional as well as statutory law—broad, and yet conservative, insisting on an exact legal qualification at the date of registration, than Qualification 2? It includes fully 75 per cent. of those practitioners to whom the benefits of practical reciprocity apply. Reciprocal legislation, which provides only for the present and future practitioner and ignores the older and experienced practitioner for the reason that the latter has not obtained his license through a state board examination, is not only irrelevant and unjust, but is also unconstitutional. The only practitioners excluded from medical reciprocity under Qualifications 1 and 2, in addition to practitioners not indorsed by state boards as moral and reputable, are those practitioners who obtained their licenses through a re-registration clause on the qualification of "years of practice" and those graduates of reputable colleges who registered under an exemption clause which permits graduates of colleges in the state responsible for the act to register without examination subsequent to the time of the double examination requirement in such state, and where all graduates from without the state are required to take the double examination requirement.

The above practitioners represent about 10 per cent. of the total practitioners of the United States and are not legally entitled to consideration; furthermore, such exemptions are unconstitutional and probably will be declared so in the near future by competent authority, and those practitioners who obtained their licenses through such exemption will face the possibility of being summoned before boards to show cause why their certificates should not be cancelled from the fact that they have been issued through error.

No attempt has been made, as far as I am aware, to criticise adversely Qualifications 1 or 2. The fact that they have been endorsed and made active by several of the leading states is sufficient reason for their being considered seriously, and objected to if they do not fulfill exactly the purposes which created them. It is strange and unexplainable that in the matter of medical reciprocity eastern state medical boards are not only inactive and unprogressive, but fail to appreciate and to accept the practical results which have set aside all their objections against reciprocity.

A meeting of the American Confederation will be held at St. Louis the last Wednesday in October, and it is to be hoped that the majority of eastern boards will demonstrate their reciprocity consistency by sending fully accredited delegates with power to act to this meeting.

B. D. Harison,
Secretary American Confederation of Reciprocating Examining and Licensing Medical Boards, and Secretary Michigan State Board of Registration in Medicine.

List of Tuberculosis Hospitals.

New York City, Aug. 1, 1904.

To the Editor:—The National Association for the Study and Prevention of Tuberculosis, in co-operation with the Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York City, is preparing a directory of the various agencies existing and projected, in the United States and Canada, which care for persons suffering from any form of tuberculosis or which work in any way for its restriction.

This directory will include information in regard to hospitals, sanatoria, dispensaries and camps especially designed for tuberculous patients or with especial provision for them, whether public or private; insane hospitals and prisons in which special provision is made for the tuberculous inmates; state commissions and private societies formed for the purpose of investigation or of diffusing information; and a summary of the efforts being made by the boards of health in the principal cities.

A tentative list of institutions is given below. It is desired to make this directory as complete and as accurate as possible. Any additional addresses, therefore, or any reasons why institutions that are included should be omitted, will be welcomed. Information about any institution will be considered confidential, if so desired. Communications should be addressed:

Committee on the Prevention of Tuberculosis,
105 E. 22d Street, New York City.

TUBERCULOSIS HOSPITALS AND SANATORIA.

ARIZONA.

Phoenix: Mercy Hospital.
Tucson: St. Mary's Sanatorium.

CALIFORNIA.

Altadena: Esperanza.
Indio: Health Camp.
Los Angeles: Barlow Sanatorium.
Monrovia: Pottenger Sanatorium for Diseases of Lungs and Throat.

COLORADO.

Colorado Springs: Glockner Sanitarium, Nordrach Ranch.
Denver: Agnes Memorial Sanatorium, The Association Health Farm, The Home, National Jewish Hospital for Consumptives.
Morrison: Resthaven.

CONNECTICUT.

New Canaan: Dr. Brooks' Sanatorium.
Wallingford: Gaylord Farm Sanatorium.

ILLINOIS.

Chicago: St. Anne's Sanitarium, Cook County Hospital for Consumptives.

INDIANA.

Fort Wayne: St. Rochus Hospital.
Indianapolis: Flower Mission Pavilion for Incurables.

IOWA.

Fort Dodge: Boulder Lodge Sanatorium.

LOUISIANA.

Covington: Ozonia Rest Cure.

MAINE.

Hebron: Oxford Sanatorium.

MARYLAND.

Baltimore: City Hospital for Consumptives.
Towson: Hospital for Consumptives of Maryland.

MASSACHUSETTS.

Boston: Boston Almshouse and Hospital.
Long Island: Channing Home, Free Home for Consumptives, The House of the Good Samaritan.
Cambridge: The Holy Ghost Hospital for Incurables.
East Bridgewater: The Millet Sanatorium.
Boston Highlands: Cullis Consumptives' Home, Grove Hall.
Rutland: Massachusetts State Sanatorium, Rutland Cottages.
Sharon: Sharon Sanatorium.
Tewkesbury: State Hospital.

MICHIGAN.

Eloise: Wayne County Hospital.

MINNESOTA.

St. Paul: Luther Hospital Sanatorium.
Walker, Cass County: State Sanatorium for Consumptives.

MISSOURI.

St. Louis: Emergency City Hospital No. 2, Mount St. Rose Sanatorium.

NEBRASKA.

Lincoln: Green Gables.

NEW HAMPSHIRE.

Suncook: Pembroke Sanatorium for Tuberculosis.

NEW JERSEY.

Glen Gardner: State Sanatorium for Tuberculous Diseases.
Orange: Memorial Hospital.

NEW MEXICO.

Albuquerque: St. Joseph Sanitarium.
Bayard: United States General Hospital.
Capitan: Public Health and Marine-Hospital Service Sanatorium.
East Las Vegas: St. Anthony's Sanatorium.
Santa Fé: St. Vincent's Sanitarium.
Silver City: St. Joseph's Sanatorium.

NEW YORK.

Bedford Station: Montefiore Country Sanitarium.
Buffalo: Erie County Hospital for Consumptives.
Coney Island: Seaside Camp for Tuberculous Children.
Lake Kushnqua: Stony Wold Sanatorium.
Liberty: The Edgemont, Loomis Sanatorium.
New York City: Brooklyn Home for Consumptives, Kings County Hospital, Home for Incurables, House of Rest for Consumptives, Lincoln Hospital, Montefiore Home for Chronic Invalids, Riverside Sanatorium for Pulmonary Diseases, St. Joseph's Hospital for Consumptives, Seton Hospital, Tuberculosis Infirmary of the Metropolitan Hospital.
Paul Smiths: Sanitarium Gabriels.
Ray Brook: State Hospital for the Treatment of Incipient Pulmonary Tuberculosis.
Santa Clara: Hill Crest and Uplands.
Saranac Lake: Adirondack Cottage Sanitarium, Raymond Cottage, Reception Cottage, Rumannpp Cottage.
Verbank: All Saints' Home, Priory Farms.
Yonkers: County Hospital.

NORTH CAROLINA.

Asheville: Dr. Stevens' Home, Winyah Sanitarium.
Black Mountain: Franklin Humanitarian Home.
Southern Pines: Pineshire Sanitarium for Diseases of the Lungs and Throat, Southern Pines Sanitarium.

OHIO.

Cincinnati: Branch Hospital for Consumptives.
Cleveland: Tuberculosis Sanatorium of the City Hospital.
Dayton: Miami Valley Hospital.

PENNSYLVANIA.

Chestnut Hill: Hospital for Diseases of the Lungs.
Lansford: Switch Back Sanatorium.
Mont Alto: South Mountain Camp Sanatorium.
Perkiomeuville: Bide-Awhile Sanatorium.
Philadelphia: The Henry Phipps Institute, The House of Mercy, Lucien Moss Home, Jewish Hospital, Philadelphia Hospital, Rush Hospital.
Scranton: Lakewood Sanatorium, West Mountain Sanatorium.
White Haven: Free Hospital for Poor Consumptives, Sunny Rest Sanatorium.

RHODE ISLAND.

Burrillville: State Sanatorium.
Foster: Pine Ridge Camp for Consumptives.
Providence: St. Joseph's Hospital.

SOUTH CAROLINA.

Aiken: The Aiken Cottagea.

TEXAS.

Comfort: Camp Reliance.
El Paso: Siaters' Hospital.

VERMONT.

South Hero: The Champlain Open-Air Sanitarium.

WASHINGTON.

Seattle: King County Hospital.

WISCONSIN.

Kilbourn: Wisconsin Dells Sanatorium.
Lake Nebagamon: Evergreen Park Cottage Sanatorium.
Tomahawk: The Wisconsin Health Park Asaociation.

CANADA.

Kamloopa, B. C.: Provincial Sanatorium.
Kentville, Nova Scotia: Provincial Sanatorium.
Gravenhurst, Ontario: Free Hospital for Consumptives, Muskoka Cottage Sanatorium.
Ste. Agathe des Monts, Quebec: Lahl Ghur.

SPECIAL CLINICS FOR THE TREATMENT OF TUBERCULOSIS.

Baltimore: Out-Patient Department, Johns Hopkins Hospital.
Boston: Boston Dispensary.
Chicago: Dispensaries of the Committee on the Prevention of Tuberculosis of the Visiting Nurse Association.
Minneapolis: Medical Department of Hamline University, University of Minnesota.
New Haven, Conn.: New Haven Dispensary.
New York: Clinic of the Department of Health for the Treatment of Pulmonary Diseases, Bellevue Hospital, out-patient department; Gouverneur Hosnital dispensary, Post-Graduate Hospital dispensary, Vanderbilt Clinic, Presbyterian Hospital dispensary, Harlem Hospital dispensary.
Orange, N. J.: Orange Memorial Hospital.
Philadelphia: Henry Phipps Institute, Rush Hospital.
Providence, R. I.: Rhode Island Hospital.
Scranton, Pa.: Free Dispensary for Diseases of the Lungs.
Worcester, Mass.: City Hospital.

INSANE HOSPITALS WITH SPECIAL PROVISION FOR THE TUBERCULOUS PATIENTS.

DELAWARE.

Farnhurst: State Hospital for the Insane.

MISSISSIPPI.

Jackson: Hospital for Tuberculous Insane.

NEW YORK.

Binghamton: State Hospital.
Ward's Island New York City: Manhattan State Hospital East.
Willard: Willard State Hospital.

RHODE ISLAND.

Howard: State Hospital.

VERMONT.

Waterbury: Vermont State Hospital.

SPECIAL PROVISION FOR TUBERCULOUS PRISONERS.

Frankfort, Ky.: Prison Hospital.
Stillwater, Minn.: State Prison.
Dannemora, N. Y.: Clinton Prison.
Columbia, S. C.: State Penitentiary.
Huntsville, Texas: Wynne Farm.

How to Take Notes on Lectures.

DENVER, Aug. 4, 1904.

To the Editor:—The note-book in the hands of the student comes down to us from the days when medical books were few and costly. In the Alumni Register of the University of Pennsylvania for June is the account of the expenses of a medical student of one hundred years ago. Among the items in this account we find: "Bell's Anatomy, $22;" "Chaptal's Chemistry, neatly bound, $5.75," and "Barton's Elements of Botany, $6.00."

But in this day, when almost every teacher has his own text-book or volume of published lectures, the student no longer needs to provide his medical library for future reference as he sits listening to lecture or clinic. The library so provided, judged by modern standards, is sure to be a very poor one. But although the note-books when finished may be worthless, a certain amount of advantage may be gained in the writing of them. When kept in the usual manner, however, this is more than balanced by the disadvantage of the interruption of thought and attention that comes from writing down the sentence which has been spoken, while the mind should be wholly given to the appreciation of what is then being said.

If note-books are to be kept they should be written outside of the lecture room. Briefly, the plan is to concentrate the whole attention on what the lecturer is saying, making a little special effort to notice the principal divisions or headings of his lecture and the order in which they are presented. Then, shortly after the lecture (at first it is best to do it immediately, and generally before sleeping) the notes are to be written up from memory. If the teacher makes a practice of summarizing each day, at the beginning of his lecture, the matters presented the day before, the student may compare this summary with his notes. But when the lecture of the day begins the notes should be laid entirely aside.

This plan has been tried often enough to demonstrate that it is perfectly practicable for any student who has sufficient intelligence and preliminary training to profit by the lecture he listens to. The note-books produced in this way will be found to contain quite as much of value as those that are immediately jotted down, except in the matter of formulas and statistics, which are much better left to the text-books. They will show a better selection of material, a better appreciation of relative importance, than is possible with the immediate jottings. But the most important result of the system is that more material and better selected material is left in the memory of the student. The systematic review of the lecture within a few hours after hearing it that this plan compels doubles the value of the instruction received.

Of course, a set of note-books so prepared, and the training incident to their production, cost some effort, but there is no direction in which the same mental effort can be expended with greater resulting benefit. More important than the mere training of memory is the practice in selective judgment of what is brought before the mind. This plan, carried out through the medical course, will enable one readily to report, in fair abstract, any paper or address listened to, or to gather and hold in mind the important points for future discussion. What has been said above does not, of course, apply to the note-book in the dissecting room or laboratory, where facts observed may be noted down, especially by means of diagrams and sketches, with the greatest benefit.

EDWARD JACKSON.

The Revival of Didactic Instruction.

MEMPHIS, TENN., July 25, 1904.

To the Editor:—The didactic lecture hall, the recitation room, the clinical amphitheater, the hospital wards and the laboratories should all be utilized to the fullest extent in teaching modern medicine. I regret to note the sentiment prevailing in some of our great schools against didactic work. No student can read unless he first learns his alphabet. Nor can he solve a problem in mathematics unless he knows his figures. He can not parse a sentence in English or solve a problem until he has been thoroughly grounded in the rules governing each case.

The didactic lecture is the alphabet, the unit one, the rules in teaching medicine. Let the didactic professor preach typhoid fever in the most forcible manner, then let the clinical professor teach typhoid fever in the hospital wards. I am a hearty champion of didactic work along with clinical. Medical schools to-day need more men like Pepper, DaCosta, Flint and Gross. We need men of culture; men of personality; men with powers of expression; men with clinical instinct; men who have acute observation as teachers. Politics is reigning supreme in many of our very best universities. In my opinion one of the oldest and greatest universities in this country is absolutely honey-combed with politics. Schools which are liberally endowed, and which should set the standard of medical education should in every sense eliminate politics forever. Let our schools, whether they are endowed or not, select their teachers with reference to their capacities and not according to their financial or family pull. No doubt there is too much technical work. Our pathologists and bacteriologists should adopt a better nomenclature. The terms now in vogue are harder to memorize and to remember than the muscles of the forearm in Gray's Anatomy. There is too much ornamentation of nonsensical terms, and not enough dress of good, plain English.

The recitation method is a good one and should be encouraged. It stimulates the student body to action and brings him in a more intimate touch with his teacher. A more cordial relationship should exist between student and professor.

FRANK JONES.

The Clinical Teaching Pendulum Has Swung Too Far.

PHILADELPHIA, July 29, 1904.

To the Editor:—My experience with students has convinced me that we have swung a little too far in the direction of clinical teaching; that at the present time we are giving them too few systematic ideas in regard to disease. The picture of disease as presented to them in a single clinical case may show but a few of the characteristic evidences of the malady, and may differ widely from the usual and ordinary. The student needs in the first place to acquire a thorough outline of the average case; after that he can apply with greater advantage his knowledge to the individual. The clinical lecturer as a rule lays especial emphasis on the symptoms of the case before him, which may be very misleading, or at least, imperfect.

DE FOREST WILLARD.

Queries and Minor Notes.

UNINTENTIONAL TRESPASS.

———, TEXAS, Aug. 2, 1904.

To the Editor:—Dr. A was attending Mr. X, who had parenchymatous nephritis. The case was serious, and Dr. A called Dr. B in consultation, after which they advised Mr. X to spend the summer at some watering place, referring him to physicians there. While at the watering place he was treated by the physicians to whom he was referred. After a few weeks he returned home and continued the treatment recommended by the latter. He was suddenly taken with severe dyspnea, and sent for Dr. B at 2 o'clock in the morning. Dr. B went and was asked to continue in treatment of the case, as they could not now return to the watering place. Nothing was said about Dr. A. Dr. B was under the impression that Dr. A had relinquished the case when Mr. X went to the watering place, or he would never have taken it. Dr. A is now offended, and Dr. B wishes to know if he had committed an error in taking the case. He is very desirous to have the matter adjusted, as the mistake was not made from malice, but only from a wrong impression of the situation.

ENQUIRER.

ANSWER.—The conduct of physicians in such cases, according to the Code of Ethics, is to be based on the golden rule. This will lead to careful inquiry as to the rights of other physicians to avoid unintentional trespass, even though a patient may consider that for him to summon a new attendant is *ipso facto* a discharge of the old. The physician can not always consider it so. When one makes an error or offends a confrère in the way described, one should frankly explain and apologize, and even give up the case if the patient agrees, because the loss of a patient from one's clientele is a small matter compared with the loss of professional fellowship and good feeling toward a confrère. For the same reason the physician represented in this case by Dr. A should exercise charity and heartily accept an apology when offered. If he knows his friend to be an honorable physician, let him think that he lost the case through his own inferiority rather than through any dishonorable action on the part of his friend.

THE LIMITATIONS OF GRATUITOUS SERVICES TO PHYSICIANS' DEPENDANTS.

———, ———, Aug. 5, 1904.

To the Editor:—Will you kindly reply to the following query through THE JOURNAL? A student, the son of a homeopathic physician of a distant town, and a complete stranger to me, contracted chancroids while attending school some distance from here. He consulted me and was treated for several weeks. The severity of the case and the development of chancroidal bubo necessitated several time-consuming visits and surgical treatment. An anxious impersonal letter to the attending physician was replied to by me, stating the boy's exact condition, and that he would be carefully looked after. No reply to this was received. The young man was emphatic in his statements that all would be paid for, and, indeed, a small part was paid. The bill was sent to him several times, and several months ago to the father, without response. Now, what is the proper and respectful course for me to pursue? Surely no self-respecting physician would expect another to do that kind of business for his erring son for nothing.

Y.

ANSWER.—The Principles of Ethics advise all physicians to render gratuitous service to any other "practicing physician and his immediate family dependants." In addition, it is suggested that an obligation lies on a physician in comfortable circumstances to recompense a colleague for professional service requiring sacrifice of considerable time. In the case submitted, it is perfectly clear that the homeopathic physician is under real obligation to our correspondent and should be ready to recompense him in suitable amount—something less than ordinary charge in similar cases in that locality. As to the proper course for our correspondent now to pursue, we can hardly advise; that is so largely a matter of personal taste and inclination, and of opportunity. Certainly it would not quite be wise to risk loss of prestige by publicly pressing such a claim, however aggravated the circumstances might be.

SLOW PULSE IN TYPHOID.

EDMOND, OKLA., July 27, 1904.

To the Editor:—Will you please explain the cause of slow pulse frequently found in typhoid fever? I have seen three or four cases during the last year with pulse ranging from 40 to 70 or 80, with a temperature of 101 to 103. Text-books speak of the slow pulse, but do not give its cause. Do you suppose the typhoid toxin influences the pneumogastric nerve to the production of this condition?

T. H. FLESHER, M.D.

ANSWER.—Your observation of the slow pulse in typhoid fever is, as you say, a confirmation of the statement made in many text-books. But it is well to emphasize the value of the slow pulse in spite of high fever, because in many books no mention of the fact is made, and too often the practitioner overlooks what is really a valuable help in the matter of diagnosis and prognosis. As is well known, too, the pulse of the *convalescent* typhoid is apt to be slow. While this slow pulse is probably commoner after typhoid than after other febrile diseases, it is seen after other infections, and is an example of the post-febrile bradycardia, or bradycardia of convalescence of Huchard and others. The explanation of this phenomenon is largely a matter of speculation. It may be, as suggested, due to an involvement of the vagus nerve or its center, but it is more likely, we think, due to the action of the toxin on the heart muscle itself. Many of the so-called neurotic affections of the heart are in reality myocardial in origin, and, while the influence of the pneumogastric and of the intrinsic cardiac nerve fibers and ganglia can not be excluded, one would feel inclined to look on the bradycardia as in large measure due to the effect of the typhoid infection on the heart itself. That the heart muscle is affected in typhoid, sharing in the acute parenchymatous degeneration of the viscera, is well known; and cardiac weakness and instability of its muscular power is often shown during convalescence when a patient whose pulse while in bed was perhaps only 50 or 60, has on first getting up a pulse of 100 or 120. In all this question there is an unknown element that is not explained, and that is, why the poison of typhoid generally causes a slow pulse, while that of some other disease, e. g., scarlet fever, causes a rapid pulse. We may speak of a selective action of these toxins as we do of drugs, and of their specific effect, yet there is still left much that is not quite clear.

REMOVAL OF SUPERFLUOUS HAIR.

———, Ga., July 22, 1904.

To the Editor:—Is there a harmless prescription or means for the removal of superfluous hair—for instance, under the arms, or on the upper lip of a woman? S.

Answer.—Permanent removal of moderate hair growth on women's faces can be effected by electrolysis. The operation is permanent in its effects, but as each hair must be treated individually it is only practicable in cases in which the hairs are coarse and not too numerous. The object of the electrolytic operation is to destroy the papilla and lower part of the follicle. For this purpose are required a galvanic battery of 10 to 30 cells, an extremely fine needle, needle holder, an electrode, a rheostat, a milliamperemeter and the ordinary coils. The strength of current required is from ½ to 1½ milliamperes. The operation should be conducted with strict aseptic precautions. The *x*-rays have also been used in this class of cases, but with unsatisfactory results. One of the best depilatories (as suggested by Duhring) consists of from 2 to 4 drams of barium sulphid, with enough zinc oxid and starch to make an ounce. The sulphid should be well and freshly made and kept tightly corked; otherwise its action is unsatisfactory. At the time of application sufficient water is added to make a paste, which is thickly spread over the part and allowed to remain for from one to two minutes, and then scraped off, and a soothing ointment or dusting powder applied. The application is repeated every week or two, or as soon as the hair has reappeared.

PHYSICIANS' CARDS IN NEWSPAPERS.

———, Ill., July 21, 1904.

To the Editor:—Would the following card be unethical in a newspaper in a small town where one is beginning a practice?

Office Hours:
8 to 10 a. m.; 1 to 3 p. m.; 6:30 to 7:30 p. m.
JOHN R. DOE,
Physician and Surgeon,
Corner of Vine and Cherry streets, Corn, Ill.
Special attention given to microscopic and chemical analysis.
W.

Answer.—The question raised is one of expediency rather than of ethics. Publishing a simple professional card, giving name, address and office hours, is permissible, though in most parts of the country it is avoided as a matter of taste. Specifically, the card submitted appears rather pointless. The general public does not go to a physician for "microscopic and chemical analysis." In many places a young physician can pick up a little money doing this work for other and busier physicians. In seeking that patronage, however, one should call directly on the other physicians and solicit their favor, as they will not respond to a newspaper card. If, however, a physicinn advertises in the way mentioned with the idea of impressing the public with his superior methods of diagnosis, etc., the matter becomes objectionable.

———, Iowa, Aug. 4, 1904.

To the Editor:—When a physician puts his professional card in a daily or weekly paper, would there be any objection to his embodying in that card his place of graduation and hospital connections? The point came to my attention the other day, and I know that many physicians in good standing do so. H.

Answer.—While there is no rule against inserting college and hospital connections in a professional card published in a newspaper, there is, nevertheless, a very strong feeling in the profession that the inclusion of such data constitutes objectionable advertising. The man who thus parades his attainments may not in some places be ostracised professionally, but he certainly in most localities would be running very great risk of attracting strong professional disfavor. Our advice certainly is that it would be wiser to avoid such a practice.

DRY HOT-AIR APPARATUS.

Burr Oak, Ind., July 21, 1904.

To the Editor:—Can you, or any of the medical fraternity, tell us how much value there is in the "dry hot-air apparatus" that is being so extensively advertised at the present time? Is there any good, reliable book on the subject? If so, what? Literature seems very deficient along this line, and, while a great deal of it seems to appeal to reason, we would like to know what is the prevsient opinion regarding it. E. W. Reeves, M.D.

Answer.—The dry hot-air apparatus has a distinct field of usefulness in many of the chronic joint affections, particularly those of a so-called rheumatic nature. The cases should be selected with care. Arthritis deformans is reported as being particularly benefited. A number of reliable articles have appeared from time to time in the literature. (For example, see The Journal, July 4, 1903, p. 69, ¶146.) A good work on the subject is that by Skinner (price $2), obtainable through any large book firm.

Marriages.

Ray Ash, M.D., to Miss Gail Arnold, both of Ashland, Ohio, July 26.

Charles K. Clarke, M.D., to Miss Teresa Gallagher, both of Kingston, Ont.

Gerald B. Webb, M.D., to Miss Varina Davis Hayes, both of Colorado Springs, Colo.

Harry Wayble, M.D., Cincinnati, to Miss Anna Brothers of Newport, Ky., July 25.

J. E. Schein, M.D., to Miss Laura M. Phillipson, both of Oshkosh, Wis., July 27.

Eugene H. Bullock, M.D., to Miss Beulah De Vorss, both of St. Joseph, Mo., July 25.

Louis S. Walton, M.D., to Miss Angeline McCray, both of Pittsburg, Pa., August 2.

Clayton B. Conwell, M.D., Cincinnati, to Miss Sarah W. Jones of Riverside, Ohio.

Francis E. Shinf, M.D., Bisbee, Ariz., to Miss Barker of Toronto, Ont., August 2.

Robert M. Rankin, M.D., Covington, Ky., to Miss Delia Johnson of Barboursville, Ky., July 24.

J. Samuel Shaffer, M.D., to Miss Christobel Ort, both of Montgomery, W. Va., August 2.

Isidor Clarence Smullyan, M.D., to Miss Sarah Wilensky, both of Atlanta, Ga., August 2.

Arthur Field Lindley, M.D., New York City, to Miss Elinor Levering, at Baltimore, July 30, 1904.

Edward Logan Monroe, M.D., to Miss Grace Cecilia Underhill, both of Jacksonville, Fla., August 3.

Anton H. Vorwerk, M.D., Burlington, Iowa, to Miss Katherine Winkle of Bancroft, Iowa, July 27.

Max G. Schlapp, M.D., New York City, to Mrs. Grovene Vail Converse, in London, England, July 30.

Chesley Lanier Carter, M.D., to Miss Mabel Moon, both of Chatham, Va., at Washington, D.C., July 25.

Julius M. Purnell, M.D., acting assistant-surgeon, U. S. Army, to Miss Edith Terry of Louisville, Ky., August 4.

Deaths.

Edward H. Hill, M.D. Harvard University Medical School, Boston, 1867, founder of the Central Maine General Hospital Association; formerly president of the Maine Medical Association; for several years president of the Androscoggin County Medical Society, died at his home in Lewiston, July 17, after an illness of several years from spinal disease, aged 60.

John Turnbull, M.D. Jefferson Medical College, Philadelphia, 1863, of Bellbrook, Ohio, assistant surgeon to the Sixty-fifth Ohio Volunteer Infantry, and later surgeon to the One Hundred and Fifth Ohio Volunteer Infantry, died at St. Elizabeth's Hospital, Xenia, Ohio, July 19, five days after an operation for the removal of gallstones, aged 64.

John Cooper, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1857, surgeon in the Army, as a prisoner-of-war in New Orleans, and after his exchange, in connection with the Seventeenth Army Corps, died at his home in Buffalo, N. Y., July 11, from paralysis, aged 71.

William H. Hanscom, M.D. College of Medicine and Surgery of the University of Minnesota, Minneapolis, 1889, for 10 years medical inspector for the Department of Health of Minneapolis, died at his home in South Minneapolis, July 16, from dropsy, after an illness of five months, aged 37.

James W. Wilson, M.D. Jefferson Medical College, Philadelphia, 1837, some-time president of the Sandusky County Medical Society, and a member of the Ohio State Medical Society, who retired from active practice in 1858, died at his home in Fremont, Ohio, July 21, aged 88.

Charles Fletcher Sumner, M.D. College of Physicians of the Western District of New York, Fairfield, 1840, twice a member of the General Assembly; medical examiner of Bolton, Conn., and for 62 years a practitioner of that place, died at his home, July 12, from pneumonia, aged 87.

Ernest A. Taylor, M.D. Missouri Medical College, St. Louis, 1865; surgeon to the Seventh Missouri Cavalry in the Civil War; for five terms coroner of Rena County, Kan., died at his home in Hutchinson, July 20, after a short illness, aged 70.

John L. Mitchell, M.D. College of Physicians and Surgeons in the City of New York, 1845, a member of the Jackson County (Mich.) Medical Society for 25 years, died at his home in Jackson, July 10, after a prolonged illness, aged 81.

Helen W. Webster, M.D. New England Female Medical College, Boston, a nurse during the Civil War; for eight years resident physician at Vassar College, Poughkeepsie, N. Y., died at her home in New Bedford, Mass., July 19, aged 67.

D. F. McCrimmon, M.D. Atlanta (Ga.) Medical College of Rochelle, Ga., formerly representative from Wilcox County in the state legislature, died at the State Sanitarium, Milledgeville, July 15, after an illness of several months.

Henry D. Green, M.D. Medical Department of the University of the South, Sewanee, Tenn., 1900, of Atlanta, Ga., was struck by a car near the World's Fair, St. Louis, July 29, and died a few minutes later, aged 25.

Isidor H. Jacob, M.D. University of Würzburg, Germany, 1898, of New York City, one of the promoters of the Brooklyn Jewish Hospital, died in the German Hospital, New York City, July 18, after a prolonged illness.

Columbus N. Warren, M.D. Starling Medical College, Columbus, Ohio, 1889, of Harrietsville, Ohio, died suddenly while making a professional call near that place, from angina pectoris, July 26, aged 38.

Otis H. Johnson, M.D. Harvard University Medical School, Boston, 1866, of Haverhill, Mass., died at the Hale Hospital in that city, July 16, from diabetic gangrene, after amputation of the right leg, aged 63.

Gresham P. Williams, M.D. Hospital College of Medicine, Louisville, Ky., 1891; Medical College of Ohio, Cincinnati, 1867, died at his home in Huntingburg, Ind., July 12, after a short illness, aged 60.

Robert Macdonald Kippen, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1900, died recently and was buried from the residence of his father in London, Ont., July 18.

A. Clarence Bartlett, M.D. Medical College of Ohio, Cincinnati, 1880, died at his home in New Castle, Ind., July 10, from cancer of the intestines after an illness of two years, aged 47.

State Boards of Registration.

Other Reports.—This issue of THE JOURNAL has room for but a few reports of state boards. Similar reports appear from week to week. In the last issue, August 6, reports were given from the states of Delaware, Illinois, Massachusetts, Michigan, Minnesota, North Dakota, Ohio, South Carolina and Texas. The last-mentioned report included the 125 questions asked on 13 subjects.

Rhode Island July Report.—Dr. G. T. Swartz, secretary of the Rhode Island State Board of Health, reports written examination held at Providence, July 7 and 8, 1904. The number of subjects examined in was 7; total questions asked, 70, and percentage required to pass, 75. The total number examined was 28, of whom 25 passed and 3 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Baltimore Medical College	(1904)	83.8, 79.3
Boston University Medical School	(1904)	80.1, 82.0
College of Phys. and Surgs., Baltimore	(1904)	87.4, 85, 84.3, 86.5
College of Phys. and Surgs., Boston	(1904)	75.* 79.1
College of Phys. and Surgs., New York	(1904)	90.4, 88.9
Harvard University Medical School	(1902)	90. (1903) 85.3, (1904) 85.9, 83.2.
Jefferson Medical College	(1904)	78.6, 83, 86.4, 82.7
Tufts College Medical School	(1904)	77.4, 77.0
University of Maryland	(1904)	89.1
University Medical College, New York	(1895)	87.2
Yale University Medical School	(1902)	85.2
FAILED.		
Baltimore University Medical School	(1904)	60.4
Georgetown University	(1889)	62.0
Maryland Medical College	(1904)	65.9

*Second examination.

New Mexico June Report.—Dr. B. D. Black, secretary of the New Mexico Board of Health, reports the written examination held at Santa Fe, June 6, 1904. The number of subjects examined in was 7; total questions asked 59, and percentage required to pass, 65 per cent. The total number examined was 9, of whom 7 passed and 2 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Detroit College of Medicine	(1897)	65.4
Physicians and Surgeons, Keokuk, Iowa	(1896)	81.0
Birmingham Medical College	(1898)	95.5
Med. Dept. Fort Worth University	(1898)	72.5
Kentucky University	(1904)	76.5
Colorado University	(1899)	72.8
American Medical Missionary College	(1903)	84.0
FAILED.		
National Medical University, Chicago	(1903)	62.1
Vanderbilt University	(1890)	61.4

Twenty candidates were licensed by registration of diplomas from colleges in good standing and two were rejected for unprofessional conduct.

Maine July Report.—Dr. A. K. P. Meserve, secretary of the Maine Board of Registration of Medicine, reports the oral and written examination held at Portland, July 12 and 13, 1904. The number of subjects examined in was 10; total questions asked, 100, and average percentage required to pass, 75, and not below 60 in any one branch. The total number examined was 49, of whom 41 passed and 8 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Baltimore Medical College	(1904)	90.8
Baltimore Univ. School of Med	(1899) 77.3, (1904)	89.3
Boston Univ. School of Med	(1904)	88.0, 83.0
Coll. of Phys and Surgs., Boston	(1904) 85.3, 88.3, (1897)	77.8
Habnemann Med. Coll. Hospital, Philadelphia	(1904)	87.4
Harvard Medical School	(1896) 83.8, (1901) 91.4, (1902) 88.7, (1903) 83.5.	
Johns Hopkins Medical School	(1904)	96.3
Laval University, Montreal	(1904)	82.0
Maryland Medical College	(1904)	82.1, 83.0
Medical School of Maine	(1890) 78, (1904) the grade of 75.2 was reached by one, 77 by one, 79 by two, 81 by two, 82 by two, 83 by one, 86 by one, 87 by two, 88.1 by one, 89.3 by one, 90.7 by one, 92.7 by one.	
Syracuse Medical College	(1904)	84.8
Tufts College Medical School	(1903) 88.7, (1902)	80.0
University of Pennsylvania	(1888)	87.8
University of Vermont	(1904) 88.5, 86.7,	86.7
FAILED.		
College of Phys. and Surgs., Boston, (1904) 81.5 (56 in mat. med.).		
College of Phys. and Surgs., Baltimore, (1904) 80.8 (56 in path.). (1903) 74.1.		
Medical School of Maine, (1904) 81.8 (58.5 in path.), 73.5, 76.8 (50 in obstet.), 72.5, 67.5.		

The average of the 16 representatives of the Medical School of Maine who passed was 83.7, of the total 21, 81.5.

Nebraska June Report.—Dr. G. H. Brash, secretary of the Nebraska State Board of Health, reports the written examination held at Omaha, June 1 and 2, 1904. The number of subjects examined in was 8; the total questions asked, 80, and the percentage required to pass, 75. The number examined was 63, of whom 61 passed and 2 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Lincoln Medical College	(1904)	78.4, 79.2, 82.6
College of Physicians and Surgeons, Chicago	(1904)	87.6, 90.8
Hering Medical College, Chicago	(1904)	76.2
Medico-Chirurgical College, Philadelphia	(1903)	77.6
Central Medical College, St. Joseph, Mo.	(1904)	83.7
Ensworth Medical College	(1904)	78.1
Creighton Medical College	(1902) 84.8, (1904) the grade of 75 was reached by one, 78 by two, 79 by two, 80 by one, 81 by three, 82 by two, 83 by three, 86 by two, 87 by four, 88 by two, 91 by one.	
Omaha Medical College	(1904)	90.7
Medical Department University of Nebraska	(1904) the grade of 76 was reached by three, 78 by two, 79 by one, 81 by two, 82 by one, 83 by one, 84 by one, 85 by two, 87 by two, 88 by six, 89 by two, 90 by two, 91 by one, 92 by one.	
FAILED.		
Creighton Medical College	(1900)	2.1
Omaha Medical College	(1901)	71.5

The general average for all representatives of Creighton Medical College who passed was 83.1, of the Univerity of Nebraska, 84.7.

Association News.

NEW MEMBERS.

List of new members for the month of July, 1904:

ARKANSAS.

Worthington, J. A., Green Forest.
Rhine, T. E., Thornton.

CALIFORNIA.

Blumer, Geo., San Francisco.
Crothers, W. H., San Francisco.
Weeks, Alanson, San Francisco.
Bruguiere, Peder Sather, San Francisco.
Rhinehard, Jas. F., Oakland.
Soothill, John H., Anderson.
Bramhall, Robt. N., Fair Oaks.
Knowlton, J. J., San Luis Obispo.
English, Charles F., Sonora.
Flemming, R. F., San Francisco.
Franklin, W. S., San Francisco.

COLORADO.

Abbott, Ursa S., Grand Junction.
Arnold, Clarence R., Colorado Springs.

CONNECTICUT.

Chester, Thos. W., Hartford.
Beard, Theo. E., New Haven.
Sherrill, Geo., Stamford.
White, Robt. C., Willimantic.
Smith, N. P., Norwich.
Staub, Geo. E., New Milford.
Maloney, D. J., Waterbury.
Hammond, Henry L., Killingly.

GEORGIA.

Warfield, Luis M., Savannah.
Bloomfield, Jas. C., Athens.

IDAHO.

Brundage, M., Shelley.

ILLINOIS.

Applewhite, L. D., East St. Louis.
McNeill, Samuel J., Chicago.
Fisher, Frank C., Joliet.
Ramsey, Fras. W., Aledo.
Fuller, Spencer S., Paxton.
Gaston, M. Adelaide, Cerro Gordo.
Grayson, Oscar J., Granite.
Ward, S. R., Richmond.
Wall, A. S., Champaign.
Kober, A. F., McConnell.
Robbins, Wilfred D., Albany.
Elliott, Elihu N., Chicago.
Voigt, L. G., Freeport.
Buckmaster, F., Altamont.

INDIAN TERRITORY.

Plunkett, Benj. J., Duncan.
Batson, J. B., Marietta.
Tralle, Geo. M., Purcell.

INDIANA.

Lukenbill, Orestes C., Indianapolis.
Newcomb, John Ray, Indianapolis.
Lamberson, Harry M., Connersville.
Perry, C. H., Lewis Creek.
Wyatt, A. R., La Grange.
Eby, Lorenzo D., Plymouth
Wishard, E. E., Noblesville.
Kalbfleisch, A. H., Peru.
Kimmel, A. J., Hudson.

IOWA.

Anderson, Louis N., Cedar Falls.
Rudolf, F. Eugene, Davenport.
Gingles, W. W., Castana.
Skianer, F. S., Marion.
Kueny, Chas. F., Le Mars.
Letourneau, P. H., Waukon.
Mirick, Willis A., Monticello.
Germann, V. C., Anamosa.
Hubbard, Chester W., Atkins.
Renshaw, L. L., Monona.
Young, J. W., West Grove.
Harris, C. E., Grinnell.

KANSAS.

Igel, R. L., Leavenworth.
Furst, Oliver J., Peabody.
Mitchell, Paul S., Iola.

KENTUCKY.

Lewis, H. H., Salt Lick.
Gholson, Wm. E., Kirbyton.
Bushong, Perry W., Summer Shade.
Keller, David H., Lexington.
South, Lillian H., Bowling Green.
Orsburn, H. K., Owensboro.

LOUISIANA.

Otto, Henry J., New Orleans
White, Stuart L., Ruston.

MARYLAND.

Mitchell, Chas. W., Baltimore.
Lockard, G. Carroll, Baltimore.
Lentcher, John A., Baltimore.
Thiede, Gustav A., Baltimore.
Hynson, Henry P., Baltimore
France, Joseph I., Baltimore.

MASSACHUSETTS.

Wadsworth, Richard G., Boston.
Kennedy, C. F. J., Springfield.
Smith, Frank H., Hadley.
Greenough, Clara M., Greenfield.

MEXICO.

Common, Ernest L., Minaca, Chihuahua.

MICHIGAN.

Locher, H. E., Grand Rapids.
Henry, J. G., Detroit.
Dibble, Wealthy, Saginaw.
Newcomb, Mary E., Blissfield.
Kee, David N., Gladstone.
Hebert, P., Iron Mountain.
Strangways, W. F., Traverse City.
Yonkers, F., Woodville.
Love, Frank S., West Branch.

MINNESOTA.

Armstrong, Louis W., Breckenridge.
Bratrud, T., Warren.

MISSISSIPPI.

Jones, Geo. Pierce, Lula.

MISSOURI.

Murphy, R. Brent, St. Louis.
Garne, R. L., Pollock.
Helton, Jas. W., Green City.
Kelly, S. G., Sedalia.

MONTANA.

Turner, Christopher, Butte.
Cole, Chas. K., Helena.
Horsky, Rudolph, Helena.
Barbour, Geo. H., Helena.

NEBRASKA.

Barkard, Adrian F., Omaha.
Spear, Geo. E., Lincoln.
Wilmoth, William L., Superior.

NEW HAMPSHIRE.

Sumner, Arthur F., Concord.
Osterhout, J. J., Marlow.

NEW JERSEY.

Wherry, E. G., Newark.

NEW YORK.

Howe, Lucien, Buffalo.
Sell, E. H. M., New York City.
Gow, Frank F., Schuylerville.
Palmer, Floyd, Fishkill-on Hudson.
Rich, E. S., Kennedy.
Cooper, Wm. C., Troy.

OHIO.

Jackson, Thos. W., Akron.
Kahler, J. Frank, Canton.
Mithoefer, Wm., Cincinnati.
Fee, Frank E., Cincinnati.
Minor, H. C., Toronto.
Brattain, G. M., Antwerp.
Shane, Gustav A., Waynesburg.
Holmes, Ralph W., Gallipolis.
Ury, John Busby, Defiance.
Williams, Berthold A., College Hill.
Elder, John M., Mineral Ridge.

OREGON.

Cottel, Willis I., Portland

PENNSYLVANIA

Bridenbaugh, Chas. S., Altoona.
Watson, Chas. M., Allegheny.
Osterloh, Chas. T., Allegheny.
England, Joseph W., Philadelphia.
Finck, Edward B., Philadelphia.
Knowles, Geo. A., Philadelphia.
Goss, Chas., Philadelphia.
Burns, Wm. A., Philadelphia.
Cassidy, Paul B., Philadelphia.
Wilbart, M. I., Philadelphia.
Conard, T. E., Philadelphia.
Jamison, Hugh D., Pittsburg.
Anderson, Clyde O., Pittsburg.
Pool, Stewart N., Pittsburg.
Charles, Wm. S., Pittsburg.
Kellogg, Fred'k S., Pittsburg.
Barker, Olin G. A., Pittsburg.
Born, Chas. E., Johnstown.
Stern, Jac. C., York.
Smith, Chas. R., Tioga.
Graff, Matthew A., Sewickley.
Jennings, Samuel D., Sewickley.
Phillips, John W., Troy.
Weddell, E. P., Scottdale.
Laverty, Witt C., Middletown.
Beswick, Geo. L., Wilmerding.
Brooks, Macy, Philadelphia.
Rosenberger Randle C., Philadelphia.

RHODE ISLAND.

Sanford, A. C., Newport.

SOUTH DAKOTA.

Riggs, Theo. F., Oahe.
Bacon, Ralph F., Garden City.
Crawford, J. Harry, Castlewood.
Adams, Geo. S., Yankton.
Dustin, John F., Pukwana.

TEXAS.

Wehrle, Gottlieb El Paso.
Barrell, C. C., Houston.
McIntosh, John A., San Antonio.
Rogers, Madison W., Alexander.
Mendenhall, Jas. N., Plano.
Reed, Guy H., Beaumont.
Sanders, D. I., Edom
Stevens, G. W., Willis.
Powell, W. P., Willis.
McDaniel, H. A., Bonham

UTAH.

Hazel, Thos. Harold, Salt Lake City.

WEST VIRGINIA

Davis, Gilman R., Stone Cliff.
Mankin, J. W., Thurmond.

WISCONSIN.

Teschan, R. C., Milwaukee.
Laidlow, W. R., Milwaukee.
Feilman, Geo. H., Milwaukee.
Hall, C. H., Madison.
De Lap, R. H., Richland Center.
Cleary, B. L., Edgerton.
Jacobs, E. C., Durand.
Hooper, E. S., Darlington.
Larsen, G. A., Blanchardville.
Banks, Wm. H., Roberts.

Medical Organization.

Georgia.

SUMTER COUNTY MEDICAL SOCIETY.—This society was organized at Americus, July 27, with an initial membership of 22, and the following officers: Dr. F. A. Thomas, Americus, president, and Dr. Frank L. Cato, Jr., De Soto, secretary.

Illinois.

PIATT COUNTY MEDICAL SOCIETY.—Under this title the physicians of Piatt County have recently organized.

ILLINOIS FIFTH DISTRICT MEDICAL SOCIETY.—At the one hundred and tenth quarterly meeting of the Brainard District Medical Society, held in Bloomington, Ill., July 28, Councilor Dr. J. Whitefield, South Bloomington, of the Fifth District, made an address on medical organization, and presented the standard plan. The society, by vote, re-organized in accordance with the plan. By the new districting, Morgan and Cass counties are transferred from the Fifth to the Sixth District.

Michigan.

MUSKEGON COUNTY MEDICAL SOCIETY.—This society, whose preliminary meeting for organization was reported in THE JOURNAL of July 30, page, 344, met July 15, perfected its organization on the standard plan, and elected the following officers: Dr. George S. Williams, president; Dr. Sigmund Block, vice-president; Dr. Emory L. Niskern, secretary, and Dr. Jacob, Oosting, treasurer, all of Muskegon.

UPPER PENINSULA MEDICAL SOCIETY OF THE TWELFTH DISTRICT.—At the tenth annual meeting of the Upper Peninsula Medical Society, held in Marquette, July 21 and 22, the society was reorganized on the standard plan, and the following officers were elected: Dr. Edward H. Flynn, Marquette, president; Dr. Elmer D. Gardner, Hancock, vice-president; and Dr. S. Edwin Cruse, Iron Mountain, secretary and treasurer. The next meeting will be held at Hancock.

Missouri.

BATES COUNTY MEDICAL SOCIETY.—This society was organized in Butler, July 1, by Dr. M. P. Overholzer, Harrisonville, with the following officers: President, Dr. Alva E. Lyle, Butler; vice-president, Dr. Edward G. Zey, Butler, and secretary and treasurer, Dr. Edward N. Chastain, Rich Hill.

New Jersey.

ITALIAN-AMERICAN MEDICAL SOCIETY OF ESSEX COUNTY.—On July 28 the Italian physicians of Essex County effected an organization with the following temporary officers: Dr. Joseph M. Malatesta, Newark, president, and Dr. C. C. Berardinelli, secretary.

Ohio.

MAHONING COUNTY MEDICAL SOCIETY.—About 20 physicians of the county met at Youngstown, July 19, and, with the aid of Dr. T. Clark Miller, Massillon, councilor for the Sixth District, reorganized this society on the standard plan. Election of officers was deferred until the January meeting.

South Carolina.

EDGEFIELD COUNTY MEDICAL ASSOCIATION.—This association was recently organized for Edgefield County with the following officers: President, Dr. J. Hammond Carmichael, Pleasant Lane; vice-president, Dr. J. M. Rushton, Johnston; secretary, Dr. J. G. Edwards, and treasurer, Dr. J. N. Crofton, Colliers.

Texas.

SOUTH TEXAS MEDICAL ASSOCIATION.—At the semi-annual meeting held in Houston, June 22 and 23, the following resolution, offered by Dr. Walter Shropshire, Yoakum, was adopted on motion of Dr. Robert W. Knox, Houston:

WHEREAS, The successful organization of the whole medical profession of Texas, as contemplated by our state association and is now being prosecuted, is to some extent handicapped by the indiscriminate membership of the large district medical associations, be it

Resolved, That the membership of the South Texas Medical Association be restricted to members of societies that are chartered by and are branches of the Texas State Association. Further, that so soon as the state association so directs, this association will become one of its district associations to represent it in the South Texas or Ninth Councilor District, according to the plan of recent organization of the state medical association.

The following officers were then elected: Dr. John T. Moore, Galveston, president; Dr. Sofie Herzog, Brazoria, vice-president, and Dr. Edward J. Hamilton, Houston, secretary and treasurer.

MEDICAL SCHOOLS OF THE UNITED STATES

Below is given a brief description of every college in the United States that is legally chartered to confer the degree of doctor of medicine, and whose diploma is recognized by at least one state licensing board. The list includes the sectarian as well as the regular colleges, as their graduates are physicians in the eyes of the law. The information given is, as a rule, obtained from the catalogues and has been submitted to the dean of each school for his inspection and approval. Colleges which belong to the American or the Southern Medical College Association or other organization of colleges have requirements for admission of students according to the rules of these associations, unless their requirements are higher, in which case a statement is made to that effect. Extracts from these rules are given at the close of the list of colleges.

ALABAMA.

Alabama, population 1,828,697, has two medical colleges, the Medical College of Alabama and the Birmingham Medical College, located in Mobile and in Birmingham. The population of each city is over 38,000 and board and room may be obtained for from $12 to $20 per month.

Mobile.

MEDICAL COLLEGE OF ALABAMA.—This is the Medical Department of the University of Alabama, organized in 1859. The City Hospital furnishes free clinical material. The faculty consists of 9 professors and 12 lecturers, 21 in all. It is well equipped with building, laboratories, dispensary, etc. It is a member of the Southern Medical College Association. The course of study covers four years of six months each. The total fees for each of the first three years is $100; for the fourth year, $125. The Dean is Dr. George E. Ketchum. Total registration, 1903-4, 167; graduates, 38. The thirty-ninth session will begin Oct. 7, 1904, and will close April 1, 1905.

Birmingham.

BIRMINGHAM MEDICAL COLLEGE.—This school was incorporated in 1894 and is situated in Birmingham, a manufacturing town of 38,415. The clinical advantages are good. The Hillman, St. Vincent's, Pratt and County hospitals are accessible to the students. The laboratories are well equipped. There are 19 professors and 10 assistants, total 29. The school is a member of the Southern Medical College Association. The course of instruction embraces four separate sessions of six months each. The fees are $75 for each of the first three years and $105 for the fourth. The Dean Dr. B. L. Wyman. Registration, 1903-4, 104; graduates, 5. Next session opens Oct. 3, 1904, and closes April 1, 1905.

ARKANSAS.

Arkansas, population 1,311,564, has one medical college, located in Little Rock. Board and lodging costs from $13 to $18 per month.

Little Rock.

UNIVERSITY OF ARKANSAS MEDICAL DEPARTMENT.—This college is located at Little Rock, population about 60,000. It was organized in 1879 as the Arkansas Industrial University Medical Department. It is a charter member of the Association of American Medical Colleges. Hospital facilities are furnished by Logan H. Roots Memorial Hospital, St. Vincent's Infirmary and Pulaski County Hospital, the latter having a capacity of 200 beds. The teaching body consists of 15 professors and 20 lecturers and assistants, total 35. Dr. F. L. French, Little Rock, is Secretary. The fees are: Matriculation $5, paid but once; annual fees $60, and graduation $25. Total number of students at last session, 215; graduates, 19. The next course of lectures begins Oct. 17 1904, and ends April 15, 1905.

CALIFORNIA.

California, population 1,485,053, has eight medical colleges. Five are located in San Francisco, a city of about 400,000 inhabitants. They are Cooper Medical College, Medical Department of the University of California, California Medical College, Hahnemann Medical College of the Pacific, and the College of Physicians and Surgeons. The clinical facilities of San Francisco are good; board and lodging can be obtained for from $20 to $30 a month. The College of Medicine of the University of Southern California is situated in Los Angeles, population 102,479. Board and lodging can be obtained in that city for $4 a week and upward. The Oakland College of Medicine and Surgery is in Oakland, a suburb of San Francisco.

Oakland.

OAKLAND COLLEGE OF MEDICINE AND SURGERY.—The third session of this new school will begin Sept. 15, 1904, and end May 15, 1905. The Registrar is Dr. Edward N. Ewer. The faculty numbers 23. Tuition is about $115 yearly. There were eight students last session, divided between the first and second year classes. During this session there will be three classes only, no students being admitted to fourth-year studies.

San Francisco.

COOPER MEDICAL COLLEGE.—This school was organized in 1858, though its present name was not adopted until 1882. The faculty consists of 17 professors and 44 lecturers, instructors, etc., 61 in all. Lane Hospital, adjoining the college, the City and County Hospital, containing 464 beds, and the college dispensary furnish clinical material. The requirements for admission are a certificate showing that applicant has passed the regular examination for admission to the University of California, or its equivalent, or graduation from an accredited high school or academy, or its equivalent. The college itself does not hold entrance examinations. The college building supplies large laboratory and lecture-room facilities. The curriculum covers a graded course of four years of eight and a half months each. Fees: Matriculation, $5; course fee for each year, $150; laboratory fee for each year, $10; breakage deposit each year, $10; graduation fee, $25; no other charges. The Dean is Dr. Henry Gibbons, Jr. Total registration for 1903-4 was 193; graduates, 44. The next session opens Aug. 15, 1904, and will close May 9, 1905.

MEDICAL DEPARTMENT UNIVERSITY OF CALIFORNIA.—This department of the State University was organized in 1872, and has a faculty composed of 20 professors, 50 associates and assistants, a total of 70. The City and County Hospital, which admits students of this school not only to the clinics proper, but also to its wards for study, and the college dispensary furnish good clinical material. The course covers graded work for four years of nine months each. This school is a member of the Association of American Medical Colleges. In 1905 two full college years' work will be required of all applicants for admission. The fees are: Matriculation, $5; tuition, $150 each year; laboratory fees extra. The Dean is Dr. Arnold A. D'Ancona. Total registration for 1903-4 was 113; graduates, 27. The thirty-second session opens Aug. 15, 1904, and will close May 15, 1905.

COLLEGE OF PHYSICIANS AND SURGEONS OF SAN FRANCISCO.—This school was organized in 1896 and has a faculty of 22 professors and 24 associate professors and teachers, a total of 46. The hospital facilities consist of the City and County Hospital, the California General Hospital, with 50 beds, and St. Winifred Hospital, with 50 beds. The daily clinics at the new college building furnish abundant material of every description. Applicants for matriculation must show an equal amount of work done or pass a satisfactory examination in English, history and government, geography, physics, mathematics and Latin, grammar and translation. The college building recently completed is well supplied with laboratories and lecture rooms. This college now conducts a continuous course of medical instruction. Each year is divided into four quarters of three months each, and known as the autumn, winter, spring and summer quarters. Students may enter at the beginning of any quarter. Attendance on 12 quarters will be required, and at least 45 months must elapse between the beginning of the first course and the time of graduation. Fees, $30 per quarter. The Dean is Dr. D. A. Hodghead. Registration for 1903-4 was 124; of these 29 graduated in medicine. The autumn quarter opens Sept. 1, 1904, and closes May, 1905.

CALIFORNIA MEDICAL COLLEGE.—Eclectic. This school was organized in 1878. Its faculty includes 18 professors and 17 lecturers and instructors, a total of 35. The clinical material is supplied by the Buena Vista and City and County hospitals. Applicants for admission not holding diploma or certificate are examined. The course has been extended to cover four years of eight months each. Total fees are about $110 for each of the first three years and $40 for the fourth year. The Dean is Dr. D. Maclean. Total registration for 1903-4 was 47; graduates, 8. The next session begins Oct. 3, 1904, and ends May 17, 1905.

HAHNEMANN MEDICAL COLLEGE OF THE PACIFIC.—Homeopathic. This school was organized in 1884, and has a faculty of 19 professors and 23 lecturers, instructors, etc., in all 42. The Pacific Homeopathic Polyclinic, the Homeopathic Sanatorium, the San Francisco Nursery for Homeless Children, Marie Kip Orphanage, accommodating, respectively, 45, 75 and 120 beds; Fabiola Hospital and the City and County Hospital, furnish the clinical material for study. Matriculants must possess the equivalent of a high school education. One year after entrance is permitted in which the student may complete conditions in Latin. The college is registered and accredited with New York State Regents. The course includes four years of seven months each. Total fees for the first year, $155, and $100 for each of the other three years. The Dean is Dr. James W. Ward. Total registration for 1903-4 is 84. The twenty-second session opened March 6, 1904, and will close Oct. 31, 1904.

Los Angeles.

COLLEGE OF MEDICINE, UNIVERSITY OF SOUTHERN CALIFORNIA.—This school was organized in 1885, and has a faculty of 27 professors and 12 instructors, etc., 39 in all. The County Hospital, having 200 beds, and a college dispensary furnish clinical material. Applicants for admission are required to pass an examination in English, arithmetic, elementary algebra, physics and Latin equal to one year's work, unless they can show by certificate that they have covered that ground. The building is amply provided with laboratories and lecture rooms and a new clinical laboratory, erected in 1904, costing, with equipment, $20,000. A graded course, covering four years of thirty-two weeks each, is offered. The total fees for the first year are $145; second and third, $150 each, and $40 for the fourth year. The Dean is Dr. Walter Lindley. Total registration for 1903-4 was 110; graduates, 24. The next session opens Oct. 13, 1904, and closes May 15, 1905.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school has just been organized, and its first session will open Oct. 6, 1904, and close June 6, 1905 The length of each course will be eight months. The faculty numbers 57 in all, 22 professors and 35 assistants. The Secretary is Dr. Benjamin F. Church, Trust Bldg., Los Angeles.

COLORADO.

Colorado, with a population of 539,700, has three medical colleges. Two of these, Denver and Gross College of Medicine and Denver Homeopathic College, are in Denver, which has a population of about 175,000, the other, the Colorado School of Medicine, is at Boulder (population 6,150). The clinical facilities in Denver available to the two colleges are the Arapahoe County Hospital, which has a capacity of 300 beds; St. Joseph's Hospital, with 300 beds, and St. Luke's Hospital, with 75 beds. The Public Library contains 10,000 volumes on medicine. Board can be obtained in Denver for $5 a week and upward.

Denver.

THE DENVER AND GROSS COLLEGE OF MEDICINE.—This is the Medical Department of the University of Denver, and was organized in 1902 by the union of the Gross Medical College (organized 1887) and the Denver College of Medicine (organized 1880). The clinical advantages are the college dispensary, the Arapahoe County Hospital, St. Luke's Hospital, St. Anthony's Hospital, St. Joseph's Hospital, National Jewish Hospital for Consumptives, Home for Dependent Children and the City Contagious Hospital and Mercy Sanitarium. The faculty is made up of 38 professors, 43 assistants and instructors, a total of 81. Its location is central, and the buildings are well arranged for laboratory, dispensary and didactic work. The course is graded and covers four years of eight months. The college is a member of the Association of American Medical Colleges. Final examinations at the end of each year are held. Fees for the first year are $115. For the second year, $116. Third year, $101. Fourth year, $126. Total registration, 1903-4, 127; graduates, 32. The twenty-third session will begin Sept. 13, 1904, and close May 18, 1905. The Dean is Dr. S. G. Bonney.

DENVER HOMEOPATHIC COLLEGE.—This college, organized in 1894, beside clinical privileges in the hospital of the city and county of Denver, has exclusive privileges for clinical work in the Denver Homeopathic Hospital, the Haven and the Belle Lenox Nursery. The faculty numbers 25 professors and 7 lecturers and instructors, 32 in all. The requirements for admission are, "possession of a diploma from a literary college, university, an academy, a normal or high school; a first-grade teacher's certificate, or a previous matriculation at some reputable literary or medical college." The course of study consists of four years of seven months each; monthly examinations are held in each subject. A five-year scholarship may be had for $300, payable in advance, otherwise the tuition is $100 a year for the first, second and third years. Senior year, $75. There is a matriculation fee of $5, payable once. The Dean is Dr. James P. Willard. Total registration for 1903-4 was 29; the number of graduates, 6. The eleventh session begins in September, 1904, and will close April, 1905.

Boulder.

COLORADO SCHOOL OF MEDICINE.—This is the Medical Department of the University of Colorado, and was opened in 1883. The University Hospital, under the control of the state, is equipped to accommodate 40 patients, and furnishes free clinical material. Both hospital and dispensary clinics are offered and the sanatorium located at Boulder offers additional advantages in this line. The faculty embraces 15 professors and 12 lecturers and assistants, a total of 27. The laboratories are well equipped and commodious. A separate building is devoted to the study of anatomy and another one is used for medical work exclusively. A complete four-year course of study in a recognized high school, or its equivalent, is required for admission. This school is a member of the Association of American Medical Colleges. The work embraces a graded course of four years of nine months each. The tuition is $50 per year; there are no other fees. The Dean is Dr. Luman M. Giffin. Total registration for 1903-4 was 53; graduates, 17. The twenty-third session begins Sept. 12, 1904, and closes June 7, 1905.

CONNECTICUT.

Connecticut has a population of 908,420, and contains one medical college, located in New Haven, population 115,000. Board and lodging cost $4.50 and upward per week.

New Haven.

YALE MEDICAL SCHOOL.—This is the Department of Medicine of Yale University. In 1810 a charter was granted for the establishment of this school, and in 1813 it was organized as the Medical Institution of Yale College. In 1879 a new charter changed the name to the one now used, and in 1884 the Connecticut Medical Society, which, from the granting of the first charter, had taken an active part in its control, surrendered its authority, and the University authorities assumed full control. The clinical advantages are embraced under the New Haven Hospital, which contains 175 beds and is the general hospital for New Haven; the Springside Hospital, which is connected with the city almshouse, and the State Hospital for the Insane, located in Middletown, about twenty-five miles distant, which, with its 1,800 patients, offers an opportunity for special instruction in insanity in addition to the clinics. Beside these, the University has just completed a $100,000 building for the dispensary service, which offers good material for clinical teaching. The faculty embraces 13 professors, 5 lecturers, 10 instructors and 19 assistants, a total of 47. The lecture rooms and laboratories are large and well equipped. Matriculants are admitted without examination, provided that they have received a degree in arts or sciences, that they present certificates showing that they have successfully prosecuted the subjects of the examination at some college, high school, academy or preparatory school approved by the faculty, or that they have passed matriculation examinations equivalent to those required at some approved professional school. This school is a member of the Association of American Medical Colleges. The course covers a four-year graded curriculum, eight months constituting a school year; the first two years the fundamental branches are studied, the third year is devoted to a systematic teaching of medicine, surgery, obstetrics and pharmacology, and in the fourth year clinical work, with medicine, surgery and the specialties, is presented. The fees are $150 each year; in the first year there are additional fees amounting to $18, and in the second, $8, and there is no graduation fee. The Dean is Dr. Herbert E. Smith, New Haven. During the session of 1903-4 there were 140 matriculants and 23 graduates. The ninety-second session opens Sept. 29, 1904, and closes June 28, 1905.

DISTRICT OF COLUMBIA.

Washington, population 278,718, has three medical colleges: Columbian University, Department of Medicine, Georgetown University School of Medicine, and Howard University Medical Department. Washington offers to the student of medicine many advantages. The Army Medical Museum, the Museum of Hygiene, the National Museum, the library in the Surgeon-General's office, the Toner Medical Library and Museum of Hygiene, in all over 125,000 volumes on medicine, open to the medical student a most profitable field. The clinical advantages offered by the various hospitals are good. Owing to the many boarding houses and hotels, board and lodging can be had at extremely reasonable rates.

Washington.

COLUMBIAN UNIVERSITY, DEPARTMENT OF MEDICINE.—This school was organized in 1821 as the Department of Medicine of Columbian College, which in 1873 became Columbian University. In connection with the Department of Medicine is the University Hospital, under the immediate control of the faculty of medicine, and established and maintained to afford clinical facilities for the students of the school. Beside the University Hospital, the Garfield Hospital, the Children's Hospital, the Central Dispensary and Emergency Hospital, the Providence Hospital, the Columbia Hospital, the Episcopal Eye and Ear Hospital, the U. S. Government Hospital for the Insane, and the Lutheran Eye and Ear Infirmary afford additional opportunities and are utilized for clinical instruction under the supervision of those members of the faculty who are on the visiting staffs of these institutions. Attendance on clinics is obligatory on junior and senior students. The faculty is composed of 30 professors and 35 demonstrators, instructors and assistants. This school is a member of the Association of American Medical Colleges. The laboratories are modern and equipped with all the needed apparatus for thorough work and instruction. Facilities are also provided for post-graduate and research work. The course of instruction is graded and extends through four years, each scholastic year consisting of eight months. Written and practical examinations are held during the term and written and oral in all subjects at the end of the school year. The total fees for the first year are $132; for the second year, $127; for the third year, $112, and for the fourth year, $122. A laboratory breakage deposit of $5 is required in the first and second years. The Dean is Dr. W. F. Phillips, 1607 16th St., N. W. New and commodious buildings were erected and occupied in 1902. The total registration of students for the session of 1903-04 was 306; graduates 52. The eighty-third session begins Sept. 29, 1904, and closes May 29, 1905.

SCHOOL OF MEDICINE, GEORGETOWN UNIVERSITY.—This school, organized in 1850, controls the Georgetown University Hospital, which affords excellent facilities for clinical teaching and ward classes. Clinics are also held for the benefit of the students in Providence Hospital, containing 500 beds, at the Government Hospital for the Insane, containing over 2,000 beds; in the Children's Hospital, the Central Dispensary, Emergency Hospital and the Garfield Hospital. Attendance on clinical instruction is obligatory in the third and fourth years. The faculty contains 26 professors, 27 instructors and assistants, a total 53. This school is a member of the Association of American Medical Colleges. The building is conveniently located and contains spacious and well-ventilated lecture rooms, laboratories and library; the laboratories are equipped with the most approved instruments and appliances. The complete course of study extends over four terms of eight months each. Examinations are held at the end of each session. The fees are $110 each year. The Dean is Dr. George M. Kober, 1600 T St. The registration for 1903-4 was 140; graduates, 32. The next term opens on Sept. 29, 1904, and ends May 31, 1905.

HOWARD UNIVERSITY MEDICAL DEPARTMENT.—This institution was organized in 1867, and "in conformity with the spirit of the organic law of the University, is open to all, without regard to sex or race, who are qualified by good moral character, proper age and suitable education." The removal of any racial distinction has been taken advantage of by colored students, who compose a majority of those in attendance, but a number of white students are also receiving instruction. The Freedman's Hospital is a general hospital of 300 beds. The faculty comprises 17 professors and 15 lecturers and assistants, 32 in all. This college is a member of the Association of American Medical Colleges. Students are required to attend four courses of lectures in separate years of seven months each. The fees of each session are $80, plus $2 per part for dissecting material, and $10 for graduation. Board can be had at the school dining hall for $9 a month, and a room in the dormitory for $15 a term. The Dean is Dr. Robert Reyburn, 2129 F St. Registration for 1903-4 was 155; graduates, 38. The thirty-seventh session begins Oct. 1, 1904, and closes May 10, 1905.

GEORGIA.

Georgia, population 2,216,331, has three medical colleges: Medical College of Georgia, located in Augusta (population, 39,441); Atlanta College of Physicians and Surgeons, and Georgia College of Eclectic Medicine and Surgery, both in Atlanta (a manufacturing city of 89,872 population). Board and lodging may be obtained for from $3 to $5 per week.

Augusta.

MEDICAL DEPARTMENT, UNIVERSITY OF GEORGIA.—This school was organized as a medical academy in 1829, and in 1873 was made the Medical Department of the University of Georgia. Its faculty includes 12 professors and 13 assistants, 25 in all. The course is four years of six months each. Applicants for admission must, by examination, certificate or diploma, show that they possess educational qualifications equal to those required for second grade teachers in public schools; if they are deficient on examination, however, they are admitted, and they may remove the conditions any time before they appear for graduation. The City Hospital, with 130 beds; Lamar Hospital, with 80 beds; the Polyclinic and the Hospital for Contagious Diseases supply clinical material. Fees for the first two years are $75 each; third year, $100, and $130 for the last year. The Dean is Dr. DeSaussure Ford. Total enrolment for 1903-4 was 115; graduates, 26. The seventy-third session opens Oct. 1, 1904, and closes April 1, 1905.

Atlanta.

GEORGIA COLLEGE OF ECLECTIC MEDICINE AND SURGERY.—This school was organized in 1839, and has a faculty of 16. The college dispensary, Grady Hospital and Georgia Eclectic Hospital furnish clinical material. Applicants for admission must adhere to the requirements established in the National Confederation of Eclectic Colleges, of which this college is a member. The curriculum covers four years of six months each. The Proctor is Dr. W. M. Durham, 77½ Peachtree St. Total number of students for 1903-4 was 54; graduates, 17. The next session opens Oct. 4, 1904, and closes April 4, 1905.

ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS.—This school was formed in 1898 by the consolidation of the Atlanta Medical College, organized in 1854, with the Southern Medical College, organized in 1879. It has a faculty of 13 professors and 30 assistants, a total of 43. Clinical facilities are furnished by the Grady Hospital, which is the general hospital for Atlanta, clinics are free to the graduating class. First course students are required to "give satisfactory evidence to the faculty of such educational qualifications as will be deemed necessary for the successful prosecution of their medical studies. These requirements will be similar to those of other reputable medical colleges in the country." The course of study covers four years of six months each and is graded. The buildings are large and a new building for practical anatomy has been added. Fees: First and second years, $75 each; third and fourth, $100 each. The Dean is Dr. W. S. Kendrick, 71 Washington St. Total registration of students for 1903-4 was 215; graduates, 31. Next session begins Oct. 6, 1904, and closes April 1, 1905.

ILLINOIS.

Illinois, population 4,821,550, has 16 medical colleges. Of these 15 are located in Chicago, a city of about 1,900,000 inhabitants, and are as follows: Rush Medical College, Northwestern University Medical School, Hahnemann Medical College, Bennett College of Eclectic Medicine and Surgery, Chicago Homeopathic Medical College, College of Physicians and Surgeons, Hering Medical College, Jenner Medical College, Harvey Medical College, Illinois Medical College, American Medical Missionary College, College of Medicine and Surgery, National Medical University, American College of Medicine and Surgery, and Dearborn Medical College. Room and board cost $3 a week and upward. Lombard College Medical Department is located in Galesburg, a city of 19,407 inhabitants.

Colleges in Illinois have to admit students in conformity with the minimum requirements of the Illinois State Board of Health, as follows: "A diploma or certificate of graduation from a high school; or a certificate signed by a principal of a regularly-organized high school or by the examiner of the faculty of a recognized literary or scientific college or university, or by the state superintendent of public instruction, or a superintendent of public schools, of having successfully passed an examination in all the several branches embraced in the curriculum of a four years' high school course. The matriculation examination shall not be conducted by any member of the faculty of the medical college. The Illinois State Board of Health will require each applicant for a state certificate to present documentary evidence of his preliminary education, together with his medical diploma, when taking the examination of the board." These conditions will govern all persons admitted to the freshman year on or after Jan. 1, 1903.

Chicago.

RUSH MEDICAL COLLEGE.—This school was founded in 1837, organized in 1843, was the medical department of Lake Forest University from 1887 to 1898, and in the latter year became affiliated with the University of Chicago. The faculty is composed of 55 professors, 158 associates, instructors, etc., a total of 213. Good clinical facilities are furnished by Cook County Hospital, caring for about 20,000 patients yearly; Presbyterian Hospital, with 250 beds; a college dispensary, and an obstetric department. In addition to these, extramural clinical courses are offered at the West Side Hebrew Dispensary, St. Luke's Hospital, St. Anthony's Hospital, the Alexian Brothers' Hospital, Illinois Charitable Eye and Ear Infirmary and Chicago Isolation Hospital. Bedside instruction is given. The requirements for admission are those of admission to the better universities or colleges, and, in addition thereto, two years of college work. This college work must have included thorough courses in college chemistry (both inorganic and organic), college physics, and biology, all with laboratory work. For the sessions of 1905-6 a reading knowledge of German and French will be required in addition to the above. By the addition of a recently completed seven-story building, the facilities for clinical instruction are largely increased. The laboratories and their equipment are unexcelled. The curriculum covers graded work for four years of three quarters each, a quarter being three months. A continuous session is held, but credit for more than three quarters can not be obtained in any calendar year. A combined course for six years confers degrees of both science and medicine. All freshmen and sophomore studies are given at the University of Chicago. The total regular fees are $180 this year. Students in continuous attendance, i. e., three quarters in twelve months, may complete their course by paying the fees in vogue when they first enter the college. A matriculation fee of $5 is paid but once, and there are incidentals amounting to from $2 to $5 annually. The Deans are Dr. Frank Billings, 100 State St., and Dr. John M. Dodson, 34 Washington St. Total registration, 1903-4, was 1,033; graduates, 160. The fiscal year begins July 1; final examinations are held at the end of each year.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1881, and in 1896 became the Medical Department of the University of Illinois. The faculty is composed of 39 professors, 105 assistants and instructors, a total of 144. The West Side Hospital, containing 125 beds; Cook County Hospital, and a college dispensary and maternity clinic supply most of the clinical material, but under certain conditions students of this school are admitted to the following hospitals for clinical study: Augustana, Baptist, Chicago, Woman's, Samaritan, Alexian Brothers', St. Mary's and the Chicago Lying-in. This school is a member of the Association of American Medical Colleges. A magnificent building has recently been added to the college, and the laboratory, amphitheater and lecture-room space and equipment are excellent. The collegiate year is divided into two terms: the winter term of thirty-four weeks and the summer term of twelve weeks, of actual teaching. Attendance on the winter term is required in order to secure credit for a year's work, and attendance on four winter terms is required for graduation, except for students who are admitted to advanced standing. Attendance on the summer term is optional, and the work is supplementary to the work of the winter term. Students may obtain credit for work done in certain branches, but attendance on this term does not apply on the required thirty-two months' attendance necessary for graduation. The fees are $145 each for the first two years, $130 for the third and $155 for the fourth year. The Dean is Dr. William E. Quine, 103 State St. Total registration for 1903-4 was 697; graduates, 214. The fall term begins Oct. 1, 1904.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.—This school was organized in 1859 as the Medical Department of Lind University, became independent as the Chicago Medical College in 1864, and in 1869 assumed its present relation as Medical Department of Northwestern University. The faculty comprises 41 professors and 71 assistants and instructors, in all 112. The newly completed Wesley Hospital, with 225 beds; Mercy Hospital, containing 400 beds; Provident Hospital, 100 beds; St. Luke's, 200 beds, and a college free dispensary furnish opportunities for clinical study to students of this college exclusively. Cook County, the People's, and the Chicago Lying-in hospitals are also open to them for study. Applicants for admission must, by diploma, certificate or examination, show possession of educational acquirements required to enter the College of Liberal Arts of Northwestern University. This school is a member of the Association of American Medical Colleges. The laboratory and lecture-room facilities are ample and the equipment is good. The course of study covers graded work for four years of thirty-six weeks each. Optional summer laboratory and clinical courses are also given. Final examinations are held at the end of each semester. The fees for each year are $165 and a matriculation fee of $5, paid once, is charged. The Dean is Dr. N. S. Davis, Jr., 65 Randolph St. The total registration for 1903-4 was 587; graduates, 133. The next session opens Oct. 4, 1904, and closes June 3, 1905.

HAHNEMANN MEDICAL COLLEGE.—Homeopathic. This was organized in 1855, and has a faculty of 70. Hahnemann Hospital and a college dispensary supply clinical material. The requirements for admission are a high school diploma or its equivalent. The course is four years of seven months each. Fees: Matriculation, paid once, $5; each semester, $50, and hospital tickets, $5 each for third and fourth years. The Registrar is Dr. W. Henry Wilson. Total registration 1903-4, 138; graduates, 49. The next session begins Sept. 27, 1904.

CHICAGO HOMEOPATHIC MEDICAL COLLEGE.—This was organized in 1876, and has a faculty of 20 professors and 44 adjuncts, lecturers, etc., a total of 64. The Chicago Homeopathic and Cook County hospitals, together with a college dispensary, furnish clinical material. Applicants for admission must have had a four-year high school course, or its equivalent as a minimum. The course covers four years of eight months each. Total fees are about $110 for each year. The Dean is Dr. W. M. Stearns, 87 Wabash Ave. Total registration, 1903-4, was 115; graduates, 37. The next session opens September, 1904, and ends May, 1905.

BENNETT COLLEGE OF ECLECTIC MEDICINE AND SURGERY.—This school, organized in 1868, has a faculty of 32 professors and 5 assistants, 37 in all. The Bennett, Cook County and Egptian hospitals and a college dispensary supply clinical facilities. Matriculants must present a diploma or certificate or pass a satisfactory examination "in conformity with the minimum requirements of the

State Board of Health." The course covers four years of twenty-six weeks each. This school is a member of the National Confederation of Eclectic Medical Colleges. Fees for each year are $100, with a matriculation fee, paid once, of $5. The Dean is Dr. A. L. Clark, Elgin, Ill. Total registration, 1903-4, was 115; graduates, 10. The thirty-seventh session begins Sept. 27, 1904, and ends May 9, 1905.

AMERICAN MEDICAL MISSIONARY COLLEGE.—This school was organized in 1895 and has the primal object of educating men and women as missionary physicians. The faculty numbers 25. The didactics and laboratory work, covering the first two years, are carried on at Battle Creek, Mich., and the clinical studies in Chicago. A hospital with 20 beds, in connection with the college, together with a free college dispensary with an obstetric department, supply material for practical work. The college is a member of the Association of American Medical Colleges. The course covers four years of nine months each. Total fees are $125 for each of the four years. The Secretary is Dr. E. L. Eggleston, Battle Creek, Mich. Total registration for 1903-4 was 88; graduates, 21. The tenth session opens Sept. 20, 1904, and closes June 19, 1905.

ILLINOIS MEDICAL COLLEGE.—This school, organized in 1894, has a faculty of 31 professors and 20 assistants, a total of 51. A college dispensary and Cook County Hospital are available for clinical study. The requirements of admission include a high school diploma or its equivalent. The college is a member of the Association of American Medical Colleges. Attendance for seven months during each year is necessary for graduation. Total fees are about $125 for each year. The Dean is Dr. B. B. Eads, 103 State St. Total registration for 1903-4 was 237; graduates, 58. The next fall term begins Oct. 1, 1904.

HARVEY MEDICAL COLLEGE.—This is a night school, organized in 1891. The lecture and laboratory work is all in the evening between the hours of 7 and 10, six days of the week, and forty weeks of the year. The clinical work, hospital, dispensary, in-practice and out-practice, are between the hours of 10 a. m. and 10 p. m. Attendance on 100 clinical hours yearly before 7 in the evening is obligatory beside attendance by the seniors on night obstetric cases and Saturday evening clinic at Cook County Hospital. The faculty is composed of 42 professors, 21 lecturers and assistants, total 63. The course covers four years of ten months each. The total fees are, each year, $200. The Dean is Dr. Frances Dickinson. Total registration for 1903-4 was 230; graduates, 18. The fourteenth session begins September, 1904, and ends June, 1905.

COLLEGE OF MEDICINE AND SURGERY.—Physio-Medical. This school was organized in 1896, and has a faculty of 44 teachers. A college dispensary supplies material for clinical work. The course covers four years of seven months each. Fees for the first, second and third years, $100 each, and $115 for the fourth. The Secretary is Dr. Florence Dressler, 2203 Gladys Ave. Total registration for 1903-4 was 70; graduates, 11. The next session begins September, 1904, and ends May, 1905.

HERING MEDICAL COLLEGE.—Homeopathic. This school was organized in 1892. Dunham Medical College, organized in 1895, was consolidated with this school in August, 1902. The faculty comprises 28 professors and 16 associates, lecturers, etc., in all 44. Hering College Hospital, Baptist and Cook County hospitals supply clinical facilities. The course covers four years of seven months each. The total fees for a full course are $300 if paid in advance, or $100 per year. The Dean is Dr. H. C. Allen, 103 State St. Total registration for 1903-4 was 92; graduates, 29. The thirteenth session begins Sept. 12, 1904, and ends April 11, 1905.

JENNER MEDICAL COLLEGE.—This is a day and evening school, organized in 1892. The faculty consists of 46 professors and 7 assistants, 53 in all. Cook County Hospital and college dispensary supply clinical material. The course covers four years of 40 weeks each and embraces laboratory, didactic and clinical instruction. The total fees each year are $100, with a $5 matriculation fee, paid but once. The Registrar is Dr. J. Shorman, 163 Randolph St. Total enrolment for 1903-4 was 122; graduates, 24. The next session begins Sept. 1, 1904, and will end June 30, 1905.

DEARBORN MEDICAL COLLEGE.—This school was organized in 1903, with a faculty of 38 professors and 4 assistants, a total of 42. The instruction, which is given in the evening only, extends over a period of four years of ten months each. Cook County Hospital, Samaritan Hospital and a college dispensary supply the clinical material. The total fees are: $5 matriculation fee, $110 tuition, and $10 laboratory deposit. The Dean is Dr. L. Blake Baldwin; the Secretary, Dr. J. L. Wells. Total registration for 1903-4 was 134; graduates, 17. The next session begins Aug. 29, 1904, and ends June 24, 1905.

AMERICAN COLLEGE OF MEDICINE AND SURGERY.—Eclectic. This school was founded in 1901 and has a faculty of 65. The requirements for entrance are in accord with the rules of the State Board of Health. The course is four years of eight months each. American and Cook County hospitals supply clinical material. The Secretary is Dr. J. D. Robertson, 103 State St. The annual fee is $100; matriculation fee is $5; a total fee for one year, with board, room, light and heat, is $208. The enrolment, 1903-4, was 264; graduates, 23. The next session begins Sept. 27, 1904, and closes May 15, 1905.

NATIONAL MEDICAL UNIVERSITY.—This was organized in 1891, and its courses include instruction in the methods of all the so-called schools of practice, including osteopathy. The faculty numbers 76. The requirements for entrance are in accordance with the requirements of the Illinois State Board of Health. Each year is divided into four quarters of thirteen weeks each, attendance on three quarters constituting one college year. The fees are $100 per year. The Registrar is Dr. L. D. Rogers, 533 Wells St. Total matriculants for 1903-4 were 234; graduates, 20. The autumn quarter will begin Sept. 30, 1904.

Galesburg.

LOMBARD COLLEGE, MEDICAL COURSES.—This school gives only the first year of the medical course, extending over eight months. It has a faculty of 12. The Dean is Dr. T. C. Kimble. Total registration, 1903-4, 20. The next session begins Sept. 1, 1904, and ends June 2, 1905.

INDIANA.

Indiana, population 2,516,462, has six medical colleges. Four are situated in Indianapolis, a city of 169,164 people: The Central College of Physicians and Surgeons, Medical College of Indiana, the Eclectic Medical College and the Physio-Medical College of Indiana. The clinical facilities of Indianapolis are good, and board and lodging can be obtained from $3 a week and upward. The Fort Wayne College of Medicine is situated in Fort Wayne, a railroad and manufacturing town of 45,115 inhabitants. Board and room can be obtained there at an average of $3 a week.

Indianapolis.

CENTRAL COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1879 and reorganized in 1901. The faculty numbers 23 professors and 28 lecturers and demonstrators, total 51. A new college building has been erected on the most up-to-date plans. Its floor space comprises 25,000 square feet, more than half of which is devoted to laboratory teaching. The school gives instruction largely by laboratory and clinical methods. Clinical facilities are furnished by a dispensary maintained by the college, by the City Dispensary, City Hospital, St. Vincent's Infirmary and the Central Hospital for the Insane. Bedside clinics are given to sections of senior class daily at City Hospital. This college was a charter member of the Association of American Medical Colleges. The course is four years of seven months each. The Dean, Dr. George D. Kahlo; the Secretary, Dr. John F. Barnhill. The fees are $75 for each year. Total registration, 1903-4, was 132; graduates, 21. The session for 1904-5 will open Sept. 20, 1904, and close April 20, 1905.

MEDICAL COLLEGE OF INDIANA.—This is the Medical Department of the University of Indianapolis, and was organized in 1869. The faculty embraces 30 professors, 38 adjuncts, lecturers, etc., a total of 68. The City Hospital, containing 200 beds; Indianapolis Dispensary; Central Hospital for the Insane, with a capacity for 1,800 patients; St. Vincent's and the Maternity hospitals, and a college dispensary provide clinical facilities; the wards in the charity hospitals are open to students of this college for bedside instruction. The laboratory and lecture-room space is ample. This college is a member of the Association of American Medical Colleges. The course extends over four years of seven months each. Fees: First and second years, $50 each; third, $75, and $100 for the fourth year, which includes graduation fee. The Dean is Dr. Henry Jameson, Newton-Claypool Bldg. Total enrolment for 1903-4 was 303; graduates, 80. The thirty-fifth session opens September, 1904, and closes April, 1905.

ECLECTIC MEDICAL COLLEGE OF INDIANA.—This school was organized in 1900 and has a teaching force of 31. The course is four years of six months each. Fees: For each year, $75, or for all four, $225; $25 for graduation. Total registration, 1903-4, 35; graduates, 7. The Dean is Dr. W. M. Brown, 732 Sheffield Ave. The next session begins Sept. 20, 1904, and ends April 12, 1905.

PHYSIO-MEDICAL COLLEGE OF INDIANA.—This school was organized in 1873, and has a faculty of 31. The course is four years of seven months each. Total fees for each year are $70. The Secretary is Dr. C. T. Bedford. Total enrolment, 1903-4, was 32; graduates 9. The next session begins Sept. 13, 1904, and closes April 13, 1905.

Fort Wayne.

FORT WAYNE COLLEGE OF MEDICINE.—This school is the Medical Department of the Northern Ohio University, located at Ada, and was organized in 1879. It has a faculty of 27 professors and 9 lecturers and assistants, a total of 36. St. Joseph's Hospital, with a capacity of 250 patients; Hope Hospital, with 200 beds; St. Roche's Hospital, having accommodation for 35 patients; Indiana School for Feeble-Minded Youth and Allen County Orphan Asylum, capable of holding 150 children, supply the clinical facilities. This school is a member of the Association of American Medical Colleges. The curriculum covers four years of seven months each. The course is practical, supplemented by lectures and laboratory work. The total fees for each year are $75, with an additional $5 matriculation fee, payable once. The Dean is Dr. C. H. Stemen, 715 Broadway. Total registration, 1903-4, was 46; graduates, 5. The next session opens Sept. 14, 1904, and closes April 18, 1905.

Bloomington.

INDIANA UNIVERSITY SCHOOL OF MEDICINE.—This school was organized in 1903, and gives only the first two years of the medical course, extending over eight months in each year. The faculty consists of 7 professors and 2 assistants, a total of 9. Dr. Burton D. Myers is the Acting Dean. The enrolment in 1903-4 was 18. The next session begins Sept. 20, 1904, and ends June 16, 1905.

IOWA.

Iowa, population 2,231,853, contains five medical colleges. The College of Medicine of the State University of Iowa and the College of Homeopathic Medicine of the State University of Iowa are located in Iowa City (population 7,987). In Des Moines (population 62,139) is the Iowa College of Physicians and Surgeons. In Sioux City (population 33,111) is the Sioux City College of Medicine. In Keokuk (population 15,641) is Keokuk Medical College, College of Physicians and Surgeons. Board and lodging may be had in Des Moines for $15 a month and upward and in the other cities named for from $2.50 to $5 per week.

Iowa City.

COLLEGE OF MEDICINE OF THE STATE UNIVERSITY OF IOWA.—This department was organized in 1870. The faculty is made up of 13 professors, 26 lecturers, demonstrators and assistants, a total of 39. The University Hospital, built in 1897 at a cost of $50,000,

supplies the clinical material. The school is a member of the Association of American Medical Colleges. The course of study covers four years of thirty-six weeks each, embracing graded laboratory, didactic and clinical work. Combined courses leading to more than one degree are offered. Total fees for each year are $65. The Dean is Dr. James R. Guthrie, Dubuque. Total number of students registered for 1903-4 was 251; graduates, 35. The thirty-fifth session opens Sept. 24, 1904, and ends June 15, 1905.

COLLEGE OF HOMEOPATHIC MEDICINE OF THE STATE UNIVERSITY OF IOWA.—This was organized in 1877. The faculty is composed of 12 professors and 12 lecturers and assistants, a total of 24, but some of these are of the faculty of the College of Medicine. The requirements for admission, and the work, with the exception of that pertaining to homeopathy, are the same as those for the other department. The fees are also the same. The Dean is Dr. George Royal, Des Moines. Total registration for 1903-4 was 35; graduates, 9. The twenty-eighth session begins Sept. 22, 1904, and will end June 14, 1905.

Des Moines.

DRAKE UNIVERSITY COLLEGE OF MEDICINE.—This school was organized in 1882 under the name of the Iowa College of Physicians and Surgeons. In 1900 it became affiliated with Drake University. The faculty consists of 17 professors and 25 assistants, a total of 42. The Mercy and Methodist hospitals and a large dispensary clinic furnish clinical material. The college is a member of the Association of American Medical Colleges. The requirements for admission, after the 1st of July, 1905, will be a full four years' high school course or its equivalent. The work covers a graded course of four years of nine months each. The total fees for the first two years are $107 each, including laboratory and dissecting material; for the last two years, $89 each, including hospital fees. The Dean is Dr. D. S. Fairchild. The total registration for 1903-4 was 65; graduates, 13. The twenty-third session begins Sept. 19, 1904, and ends June 19, 1905.

Keokuk.

KEOKUK MEDICAL COLLEGE, COLLEGE OF PHYSICIANS AND SURGEONS.—In 1849 the College of Physicians and Surgeons, Keokuk, was organized, and four years later it became the Medical Department of the University of Iowa, continuing as such until 1870, when the original name was resumed. By the union, in 1899, of this college with the Keokuk Medical College, organized in 1890, the present school under the above name was founded. The clinical material is good. St. Joseph's Hospital is open to the student for study and the clinics held there are large and varied. The faculty is composed of 17 professors and 3 assistants and demonstrators, 20 in all. This college is a member of the Association of American Medical Colleges. The studies embrace a graded course of four years of seven months each. The total fees for the first year are $63; for the second and third, $58 each, and $53 for the last year. The Secretary is Dr. C. E. Ruth. Total registration for 1903-4 was 267; graduates, 47. The next session begins Sept. 20, 1904, and ends April 25, 1905.

Sioux City.

SIOUX CITY COLLEGE OF MEDICINE.—This school was organized in 1891. The faculty numbers 22. Clinical material is supplied by St. Joseph's, Mercy and Samaritan Hospitals and a college dispensary. This college is a member of the Association of American Medical Colleges. The system of study embraces a four-year graded course, eight months being a school year. Final examinations are held at the close of each course of instruction. Matriculation fee, paid but once, $5; tuition, each year, $48; hospital fee, $5, and graduating fee, $20. The President is Dr. J. N. Warren. Total number of students registered, 1903-4, was 58; graduates, 12. The fifteenth session opens Sept. 13, 1904, and will close May 2, 1905.

KANSAS.

Kansas, population 1,470,495, has three medical colleges: Kansas Medical College is in Topeka (population 33,608), and the College of Physicians and Surgeons in Kansas City (population 55,000). In addition, there is a school which does not grant degrees, but prepares students in the first two years. This is the Medical School of the University of Kansas, at Lawrence, a town of 10,862 people. Board and lodging in all these places may be had for $3 to $5 per week.

Lawrence.

SCHOOL OF MEDICINE OF THE UNIVERSITY OF KANSAS.—This school does not confer the degree of Doctor of Medicine. It was organized in 1880. The faculty numbers 18. This school is a member of the Association of American Medical Colleges. Only the purely scientific subjects are taught, but the work in these is thorough, seventy-two weeks being devoted to the two-year course. The greater part of the work is in the laboratory, with recitations and assigned readings, the lectures being supplementary only. For this reason the equipment and arrangement of the laboratories have been given special attention. A combined course of four years is offered, conferring "the degree of bachelor of arts in medicine." The total fees to residents of the state are: First year, $35; second, $30; to non-residents of the state, $60 and $50. The Acting Dean is Dr. C. E. McClung. The number of students registered for 1903-4 was 22. The next session begins September, 1904, and will end June, 1905.

Topeka.

KANSAS MEDICAL COLLEGE, MEDICAL DEPARTMENT OF WASHBURN COLLEGE.—This college, organized in 1890, has a faculty of 25 professors and 8 lecturers and assistants, 33 in all. Good material for both medical and surgical clinics is found in Christ's Hospital, with 100 beds, and Topeka State Hospital; the dispensary in the college building also supplies material for class demonstration. The college is a member of the Association of American Medical Colleges. The college building affords ample laboratory and lecture-room space. The course of study is a graded one, covering four years of 30 weeks each. Individual instruction is especially aimed at. The total fees for the first three years are $70 each, and $30 for the last year. The Dean is Dr. H. L. Alkire. The total registration for 1903-4 was 104; graduates, 16. The fifteenth session begins Sept. 15, 1904, and will close April 20, 1905.

Kansas City.

COLLEGE OF PHYSICIANS AND SURGEONS.—This was organized in 1894 as the Medical Department of Kansas City University. The faculty is made up of 30 professors, 13 lecturers and assistants, a total of 43. Bethany Hospital, with 60 beds; St. Margaret's Hospital, a college dispensary and an outside obstetric department supply clinical material. Practical demonstration and bedside teaching is emphasized in the work. The requirements for admission are in accordance with the rules of the Association of American Medical Colleges. The course of study is a graded one of four years, seven months each. A scholarship is offered for $195, but, taken separately, the total fees for the first three years are $65 each, and for the fourth year $55; matriculation fee, $5, payable once. The Dean is Dr. J. E. Sawtell. The total registration of students for 1903-4 was 84; graduates, 10. The eleventh session opens Sept. 1, 1903, and will close March 30, 1905.

KENTUCKY.

Kentucky, population 2,147,174, has seven medical colleges. They are all situated in Louisville, a city of about 225,000 inhabitants, and are as follows: University of Louisville Medical Department, Kentucky School of Medicine, Louisville Medical College, Hospital College of Medicine, Southwestern Homeopathic Medical College, Kentucky University Medical Department, and Louisville National Medical College. Board and lodging in Louisville cost from $3 to $4 per week.

Louisville.

KENTUCKY SCHOOL OF MEDICINE.—This school was organized in 1850, and has a faculty composed of 20 professors, 19 lecturers, instructors and assistants, a total of 39. The College Hospital, City Hospital and the college dispensary furnish the facilities for clinical study. The student is brought directly into contact with the patient through dispensary and bedside work by dividing the classes into sections. This college is a member of the Association of American Medical Colleges. The laboratories and their equipment are good. The curriculum embraces a four years' course of 28 weeks each. The fees for the first two years are $120 each; for the third year, $100, and $90 for the fourth year. The Dean is Dr. W. H. Wathen, 628½ Fourth ave. Total number of students registered for 1903-4 was 275; graduates, 58. The next session begins Dec. 15, 1904, and will end July 15, 1905.

LOUISVILLE MEDICAL COLLEGE.—This school was organized in 1869 and has a faculty of 12 professors and 14 instructors and assistants, 26 in all. The City Hospital, College Infirmary and a dispensary offer good clinical facilities. Applicants for admission must show by diploma, certificate or examination that they are sufficiently proficient in English, arithmetic, algebra, physics and such Latin as would be acquired in one year's study. The laboratories and lecture rooms are ample. The course of study covers four years of six months each. The fees for the first three years are $100 each; for the fourth, $90. The Secretary is Dr. Irvin Abell. Total registration for 1903-4 was 248; graduates, 61. The next session opens Sept. 21, 1904, and closes March 31, 1905.

HOSPITAL COLLEGE OF MEDICINE.—This school is the medical department of Central University of Kentucky and was organized in 1873. The faculty is composed of 14 professors and 35 assistants, lecturers, etc., a total of 49. The Gray Street Infirmary, City Hospital and a well-equipped college dispensary present good facilities for clinical study. This college is a member of the Association of American Medical Colleges. Laboratory work, which is a prominent feature of the course, is thorough and practical. The laboratories and amphitheaters are ample in equipment and capacity, and the hospital advantages give opportunity for personal bedside instruction. The course covers four years of six months each. Total fees for each of first two years, $75; for the third, $75, and $100 for the fourth year. The Dean is Dr. P. Richard Taylor. Total enrolment for 1903-4 was 421; graduates, 99. The thirty-first session opens Jan. 1, 1905, and closes July 1, 1905.

KENTUCKY UNIVERSITY MEDICAL DEPARTMENT.—This school was organized in 1898. The faculty is composed of 14 professors, 20 lecturers, demonstrators, etc., 34 in all. Broadway Infirmary, the City Hospital and a college dispensary furnish clinical material. The school is a member of the Association of American Medical Colleges. The buildings provide ample facilities for clinical, laboratory and didactic instruction. The course of study embraces graded work for four years of twenty-six weeks each. The calendar year is divided into four quarters of thirteen weeks each. Two quarters constitute a college year. Fees are $25 per quarter. The Dean is Dr. Thomas C. Evans, 419 W. Chestnut St. Total number of students registered in 1903-4 was 370; graduates, 71. The next session opens Oct. 1, 1904.

UNIVERSITY OF LOUISVILLE MEDICAL DEPARTMENT.—This school was organized in 1837, under the name, Louisville Medical Institute, and in 1846 assumed its present title. It has a faculty of 11 professors, 23 lecturers, demonstrators, etc., a total of 34. The University Hospital, City Hospital, Sts. Mary and Elizabeth Hospital, together with the college dispensary, furnish good clinical material. The course covers graded work for four years of six months each. There are two six months' courses in the year; one course runs from Sept. 26, 1904, to April 26, 1905; the other runs from Dec. 1, 1904, to July 1, 1905. Total fees: First year, $107; second, $122; third, $100, and fourth, $112. The Dean is Dr. J. M. Bodine. Total registration for 1903-4 was 210; graduates 38. The sixty-eighth session begins Sept. 26, 1904.

SOUTHWESTERN HOMEOPATHIC MEDICAL COLLEGE.—This college was organized in 1892 and has a faculty of 17 professors and 7 lecturers and assistants, 24 in all. A college dispensary supplies clinical material. The curriculum covers four years of seven

months each. Total fees. First and second years, $80; third, $70, and $65 for the fourth. The Dean is Dr. A. L. Monroe. Total number of students for 1903-4 was 21; graduates, 6. Next session opens Sept. 27, 1904, and closes April 26, 1905.

LOUISVILLE NATIONAL MEDICAL COLLEGE.—Colored. This was chartered in 1888 and shows a teaching force of 28. There is a four-year course, seven months to the year; the fees are $58, $58, $55 and $50 for the four years respectively. The Dean is Dr. W. A. Burney. The attendance, 1903-4, was 38; graduates, 4. The next session opens Oct. 3, 1904, and ends about May 3, 1905.

LOUISIANA.

Louisiana, having a population of 1,381,625, contains two medical colleges: Medical Department of the Tulane University of Louisiana and New Orleans University. They are both situated in New Orleans, a city of 287,104 people. The cost of room and board is from $16 to $22 a month.

New Orleans.

FLINT MEDICAL COLLEGE OF NEW ORLEANS UNIVERSITY.—Colored. This school was organized in 1889. The faculty is made up of 7 professors, 4 lecturers and instructors, 11 in all. Clinical material is supplied by the Sarah Goodridge Hospital and by an outdoor clinic. This college is a member of the Association of American Medical Colleges. The curriculum covers a graded course of four years, thirty weeks each. The laboratories and lecture rooms are ample. Examinations are held monthly. Total fees for the first, second and third year are $40 each, and $50 for the last year. The Dean is Dr. H. J. Clements, New Orleans. Total enrolment for 1903-4 was 50; graduates, 5. The sixteenth college year begins Sept. 5, 1904, and will end March 18, 1905.

MEDICAL DEPARTMENT OF THE TULANE UNIVERSITY OF LOUISIANA.—This school was organized in 1834 as the Medical College of Louisiana, and became, by law, in 1847, the Medical Department of the University of Louisiana, and in 1884 the Medical Department of the Tulane University of Louisiana. The faculty and all other instructors number 48. By acts of legislature the Charity Hospital, with its 900 beds, has been opened to the students of this school for clinical study, not only in medicine and surgery, but also in obstetrics and gynecology. In the year 1903 there were 8,813 cases treated in the wards of this hospital; these were indoor patients, and, in addition, 19,302 outdoor patients were treated in the free dispensary department. The Milliked Memorial Hospital, with a capacity for 200 children, is also available for study of clinical cases. Bedside instruction is given by the attending physicians to these hospitals, and postmortem examinations are held before the students. The laboratories are large and well equipped, and the lecture rooms and recitation rooms are ample. The course of study covers four terms of twenty-eight weeks each. Total fees for the first two years are $135 each, and for the third and fourth, $145 and $170 respectively. The Dean is Dr. Stanford E. Chaille, New Orleans. The total number of medical students registered for 1903-4 was 438; graduates, 82. The seventy-first session begins Oct. 20, 1904, and will close May 3, 1905.

MAINE.

Maine, population 694,466, has one medical college, located in Portland, population 60,000. Board and lodging cost from $3 to $5 a week.

Portland.

MEDICAL SCHOOL OF MAINE.—This, the Medical Department of Bowdoin College, was organized in 1820. It has 13 professors and 5 instructors, total 18. Students of the first and second years are instructed in Brunswick, a town of 6,800 inhabitants. The third and fourth year classes are taught in Portland, where are situated the Maine General Hospital and other clinical advantages. Applicants for admission, unless they possess a diploma, are examined in English, arithmetic, algebra, geometry, United States history, physics, chemistry and Latin. The course covers four years of eight months each. The total fees are $120 for the first year; for the second and third, $110, and $110 for the fourth year. The Dean is Dr. Alfred Mitchell, Brunswick. Total number of students in 1904, 101; graduates, 22. The next session opens Oct. 20, 1904, and closes June 21, 1905.

MARYLAND.

Maryland, with a population of 1,188,044, contains eight medical colleges, all located in Baltimore, a city with 508,957 inhabitants. They are as follows: School of Medicine of the University of Maryland, College of Physicians and Surgeons, Baltimore University School of Medicine, Baltimore Medical College, Woman's Medical College, Southern Homeopathic Medical College, Johns Hopkins Medical School and Maryland Medical College. The Bay View Hospital, having a capacity for 2,000 patients, is open to students for clinical instruction, and furnishes good opportunities for practical demonstrations. Board and lodging can be obtained for from $3 to $5 per week.

Baltimore.

JOHNS HOPKINS MEDICAL SCHOOL.—This is the Medical Department of Johns Hopkins University, and was organized in 1893. The faculty comprises 11 professors, 10 lecturers and assistants, a total of 81. The Johns Hopkins Hospital and Dispensary furnishes abundant and varied clinical material; the lying-in department of the hospital, opened in 1896, is in successful operation. The requirements for admission demand that the applicant either has, (*a*) completed the chemical biologic course which leads to the A.B. degree in the university; (*b*) graduated at an approved college or scientific school, and can furnish evidence of an acquaintance with Latin and a fair reading knowledge of French and German, and a knowledge of physics, chemistry and biology, such as may be obtained from a year's course, including laboratory instruction. The school is a member of the Association of American Medical Colleges. The laboratories are large, well lighted and well equipped. The buildings are ample and built expressly for the purpose for which they are used. In the method of instruction special emphasis is laid on practical work in the laboratories, dispensary and in the wards of the hospital. The first two years are devoted to practical work in the laboratories, combined with demonstrations, recitations and lectures, and during the remainder of the course opportunity for the personal study of cases is given. The work covers a graded course of four years, eight and a half months to the year. Final examinations, partly written and partly oral, include practical tests in laboratory and clinical work; the general character of the student's work is closely watched. The charge for tuition is $200 per annum, with no fees unless a microscope is rented; that fee is $5 a year. The Dean is Dr. William H. Howell, 232 W. Lanvale St. Total registration in 1903-4 was 276; graduates, 45. The next session begins Oct. 4, 1904, and ends June 13, 1905.

SCHOOL OF MEDICINE OF THE UNIVERSITY OF MARYLAND.—This institution was organized in 1807 as the College of Medicine of Maryland, and in 1812, other faculties having been added, the whole was chartered under the name of the University of Maryland. The faculty is composed of 13 professors, 45 associates and lecturers, etc., a total of 58. The University Hospital, a part of which is used for a hospital for foreign seamen and another portion for a free city hospital, offers excellent clinical facilities. Beside this, the Presbyterian Eye, Ear and Throat Charity Hospital, in which 11,317 patients were treated in 1902; the Hospital for the Relief of Crippled and Deformed Children, containing 40 beds; the Maternity Hospital, and a college dispensary furnish material for clinical study. This school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are ample and well equipped, a commodious new building having just been erected. The fourth-year class, divided into sections, receives special training in practical laboratory work in a well-appointed clinical laboratory. Didactic, laboratory and clinical instruction, special attention being paid to bedside work, make up the system of teaching. The course covers four years of seven and a half months each, and is graded. The total fees for the first two years are $135 each; for the third year, $125, and $155 for the final year. The Dean is Dr. Thomas Opie Goldsmith. The total number of students registered in 1903-4 was 340; graduates, 96. The ninety-eighth session begins Oct. 1, 1904, and will terminate May 15, 1905.

BALTIMORE MEDICAL COLLEGE.—This college was organized in 1881, and has a faculty of 54. The clinical material is furnished by the Maryland General Hospital, having a capacity of 200 beds; the Maryland Lying-in Hospital; the Mount Hope Retreat, which presents good opportunity for the study of nervous and mental diseases, and a college dispensary, which, beside the great number of ambulatory patients treated, has an outdoor department that permits of the advanced student taking care of charity cases and carrying out his own treatment. This college belongs to the Association of American Medical Colleges. The college buildings afford ample laboratory, clinical and lecture room space. Bedside teaching in the hospital wards is carried on in sections, and every member of the senior class is required to attend throughout the session. The course of study is graded and covers four years of eight months each. The Dean is Dr. David Streett. The total number of students registered in 1903-4 was 409; graduates, 77. The twenty-fourth session opens Sept. 20, 1904, and closes May 12, 1905.

COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.—This school was organized in 1872, and in 1878 Washington University School of Medicine, established in 1827, was consolidated with it. The faculty numbers 49. The clinical facilities, beside those afforded in common with other schools, are supplied by the Baltimore City Hospital, the Hospital for the Colored Race, containing 100 beds; the Nursery and Child's Hospital, with 150 beds; the Maryland Lying-in Asylum and a college dispensary. This school is a member of the Association of American Medical Colleges. The work covers a graded course of four years, seven months constituting a year. Total fees are $115, $115, $115 and $135 for the respective years. The Dean is Dr. Thomas Ogle. The total number of students registered in 1903-4 was 343; graduates, 83. The next session opens Oct. 1, 1904, and closes May 18, 1905.

MARYLAND MEDICAL COLLEGE.—This school was organized in 1898 and has a faculty of 14 professors, 24 associates, lecturers, etc., 38 in all. The Franklin Square Hospital and a college dispensary furnish clinical material. The course of study covers four years of eight months each. A matriculation fee of $5 and total laboratory fees for the three years of $50 are charged; tuition is $75 each year. The Dean is Dr. J. Wm. Funck, 1631 Eutaw Pl. Total registration for 1903-4 was 223; graduates, 104. The seventh session begins Sept. 15, 1904, and closes in May, 1905.

BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.—This school, organized in 1884, has a faculty of 10 professors and 25 lecturers, demonstrators, etc., in all 35. The Baltimore University Hospital, Lying-in Hospital and the clinical material used in common with the other schools supply the facilities for practical work. The course is four years of six months each. The fees are about $100 each year. The Dean is Dr. Hampson H. Biedler, 119 W. Saratoga St. Total registration for year 1903-4 was 71; graduates, 51. The twenty-first session opens Oct. 1, 1904, and closes April, 1905.

WOMAN'S MEDICAL COLLEGE.—This school was organized in 1882 and has a faculty of 18 professors, 14 associates, assistants and lecturers, a total of 32. The Hospital of the Woman's Medical College and a college dispensary furnish general clinical material, while abundant special material is furnished by the Presbyterian Eye and Ear and the Sheppard and Enoch Pratt Hospital (for mental cases). The college is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are equipped with all necessary apparatus; the practical work is emphasized. Eight months constitute a school year, and the course covers graded work for four years. The total fees for the first three years are $106 each, and $81 for the last year, with $30 graduation fee. The Dean is Dr. R. H. Thomas, 1718 John St. Total number registered for 1903-4 was 24; graduates, 3. The twenty-third session opens Oct. 1, 1904, and closes May 31, 1905.

SOUTHERN HOMEOPATHIC MEDICAL COLLEGE.—This school was organized in 1890, and has a faculty of 10 professors, 24 associates and lecturers, a total of 34. The clinical facilities are those offered by the Maryland Homeopathic Hospital, which has 55 beds, and the dispensary; the obstetric department also furnishes clinical material. Applicants for matriculation must pass a satisfactory examination in English, arithmetic, geography, history and Latin, unless they possess satisfactory evidence that they have done a corresponding amount of work. The course covers graded work for four years, seven months to the year. The fees are $105 for the first year, $100 each for the second and third, and $130 for the last year; $350 in advance for the full four years' course, with a reduction in the fees for fourth year to those whose averages exceed 90 per cent. in previous years. The Dean is Dr. George T. Shower, 421 Roland Ave. Total registration for 1903-4 was 39; graduates, 13. The fourteenth session begins first Tuesday in October, 1904, and ends first Tuesday in May, 1905.

MASSACHUSETTS.

Massachusetts, population 2,805,346, has four medical colleges: Medical School for Harvard University, Boston University School of Medicine, College of Physicians and Surgeons, and Tufts College Medical School. They are all situated in Boston, a city of 603,163 inhabitants. Board and lodging can be obtained for from $5 to $7 per week.

Boston.

MEDICAL SCHOOL OF HARVARD UNIVERSITY.—This was organized in 1782, and has a faculty of 34 professors, 115 associates and assistants, etc., a total of 149. Beside the clinical advantages mentioned, the Boston Lying-In Hospital, the Boston Dispensary, where 43,918 patients were treated last year; the Infants' Hospital, the Children's Hospital, Long Island Hospital, containing 250 beds, and the Marine Hospital, all furnish excellent opportunity to the student for clinical study. Students are also permitted to visit the Free Hospital for Women and Carney Hospital on application to the physicians on duty. Candidates for admission "must present a degree in arts, literature, philosophy or science from a recognized college or scientific school, with the exception of such persons, of suitable age and attainments, as may be admitted by special vote of the faculty in each case." Each candidate is required to hand in the original note book in which he recorded the work performed by him in qualitative analysis, and also to pass a written examination in theoretical and descriptive chemistry. If conditioned in chemistry one year is allowed in which to remove the condition. The laboratories and lecture rooms offer ample facilities, and the equipment is good; special facilities are open to those desiring to pursue advanced or original work. The course of study covers four years of nine months each; the course is graded, and each correlated group as taken up presents sufficient variety to avoid monotony. A series of written, oral and practical examinations are distributed throughout the course of study. Fees: Matriculation, $5; $200 each year. The Dean is Dr. William L. Richardson, 688 Boylston St. The total resigstration for 1903-4 was 364; graduates, 133. The 123d session begins Sept. 29, 1904, and ends June 28, 1905.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1880, and has a faculty of 25 professors, and 11 lecturers and assistants, a total of 36. Clinical facilities are furnished by the North End Hospital and Dispensary, Union General Hospital, and the city and state institutions. This school is a member of the Association of American Medical Colleges. The course of study covers graded work for four years of eight months each. The total fees for the first year are $100, and for each of the other years about $110, with a graduation fee of $30. The Registrar is Dr. John H. Jackson, 155 Franklin St., Fall River. Total students registered, 1903-4, 117; graduates, 27. The twenty-fifth session begins Sept. 21, 1904, and ends June, 1905.

BOSTON UNIVERSITY SCHOOL OF MEDICINE.—Homeopathic. This school was organized in 1873; in 1874 the New England Female Medical College, founded in 1848, was merged into it. The faculty includes 20 professors, 42 associates and assistants, etc., a total of 62. Clinical material is furnished by the Massachusetts Homeopathic Hospital, containing 235 beds, a dispensary, a maternity hospital, and the Westborough Insane Hospital, 800 patients. Candidates who have taken their degree in arts, philosophy or science are not examined; all others are examined in English, Latin, French or German, or history, mathematics, physics and chemistry. The instruction is graded and covers a period of four years, eight months each. Total fees for the first year are $105; for the second and third, $125 each, and for the last year, $155. The Dean is Dr. John P. Sutherland, 295 Commonwealth Ave. Total registration for 1903-4 was 99; graduates, 27. The thirty-second session opens Oct. 6, 1904, and closes June 7, 1905.

TUFTS COLLEGE MEDICAL SCHOOL.—This school was organized in 1893 as the Medical Department of Tufts College. It has a faculty of 31 professors, 77 assistants and lecturers, etc., a total of 108. Clinical material is furnished by the Boston City Hospital, Massachusetts Charitable Eye and Ear Infirmary, Free Home for Consumptives, Free Hospital for Women, Boston Dispensary, Cambridge Hospital, St. Elizabeth's Hospital, Carney Hospital and the college dispensary; the student has also the advantages derived from an out-department in connection with the Boston Dispensary. "Graduates of a high school, college or university, and students having certificates of entrance to a college or university, or holding the State of New York Regents' certificate," also certain approved preparatory school graduates, are admitted without examination; all others must pass an examination in English, Latin, physics and mathematics, including arithmetic, elementary algebra and plane geometry. The laboratories and lecture rooms are ample in their equipment and capacity. Teaching is carried on by means of lectures, recitations and practical work in the laboratories and clinics; frequent examinations are held during a course, and a final examination on completing the subject. Graded instruction covering four years of eight months each makes up the full course. The total fees are $150 each year; dissecting material is furnished at cost. The Dean is Dr. Harold Williams, 528 Beacon St. Total number of students for 1903-4 was 394; graduates, 50. The eleventh session begins Oct. 4, 1904, and ends June 15, 1905.

MICHIGAN.

Michigan, population 2,420,982, has six medical colleges. Two of these, University of Michigan, Department of Medicine and Surgery and the Homeopathic College of the University of Michigan, are located at Ann Arbor, a city of 14,509 people. Board and lodging cost from $2.50 to $5 a week. Detroit, a city of 300,000 inhabitants, contains three medical colleges, as follows: Detroit College of Medicine, Detroit Homeopathic College and the Michigan College of Medicine and Surgery. Board and room can be obtained for $3 a week and upward. Grand Rapids Medical College is located in Grand Rapids, population 87,565. Room and board cost from $3 to $3.50 a week.

Ann Arbor.

UNIVERSITY OF MICHIGAN, DEPARTMENT OF MEDICINE AND SURGERY.—This was organized in 1850, and has a faculty composed of 17 professors, 61 associates, instructors, etc., a total of 78. The University Hospital, with nearly 200 beds, furnishes the clinical facilities. The requirements for admission provide that the applicant, either by certificate or examination, show a sufficient knowledge of the following: English grammar rhetoric and composition; United States and general history; algebra, through quadratics, plane and solid geometry and plane trigonometry; physics, biology and chemistry, these subjects to be accompanied by laboratory work; German or French and Latin. The laboratories and their equipment are good, and the training in them and in didactic work is thorough. The new medical building accommodating the laboratories of hygiene, bacteriology, physiologic chemistry, pathology, histology, embryology and anatomy is now completed and occupied. This school is a member of the Association of American Medical Colleges. The curriculum embraces four years of nine months each. A combined course leading to degrees in both arts and medicine in six years is offered. The total fees for Michigan students for the entire course of four years is about $300, and for others $350. The Dean is Dr. Victor C. Vaughan. Total registration for 1903-4 was 418; graduates, 101. Next session begins Sept. 27, 1904, and will end June 22, 1905.

HOMEOPATHIC COLLEGE, UNIVERSITY OF MICHIGAN.—This department of the University was organized in 1875, and has a faculty of 29 professors and 20 assistants, total 49; a part of the teaching force is from the other departments of the University. The Homeopathic Hospital, containing 140 beds furnishes material for clinical teaching. The course covers four years of nine months each. The total fees for Michigan students are about $240 for the four years, and for other students about $295. The Dean is Dr. W. B. Hinsdale. The enrolment for 1903-4 was 69; graduates, 21. The next session begins Sept. 27, 1904, and closes June 22, 1905.

Detroit.

DETROIT COLLEGE OF MEDICINE.—This school was formed in 1885 by the union of Detroit Medical College, organized in 1868, and the Michigan College of Medicine, established 1880. The faculty embraces 21 professors, 50 lecturers, instructors, etc., a total of 71. Clinical facilities are offered by the following hospitals: St. Mary's and Harper, each of which contain a free dispensary; Woman's, St. Luke's, the Children's Free Hospital and the House of Providence. This school is a member of the Association of American Medical Colleges. The course covers four years of seven months each. The work includes laboratory, didactic and clinical study. Fees: Matriculation, paid once, $5; tuition, each term $65; hospital and laboratory tickets, each $10, and diploma fee, $30. The Secretary is Dr. H. O. Walker. Total enrolment for 1903-4 was 260; graduates, 72. The next session begins Sept. 21, 1904, and will close May 4, 1905.

MICHIGAN COLLEGE OF MEDICINE AND SURGERY—SAGINAW VALLEY MEDICAL COLLEGE.—These two schools, organized in 1888 and 1896 respectively, were consolidated last year, to continue on the site of the former. The faculty numbers 45. Clinical facilities are offered by a college dispensary, the Emergency Hospital and Detroit Eye and Ear Infirmary. This school is a member of the Association of American Medical Colleges. The course covers graded work for four years of eight months each. The fees are about $80 to $95 per year; third year, $70, and $95 for the fourth year. The Dean is Dr. Hal. C. Wyman, 46 W. Adams Ave., Detroit. Total registration for 1903-4 of the Michigan College of Medicine and Surgery was 110; graduates, 28. The next session begins Sept. 17, 1904, and will end May 17, 1905.

DETROIT HOMEOPATHIC COLLEGE.—This was organized in 1899, and has a faculty of 37. Grace Hospital and a college dispensary are available for study of clinical cases. Unless possessing at least a high school diploma applicants for admission will be examined by the state board. The course embraces work for four years of eight months each. Fees: From $70 to $90 per year. The Dean is Dr. D. A. MacLachlan; Registrar, J. M. Griffin. Total enrolment for 1903-4 was 50; graduates, 8. The next session begins September, 1904, and will close April, 1905.

Grand Rapids.

GRAND RAPIDS MEDICAL COLLEGE.—This was organized in 1897. The faculty is made up of 28 professors and 3 assistants, in all 31. Clinical cases in the U. B. A., St. Mary's and Woman's Butterworth hospitals and St. John's Orphan Asylum and a college dispensary are available for study. The course is four years of seven months each. The total fees are about $65 for each year. The Dean is Dr. C. H. White. Total enrolment for 1903-4 was 56; graduates, none. Next session opens Sept. 28, 1904, and closes May 1, 1905.

MINNESOTA.

Minnesota, population 1,751,394, contains three medical col-

leges: Hamline University College of Medicine, and the two medical departments of the University of Minnesota, viz., the College of Medicine and Surgery and the College of Homeopathic Medicine and Surgery. They are all situated in Minneapolis, a city with a population of 225,000. The various hospitals of Minneapolis furnish ample clinical material, and owing to the proximity to St. Paul, the clinical advantages of that city are available. The average coat of board and lodging is $20 a month.

Minneapolis.

COLLEGE OF MEDICINE AND SURGERY, UNIVERSITY OF MINNESOTA.—This department of the University of Minnesota was created in 1883, but at that time its only function was to examine for the degrees of B.M. or M.D. In 1888, by the consolidation and absorption of the Minnesota Hospital Medical College and the St. Paul Medical College, its present status was assumed. The faculty is composed of 30 professors and 72 instructors and assistants, a total of 102. The medical school occupies five buildings, and its laboratories are excellent. The last legislature made an appropriation of $105,000 for an additional laboratory of pathology and bacteriology. Eight large hospitals in the Twin Cities, beside the University dispensary and St. Paul dispensary, afford an abundant supply of material for clinical study. The curriculum covers four years of nine months each, and the work is carefully graded. The entrance requirement of one year of university, in addition to four years of high school work, limits the number of students, but assures a high standard of the student body. Total number of students registered in 1903-4 was 266; graduates, 67. Total fees for each year, $100. The Dean is Dr. Parks Ritchie. The next session opens Sept. 1, 1904, and closes June 2, 1905.

COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY.—This is a department of the University of Minnesota and was organized in 1888. The faculty comprises 19 professors and 14 assistants, 33 in all. The primary branches are taught by the professors of the College of Medicine and Surgery. The course is graded, extending over four years of nine months each. The total fees for the first two years are $100 each, and $80 each for the last two years. The Dean is Dr. Eugene L. Munn. Total number of students registered in 1903-4 was 18; graduates, 4. The next session opens Sept. 2, 1904, and closes June 3, 1905.

HAMLINE UNIVERSITY COLLEGE OF MEDICINE.—This was organized in 1883. Its faculty is composed of 26 professors, 17 instructors and assistants, a total of 43. The laboratories and lecture rooms are large, well lighted and supplied with all the necessary equipment. Clinical work is offered to the student in City Hospital, Asbury Methodist Hospital, Swedish, St. Barnabas' and St. Mary's hospitals in Minneapolis, Bethesda Hospital, City and County, and St. Joseph's, in St. Paul, and the college dispensary. This school belongs to the Association of American Medical Colleges. The course of study covers graded work for four years of eight and a half months making a year. Total fees, first year, $90; second year, $87.50, and for each of the last two, $80. The Dean is Dr. George C. Barton. Total number of students, 1903-4, was 86; graduates, 16. The next session begins Sept. 20, 1904, and ends June 7, 1905.

MISSISSIPPI.

Mississippi, population 1,551,270, has one medical college, the Medical Department of the University of Mississippi, located at Oxford, a city with 2,000 inhabitants.

Oxford.

MEDICAL DEPARTMENT UNIVERSITY OF MISSISSIPPI.—This school was organized one year ago, with 9 professors and 2 assistants, a total of 11. Each college term extends over eight and one half months. The school is a member of the Association of American Medical Colleges. Dr. W. S. Leathers is the acting dean. The total registration in 1903-4 was 16; graduates, none. The next session begins Sept. 22, 1904, and ends June 10, 1905.

MISSOURI.

Missouri, population 3,106,665, has fifteen medical colleges. St. Louis, population 575,238, contains six of these, viz.: St. Louis College of Physicians and Surgeons, American Medical College, Homeopathic Medical College of Missouri, Marion-Sims-Beaumont College of Medicine, Washington University Medical Department, and Barnes Medical College. Board and lodging can be procured for from $3.50 to $5 a week. Kansas City, with 163,752 inhabitants, has six colleges, namely: Kansas City Medical College, University Medical College, the Hahnemann Medical College of Kansas City, Woman's Medical College, Medico-Chirurgical College and Eclectic Medical University. Room and board can be obtained in this city for from $3 to $5 a week. Ensworth Medical College and Central Medical College are located in St. Joseph, population 105,000; board and room can be had for from $3.50 to $5 a week. Department of Medicine of the University of Missiouri is at Columbia, a town of 5,651. Board and lodging can be obtained at Columbia for from $2 to $5 a week.

St. Louis.

ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1878, and has a faculty of 23 professors, 30 lecturers, instructors, etc., a total of 53. The resources for clinical instruction are Jefferson Hospital, which is open to students of this college only; City Hospital, with 600 beds; Female Hospital, having 250 beds; City Insane Asylum; City Poorhouse, and the college dispensary. This college is a member of the Association of American Medical Colleges. The laboratory and lecture-room space and the equipment are ample. The course of study covers four years of seven months each, and is graded. Total fees for the first year are $80; second, $70; third, $75, and $85 for the fourth year. The Dean is Dr. Waldo Briggs, 2600 Gamble St. Total number of students registered, 1904-5, was 240; graduates, 47. The twenty-sixth session begins Sept. 15, 1904, and ends April 13, 1905.

WASHINGTON UNIVERSITY MEDICAL DEPARTMENT.—This school was organized in 1891 from the St. Louis Medical College, which was founded in 1842. In 1899 the Missouri Medical College, organized in 1840, was added. The faculty comprises 38 professors, 23 lecturers and instructors, a total of 61. Clinical material is furnished by the St. Louis Mullanphy Hospital, Polyclinic Hospital, Bethesda Hospital and O'Fallon's Dispensary. In addition to these, the City Hospital is used in common with the other schools. The requirements for admission are higher than those of the Association of American Medical Colleges. The college buildings, of which there are two, furnish the best laboratory and lecture-room facilities. The course is four years of eight months each, and the system of study embraces laboratory, didactic and clinical teaching. The total fees for the first year are $125; second, $120, and for the third and fourth years, $100 each. The Dean is Dr. Robert Luedeking. Total registration of students for 1903-4 was 279; graduates, 63. The next session opens Sept. 23, 1904, and closes May 25, 1905.

MARION-SIMS-BEAUMONT COLLEGE OF MEDICINE.—This is the Medical Department of the St. Louis University. The faculty is composed of 11 professors, 58 lecturers and assistants, a total of 99. Clinical facilities are offered by Alexian Brothers' Hospital, with 250 beds; Rebekah Hospital, having a capacity for 50 patients; Josephine Hospital, 50 beds; Mt. St. Rose Throat and Chest Hospital, 150 beds; Good Samaritan Hospital, 50 beds; St. Mary's Infirmary, containing 150 beds; the City Hospital and Insane Asylum, each with a capacity of 600 patients. Grand Avenue Dispensary also furnishes good material for practical instruction. This school is a member of the Association of American Medical Colleges. The buildings afford ample laboratory and lecture-room space, and they are well equipped. The course of study embraces laboratory and clinical instruction, with recitations and lectures. The curriculum covers four years of seven months each. The total fees for the first year are $80; for the second and third, $75 each, and $100 for the fourth. The Secretary is Dr. H. W. Loeb, 3559 Olive St. Total number of students registered for 1903-4 was 407; graduates, 93. The next session opens Oct. 1, 1904, and closes May 1, 1905.

AMERICAN MEDICAL COLLEGE.—Eclectic. This was organized in 1873, and has a faculty of 17 professors, etc. St. Louis City Hospital and a college dispensary supply ample clinical material. The requirements for admission are those of the National Federation of Eclectic Medical Colleges, of which this college is a member. The course of study covers four years of seven months each. The total fees are: Tuition, $75 per year, dissecting material $5 per year for four years, final examination and graduation fee $25. Total registration for 1903-4 was 76; graduates, 12. The Dean is Dr. M. M. Hamlin, 2906 Lawton Avenue. The next session opens Sept. 19, 1904, and closes April 22, 1905.

BARNES MEDICAL COLLEGE.—(Medical Department Barnes University.) This school was organized in 1892, and has a faculty of 33 professors and 20 lecturers and assistants, a total of 53. The clinical advantages are those offered by Centenary Hospital, with 150 beds; City Hospital, the college dispensary and the out-door obstetrical department. This college is a member of the Association of American Medical Colleges. The laboratories are well equipped and other facilities ample. The course of study includes graded work for four years of seven months each. The total fees for the first three years are $75 each year, and $85 for the fourth year. The Secretary is Dr. Pinckney French, Missouri Trust Building. Total registration for 1903-4 was 485; graduates, 125. The thirteenth session opens Sept. 19, 1904, and closes May 3, 1905.

WOMAN'S MEDICAL COLLEGE.—This school was organized in 1895, and has a faculty composed of 44 professors, 6 lecturers and assistants, a total of 50. The requirements for admission are those of the Association of American Medical Colleges. The course of study embraces graded work for four years of seven months each. The total fees for the first year are $68; second, $60; third, $55, and $80 for the fourth year. The Dean is Dr. Nannie P. Lewis, 1219 Wyandotte St. This school was not in session in 1903-4, and will not be in 1904-5.

KANSAS CITY HAHNEMANN MEDICAL COLLEGE.—This school was formed by the union of the Kansas City Homeopathic Medical College, organized in 1888, and the Kansas City University College of Homeopathic Medicine and Surgery. It has a faculty of 38. The City Hospital, Homeopathic Hospital, the Sanitarium Scarritt, University, Women's and Children's, German, Bethany and Children's Hospitals are open to its students for clinical study. The college dispensary and clinics also supply clinical material. Applicants for admission must show by diploma, certificate or examination that they have a sufficient knowledge of English, arithmetic, geography, United States history and Latin equal to one year's work. The course covers four years of seven months each. The Dean is Dr. S. P. Sharp, 1214 Main St. Total registration for 1903-4 was 52; graduates, 17. The seventeenth session begins September, 1904, and closes April, 1905.

HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI.—This was organized in 1857, and has a faculty of 24 professors and 7 assistants, total 31. The curriculum covers fours years of seven months each. Fees: First year, $80; second, $75; third, $60, and $85 for the fourth year. The Dean is Dr. L. C. McElwee. Total registration for 1902-3 was 44; graduates, 10. The course begins in September and ends in April.

Kansas City.

KANSAS CITY MEDICAL COLLEGE.—This was established in 1869, and has a faculty of 20 professors and 30 lecturers, demonstrators, etc., in all 52. The clinical facilities are those of St. Joseph's Hospital, which also contains an out-patient department; the City

Hospital, Missouri Pacific Railway, Grand View and Douglas hospitals, St. Anthony's Home for Children and the college dispensary. This college is a member of the Association of American Medical Colleges. The building is large and well equipped, the course is graded, and the classes in practical work are divided into small sections and required to personally conduct series of obstetric, medical and surgical cases as a condition of graduation. The curriculum embraces four years of seven months each. The total fees for the first three years are $75 each, and $85 for the fourth. The Secretary is Dr. R. M. Schauffler, 302 Deardorff Bldg. Total registration for 1903-4 was 120; graduates, 34. The thirty-sixth session begins Sept. 6, 1904, and ends April 12, 1905.

UNIVERSITY MEDICAL COLLEGE.—This was organized in 1881 as the University of Kansas City Medical Department, and in 1888 was reorganized under its present name. Its faculty comprises 31 professors and 22 lecturers and assistants, a total of 53. Clinical material is furnished by the University Hospital, owned by the college, with 100 beds; the City Hospital, German Hospital, Home for the Aged, containing 147 beds; the Sisters' Hospital, Scarritt and St. Margaret's hospitals, the Children's Home, St. Joseph's Orphan Asylum, and the college dispensary and obstetric department. Instruction is given by means of lectures, recitations, demonstrations and laboratory work and clinics. The school is a member of the Association of American Medical Colleges. The college building, which has been recently enlarged, furnishes ample accommodations for laboratories and lecture rooms. The course of study covers four years of seven months each, and the work is graded. The total fees for each of the first two years are $80, for the third $80, and $85 for the fourth year. The Dean is Dr. Samuel C. James, Bryant Bldg. The total number of students registered in 1903-4 was 234; graduates, 67. The twenty-fourth session begins Sept. 6, 1904, and ends April 28, 1905.

MEDICO-CHIRURGICAL COLLEGE.—This school was organized in 1897 as the Kansas City College of Medicine and Surgery of Kansas City, Kan., and was reorganized the following year under its present name. Its faculty embraces a total of 52. Clinical facilities are furnished by the hospitals of Kansas City, used in common by the medical colleges, and a college dispensary. The course covers four years of six months each. The fees are: For the first year, $70; second, $80; third, $85, and $75 for the fourth year. The Dean is Dr. C. Lester Hall, Bryant Bldg. Total registration for 1903-4 was 84; graduates, 20. The next session opens Sept. 1, 1904, and closes April 15, 1905.

ECLECTIC MEDICAL UNIVERSITY.—This was organized in 1898, and has 22 in its faculty. The curriculum covers four years of six months each. Fees, about $70 each year, with a graduation fee of $15. The Dean is Dr. Theodore Doyle. Total students for 1903-4 was 60; graduates, 16. The next session begins Sept 5, 1904, and ends April 21, 1905.

Columbia.

DEPARTMENT OF MEDICINE OF THE UNIVERSITY OF THE STATE OF MISSOURI.—This department was organized at Columbia in 1872. The faculty includes 11 professors, 22 assistants, lecturers, etc., a total of 33. Clinical facilities are supplied by the Parker Memorial State Hospital. A new $40,000 building for the medical laboratories has just been completed and has excellent equipment. Special emphasis is laid on thorough training in the scientific branches which constitute the foundation of medicine. Four years' course, nine months each, carefully graded. The university offers also a combined course of six years, conferring degrees in both arts and medicine. The entrance requirements are a diploma from a good high school, or the full equivalent. There is no charge for tuition, the only expenses being a library fee of $10 each year, and small laboratory fees. The Dean is Dr. A. W. McAlester. Total registration of students for 1903-4 was 83; graduates, 10. The next session opens Sept. 12, 1904, and closes June 7, 1905.

St. Joseph.

ENSWORTH MEDICAL COLLEGE.—This was organized in 1888, and has a faculty of 25 professors and 7 lecturers and assistants, 32 in all. Ensworth Hospital, with 250 beds; City Hospital, containing 40 beds; the State Hospital, No. 2, which is open to the students once a week, and a college dispensary furnish clinical material. Applicants for admission must show by certificate or examination that they possess a sufficient knowledge of English, arithmetic, algebra, physics and Latin equal to one years' instruction. The building furnishes ample laboratory and lecture-room facilities. The curriculum covers a graded course of four years of seven months each. The fees are about $55 each for the first three years, and $75 for the fourth year. The Dean is Dr. Jacob Geiger. Total enrolment for 1903-4 was 94; graduates, 10. The next session opens Sept. 1, 1904, and closes March 31, 1905.

CENTRAL MEDICAL COLLEGE.—This school was organized in 1894, and has a faculty of 18 professors and 10 lecturers, in all 28. The Methodist and St. Joseph's hospitals, State Hospital, No. 2, and the City and County hospitals are available for clinical study; a college dispensary also supplies clinical material. The requirements for admission are the possession of a high school diploma, or its equivalent, or an examination. The curriculum embraces four years of seven months each. Fees: First year, $55; second, $50; third, $50, and $75 for the fourth year. The Secretary is Dr. C. A. Tygart. Total enrolment for 1903-4 was 72; graduates, 13. The next session begins Sept. 15, 1904, and will end April 15, 1905.

NEBRASKA.

Nebraska, population 1,066,300, has three medical colleges: The University of Nebraska College of Medicine and John A. Creighton Medical College of Omaha (population 102,555); and Lincoln Medical College, at Lincoln (population 40,169). Board and lodging can be obtained for from $3 to $5 a week.

Omaha.

UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE.—This was organized in 1880 as the Omaha Medical College. In 1902 an affiliation was entered into with the University of Nebraska, the name being changed to the College of Medicine of the University of Nebraska. The first two years are given at Lincoln. The last two years are given only at Omaha. The faculty is composed of 38 professors and 22 lecturers and assistants, total 60. The Douglas County, Immanuel, Wise Memorial, and Omaha Methodist hospitals, together with the college dispensary, furnish an abundance of material for clinical study and demonstration. The course consists of graded studies covering four years of eight months each. The method of instruction consists of didactic and clinical lectures, section clinics, demonstrations, recitations and laboratory work. The college building is well adapted to its purpose, the laboratories being well equipped and the lecture room commodious. The fees, including breakage deposits, are $90 for the first two years, and $100 for the last two years. Total number of students enrolled in 1903-4, 150; graduates, 30. The college is a member of the Association of American Medical Colleges. The Secretary is Dr. Paul H. Ludington, Bee Building. The twenty-fourth annual session will begin Sept. 20, 1904, and end May 25, 1905.

JOHN A. CREIGHTON MEDICAL COLLEGE.—This school, organized in 1892, is the Medical Department of Creighton University, and has a faculty of 32 professors and 8 associates, lecturers and assistants, a total of 40. The clinical facilities are those of St. Joseph's Hospital, containing 300 beds and having a clinical amphitheater connected with it; St. Bernard's Hospital, with 256 beds; Douglas County Hospital, Presbyterian and Mercy hospitals, and the college dispensary; the material is abundant and varied. The school is a member of the Association of American Medical Colleges. The building, which was completed in 1898, contains excellent facilities for laboratory and lecture-room work, and the equipment is good. In the methods of instruction, including clinical, didactic and laboratory work, special emphasis is laid on practical work. The course of study embraces four years of seven and one-half months each. The total fees for the first two years are $80 each, and $85 for each of the last two years. The Dean is Dr. D. C. Bryant, McCague Bldg. Total number of students registered in 1903-4 was 153; graduates, 27. The twelfth session opens Sept. 22, 1904, and closes May 1, 1905.

Lincoln.

LINCOLN MEDICAL COLLEGE.—Eclectic. This was organized in 1889, and has a faculty of 28. The requirements for admission are those of the National Confederation of Eclectic Medical Colleges, of which this college is a member. The course of study covers four years of thirty-two weeks each. The total fees for the first year are $80; second, $75; third, $75, and $85 for the fourth year, or $255 for all four years together. The Secretary is Dr. Samuel Metheny. Total number of students for 1903-4 was 83; graduates, 22. The next session begins Oct. 1, 1904, and ends May 10, 1905.

NEW HAMPSHIRE.

New Hampshire, population 411,588, contains one medical college, located in Hanover, population 1884.

Hanover.

DARTMOUTH MEDICAL SCHOOL.—This is the Medical Department of Dartmouth College, and was organized in 1797. Its faculty is made up of 14 professors and 5 instructors, 19 in all. The Mary Hitchcock Memorial Hospital, a cottage hospital of 36 beds, supplies the clinical material. Applicants for admission must possess an education at least equivalent to graduation from a registered high school. The laboratories afford good facilities for work. The course covers four years of thirty-two weeks each. Fees: $125 each year. The Dean is Dr. William T. Smith. The total number of students registered for 1903-4 was 68; graduates, 13. The work for the first and second years begins with that of the academic department, commencing Sept. 22, 1904, and closing June 24, 1905; for the advanced classes it begins Aug. 15, 1904, and ends April 1, 1905.

NEW YORK.

New York state, population 7,268,894, has ten medical colleges. Seven of these, College of Physicians and Surgeons, Long Island College Hospital, New York Homeopathic Medical College and Hospital, New York Medical College and Hospital for Women, Eclectic Medical College of the City of New York, Cornell University Medical College and the University and Bellevue Hospital Medical College, are located in New York City, population 3,437,202. This city, with its hospitals and dispensaries, offers abundant clinical material. Board and lodging can be obtained for from $5 to $7 a week.

Albany Medical College is in Albany, a city of 100,000 people, where board and room can be had for from $4 to $5 a week.

The University of Buffalo Medical Department is situated in Buffalo, population 352,387; here board and lodging can be obtained for from $3.50 to $5 per week.

The College of Medicine, Syracuse University, is in Syracuse, a city with 108,374 inhabitants. Board and lodging can be obtained for from $3.50 a week upward.

The laws of the state of New York require of the prospective student of medicine a preliminary education equivalent to that obtainable in a four years' course in any of the public high schools recognized by the regents as maintaining a satisfactory standard. On proof of at least this amount of education, a medical-student certificate will be issued by the state authorities. Certain medical schools of the state have additional requirements.

1. The College of Physicians and Surgeons requires a medical student certificate issued on the attendance of at least one year's course of study in a college or scientific school registered by the Regents as maintaining a satisfactory standard (or the equivalent) or a certificate of the college entrance examination board covering 15 points, each point being the equivalent of a course of five periods weekly throughout the academic year.

2. Cornell University Medical College requires Regents' counts; in algebra 4 counts, plane geometry 4, elementary United States history and civics 2, second year English or its equivalent 8, second year Latin or the first four books of Caesar's Commentaries, or first year Latin and first year German or French or Spanish 8, making a total of 26 counts, with additional counts aggregating 48 counts.

3. University and Bellevue Hospital Medical College requires unconditional matriculation with a medical-student certificate.

4. The College of Medicine, Syracuse University, requires Regents' counts; in Latin 4 counts, plane geometry 4, algebra 2, and inorganic chemistry 2, with 36 additional, aggregating 48 counts.

New York City.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1807 and its present relation, that of Medical Department of Columbia University, was assumed in 1860. The faculty embraces 40 professors and 85 demonstrators, instructors, etc., a total of 125. The Vanderbilt Clinic, where 44,378 patients were treated during the year 1903, and which is equipped with all modern appliances for the study and treatment of disease, and Sloane Maternity Hospital, containing 116 beds, offer exclusive clinical advantages to students of this school. Beside these, Roosevelt Hospital, containing 238 beds; New York Hospital, with 150 beds; Bellevue, 900 beds; Presbyterian, 350 beds; St. Luke's, 225 beds; General Memorial, 100 beds, and New York Foundling hospitals, together with the Eye and Ear Institute, containing 40 beds; Willard Parker and Reception hospitals, 200 beds; Babies' Hospital, 50 beds; St. Mary's Free Hospital for Children, 120 beds, and the Hospital for Ruptured and Crippled, 250 beds, all offer free clinical teaching to matriculants of this school. The laboratories, lecture rooms and amphitheaters are ample in equipment and accommodation; special provisions are made to equip each student thoroughly in each of the laboratories and thus make the work individual. The work is graded, covering four years of eight months each. The Acting Dean is Dr. John G. Curtis. The total fees for the first year are $255; for the second and third, $250, and $275 for the fourth year. Total registration for 1903-4 was 691; graduates, 178. The next session begins Sept. 28, 1904, and ends June 14, 1905.

LONG ISLAND COLLEGE HOSPITAL.—This was organized in 1858 and has a faculty of 20 professors and 75 assistants, instructors, etc., a total of 95. Long Island College Hospital, containing 300 beds and connected with a four-story maternity hospital; Polhemus Memorial Clinic, and Hoagland Laboratory, completely equipped with the most modern apparatus, are all a part of the college. Beside the clinical facilities furnished by these, members of the faculty attend at Kings County, St. Luke's, Brooklyn, Norwegian, Williamsburg, Methodist Episcopal and the Brooklyn Eye and Ear hospitals, where the students are offered opportunities for clinical study. Many of these also contain out-patient departments, thus permitting advanced students to attend personally to cases. Bedside instruction is also given in the wards. The course covers four years of thirty weeks each. Fees: First year, $195; second, $200; third, $160, and $195 for the fourth year. The Secretary is Dr. Joseph H. Raymond. Total registration, 1903-4, was 389; graduates, 47. The forty seventh session opens Oct. 1, 1904, and closes June 2, 1905. The summer session has been discontinued owing to the lengthening of the regular session.

CORNELL UNIVERSITY MEDICAL COLLEGE.—This department of Cornell University was established in 1898. The faculty is composed of 29 professors and 106 instructors and assistants, a total of 145. The City Hospital, having 1,000 beds; Bellevue Hospital, New York Hospital, Presbyterian, Willard Parker and Reception, with 200 beds; New York Skin and Cancer; St. Francis, having a capacity of 230 beds; St. Vincent's, with 200 beds; the Manhattan Eye and Ear Infirmary. In addition to a large college dispensary, furnish the clinical resources; the material is abundant and varied. The first two years of the course are taken at New York or at Ithaca, and the work is devoted to the fundamental scientific subjects. The last two years are spent mostly in practical and clinical work and the hospital advantages are utilized. The Loomis Laboratory, a five-story modern building, is well equipped and supplies ample practical laboratory facilities required in the advanced work. "The essential features of the entire system is the division of the classes of the several years into small sections." Fees: First year, $190; second and third, $180 each, and $200 for the fourth year. The Dean is Dr. William M. Polk. Total registration for 1903-4 was 360; graduates, 55. The next session opens Sept. 28, 1904 and closes June 14, 1905.

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.—This is a department of the New York University, and was founded in 1898 by the union of the New York University Medical College, organized in 1841, and the Bellevue Hospital Medical College, organized in 1861. The faculty is composed of 26 professors and 81 instructors, assistants, etc., in all 107. Bellevue and City hospitals, hospitals of the Workhouse and Almshouse, Manhattan State Hospital for the Insane, Willard Parker and Reception hospitals, Riverside Hospital for Contagious Diseases, Randall's Island Presbyterian, St. Luke's, St. Vincent's, General Memorial, Gouverneur, Columbus, Harlem, New York Eye and Ear Infirmary, and a large college dispensary are open to students of this school for a study of clinical cases. The Carnegie building, a five-story structure adjoining the college, is devoted to laboratory instruction and investigation, and, with the other two large college buildings, affords good laboratory and lecture room facilities. A new six story addition to the laboratory building has just been completed. The course of instruction covers four years of eight months each. Actual clinical teaching, in conjunction with and found on laboratory work, recitation and didactic teaching, is emphasized to the greatest possible degree. Fees: First year, $185; second and third, $180 each, and $195 for the fourth year. The Dean is Dr. Edward G. Janeway. Total registration for 1903-4 was 368; graduates, 61. The next session opens Sept. 29, 1904, and closes June 9, 1905.

NEW YORK HOMEOPATHIC MEDICAL COLLEGE AND HOSPITAL.—This school, organized in 1858, has a faculty of 34 professors and 37 lecturers, instructors, etc., 71 in all. Flower Hospital, adjoining the college and having a completely equipped out patient department; Metropolitan Hospital, New York Ophthalmic Hospital and the Laura Franklin Free Hospital for Children also furnish clinical facilities. The course covers four years of seven months each. Total fees for the first year, $130; second, $130; third, $125, and $155 for the fourth year. The Dean is Dr. W. H. Kling, 64 W 51st St. Total students registered for 1903-4 was 118; graduates, 28. The next session begins Oct. 5, 1904, and ends May 11, 1905.

NEW YORK MEDICAL COLLEGE AND HOSPITAL FOR WOMEN.—Homeopathic. This school was organized in 1863, and has a faculty of 22 professors, 19 lecturers and assistants, total 41. The college hospital and dispensary, the Memorial Hospital for Women, Metropolitan, Flower and the Laura Franklin Free Hospital for Children afford clinical material. The course covers four years of twenty-six weeks each. Fees: First year, $155; second, $133; third, $125, and $155 for the fourth year. The Dean is Dr. M. Belle Brown, 30 W. 51st St. Total registration for 1903-4 was 33; graduates, 5. The next session opens Oct. 3, 1904, and closes May 9, 1905.

ECLECTIC MEDICAL COLLEGE OF THE CITY OF NEW YORK.—This was organized in 1865, and has a faculty of 15 professors and 18 lecturers, demonstrators, etc., 33 in all. A college dispensary, Beachonian Dispensary, Manhattan and Red Cross hospitals and Muncle Sanatorium supply clinical facilities. The work covers four years of seven months each. The total fees: First year, $125; second, $135; third, $125, and $155 for the fourth year. The Dean is Dr. George W. Boskowitz. Total registration for 1903-4 was 65; graduates, 8. The next session opens Sept. 28, 1904, and closes May, 1905. This school is a member of the National Confederation of Eclectic Medical Colleges.

Albany.

ALBANY MEDICAL COLLEGE.—This school was organized in 1838, and in 1873 it assumed its present relations, as Medical Department of Union University. The faculty is composed of 15 professors and 47 lecturers, instructors and assistants, a total of 62. Albany, St. Peter's, Child's and County hospitals, South End Dispensary, Eye and Ear Infirmary and the Albany Hospital for Incurables, also the free dispensaries connected with each, are open to students for clinical study. The curriculum embraces graded work for four years of seven and one-half months each. Teaching is carried on in the laboratories, clinics and lecture rooms. Examinations are held twice a year in all subjects. Fees: Third year, $110, and $130 for each other year. The Dean is Dr. Samuel B. Ward. Total registration for 1903-4 was 173; graduates, 41. The next annual session opens Sept. 27, 1904, and closes May 9, 1905.

Buffalo.

UNIVERSITY OF BUFFALO MEDICAL DEPARTMENT.—This was organized in 1846 and has a faculty made up of 48 professors and 31 assistants, lecturers, etc., a total of 79. Buffalo General Hospital, Hospital of the Sisters of Charity, Erie County and German hospitals and the German Deaconess' Hospital supply ample clinical material for study. A college dispensary, recently organized, is also of value in practical work. The buildings and hospitals are well equipped for clinical and laboratory work. Bedside instruction is insisted on and the senior students are permitted to assist in operations and give anesthetics. This school is a member of the Association of American Medical Colleges. The course covers four years of seven months each. The tuition is $125 each year; this does not include laboratory fees. The Dean is Dr. Matthew D. Mann, 37 Allen St. Total registration for 1903-4 was 243; graduates, 54. The fifty ninth session opens Sept. 26, 1904, and closes May 2, 1905.

Syracuse.

COLLEGE OF MEDICINE, SYRACUSE UNIVERSITY.—This school was organized in 1872 as the Medical Department of Syracuse University. The faculty is composed of 16 professors and 33 lecturers, instructors, etc., in all 49. Clinical facilities are furnished by St. Joseph's Hospital, with a capacity of 200 patients; Hospital of the House of the Good Shepherd, Syracuse Hospital for Women and Children, Onondaga County Orphan Asylum, and the Syracuse Free Dispensary. The laboratories and amphitheaters are large and well equipped. This school is a member of the Association of American Medical Colleges. The curriculum embraces a four years' graded course, eight months making a school year. The total fees for each of the four years are $130. The Dean is Dr. Henry D. Didama, 424 S. Salina St. Total number of students registered for 1903-4 was 131; graduates, 31. The next session opens Oct. 4 1904, and closes June 7, 1905.

NORTH CAROLINA.

North Carolina, population 1,893,810, has four medical schools which grant degrees and one which gives only the first two years of the medical course. The Medical Department of the University of North Carolina is located at Chapel Hill (population 1,099) and at Raleigh (population 13,643). The Leonard School of Medicine is at Raleigh. The North Carolina Medical College is located at Davidson (population 904).

and at Charlotte (population 18,000). Wake Forest School of Medicine is at Wake Forest (population 823).

Chapel Hill and Raleigh.

UNIVERSITY OF NORTH CAROLINA MEDICAL DEPARTMENT.—This school was organized in 1891, and formerly gave only the work of the first two college years at Chapel Hill. In 1902 the course was extended to four years by the establishment of a department at Raleigh, in which the last two years are given. Degrees will now be conferred and the faculty in the completed school of medicine numbers 29. It is a member of the Association of American Medical Colleges. The number of students enrolled in 1903-4 was 72; graduates, 4. Total fees are $85 per year. Board, room, light and heat may be had for from $84 to $102 per college year. The President is Dr. F. P. Venable, Chapel Hill. The next session will begin Sept. 5, 1904, and end May 31, 1905.

Raleigh.

LEONARD SCHOOL OF MEDICINE.—Colored. This department of Shaw University was established in 1882 by the American Baptist Home Mission Society to train colored students of medicine. It has a faculty of 11. A free hospital and dispensary supply clinical material. A preliminary entrance examination is given to applicants not possessing a certificate or diploma of educational requirements. The course covers four years of six months each. The total fees for each year are $75. The dormitory plan is adopted generally, and board and room costs $2 a week. The Dean is Dr. James McKee. Total enrolment for 1903-4 was 125; graduates, 21. Next session opens Oct. 1, 1904, and closes April 14, 1905.

Davidson and Charlotte.

NORTH CAROLINA MEDICAL COLLEGE.—This school was organized in 1893, and has a faculty of 21. The Presbyterian Hospital in Charlotte supplies the clinical facilities. The course covers four years of eight months each, the last year at Charlotte. Fees: First three years, $85 each, and $100 for the fourth year. The President is Dr. J. P. Monroe of Davidson; Dr. I. W. Faison, Charlotte, is Dean of the Faculty. The total registration for 1903-4 was 84; graduates, 17. The next session begins Sept. 7, 1904, and closes May 10, 1905.

Wake Forest.

WAKE FOREST SCHOOL OF MEDICINE.—This school was organized in 1902. It only gives the first two years of the medical course. Each annual course extends over nine months. The school is a member of the Association of American Medical Colleges. It has a faculty of 10, and last year enrolled 18 students. The fees are $85 a year. The Dean is Dr. Frederick K. Cooke. The next session opens Aug. 27, 1904, and closes May 25, 1905.

OHIO.

Ohio, population 4,157,545, has ten medical colleges. Four of these, the Medical College of Ohio, Eclectic Medical Institute, Miami Medical College, and Pulte Medical College are located in Cincinnati, a city of 325,902 inhabitants. The clinical advantages of Cincinnati are good; beside many smaller hospitals, the Cincinnati Hospital is open to the students for study. Board can be procured in Cincinnati for from $3 to $5 per week. The Laura Memorial Woman's Medical College has ceased to exist.

Cleveland, population 381,768, contains three medical schools: Western Reserve University Medical College, Cleveland College of Physicians and Surgeons and the Cleveland Homeopathic Medical College. The City Hospital, with 275 beds, is used in common by them for clinical study. Board and lodging can be had for from $2.50 to $5 a week.

Columbus, population 125,560, contains two: Starling Medical College and Ohio Medical University. Board and lodging cost from $2.50 to $5 per week.

Toledo, with 131,822 people, has one medical school: Toledo Medical College. It has good clinical advantages. Board and room can be had for from $3 to $5 a week.

The laws of Ohio require that in order to practice medicine in this state, any student not possessing a diploma or certificate showing that he is possessed of the educational advantages required, must pass a satisfactory examination, under the direction of the State Board of Medical Registration and Examination, in the following subjects: Foreign languages—Two years of the Latin language. English—English literature, composition and rhetoric. History—United States history and civics, with reference to the constitutional phases of American history. Mathematics—Algebra through equations and plane geometry. Science—Botany or zoology; physiography or chemistry, and physics. This is the standard adopted by all the medical colleges in the state.

Cincinnati.

MEDICAL COLLEGE OF OHIO.—This is the Medical Department of the University of Cincinnati, organized in 1819, and has a faculty made up of 24 professors, 30 lecturers and assistants, a total of 54. Good Samaritan Hospital, with 100 beds; Cincinnati Hospital, with 550 beds, and a well-equipped college dispensary furnish clinical facilities. The buildings supply ample laboratory and lecture-room space, and their equipment is good. The course of study is graded and covers four years of eight months each. This school is a member of the Association of American Medical Colleges. The lecture fees are $125 each year for each student entering after July 1, 1903; $100 each year for those who have matriculated prior to July 1, 1903. In addition there is a matriculation fee of $5, payable but once, and a graduation fee of $25. Total registration of students for 1903-4 was 145; graduates, 46. The Dean is Dr. P. S. Conner, Cincinnati. The eighty-sixth session begins Sept. 28, 1904, and ends June 1, 1905.

MIAMI MEDICAL COLLEGE.—This school was organized in 1852, and has a faculty of 23 professors and 24 lecturers and demonstrators, a total of 47. The clinical facilities are furnished by the Cincinnati Hospital and a college dispensary. The Presbyterian Hospital, with the Laura Memorial Dispensary, has become a clinical department of the college. The undergraduates of the Laura Memorial College will continue their studies in the Miami College. This college is a member of the Association of American Medical Colleges. The curriculum embraces a four-year graded course of eight months each. The total fees are, for the first year, $130; for the second and third, $125, and $150 for the fourth year. The Dean is Dr. J. C. Oliver, 628 Elm St. The total registration for 1903-4 was 99; graduates, 27. The next session opens Oct. 1, 1904, and closes June 1, 1905.

ECLECTIC MEDICAL INSTITUTE.—This school, organized in 1845, has a faculty of 24 members. The Seton Hospital, Cincinnati Hospital, and a college dispensary furnish clinical material. It is a member of the National Confederation of Eclectic Medical Colleges. The course covers four years of thirty weeks each. The fees are $75 for each year, with a graduation fee of $25. The Dean is Dr Rolla L. Thomas, 792 East McMillan St. Total enrolment, 1903-4, was 143; graduates, 27. The next session begins Sept. 19, 1904, and closes April 21, 1905.

PULTE MEDICAL COLLEGE.—Homeopathic. This was organized in 1872 and has a teaching force of 21 professors and 14 assistants, 35 in all. Pulte Hospital, Cincinnati Hospital, Bethesda Hospital, Home of the Friendless and Foundlings, and a college dispensary supply clinical material. The curriculum covers four years of seven months each. Fees: First year, $80; for the second and third, $75 each, and $100 for the fourth. The Dean is Dr. Charles E. Walton. Total enrolment for 1903-4 was 22; graduates, 7. The next session opens Sept. 27, 1904, and closes May 2, 1905.

Cleveland.

THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1863 as Charity Hospital Medical College, became the Medical Department of Wooster University in 1869, and the Medical Department of the Ohio Wesleyan University in 1896, when it assumed its present title. The faculty is composed of 27 professors, 36 lecturers, assistants, instructors, etc., 63 in all. Cleveland General Hospital, Cleveland City Hospital and a college dispensary are used for regular clinical teaching. St. Alexis, St John's and St. Clair hospitals are utilized for extra-mural clinics. This school is a member of the Association of American Medical Colleges. The school is co-educational. The total annual fees are $130. The curriculum covers four years of eight months each. The Dean is Dr. R. E. Skeel, 785 Prospect St. Total enrolment for 1903-4 was 75; graduates, 19. The next term opens Sept. 21, 1904, and closes May 3, 1905.

WESTERN RESERVE UNIVERSITY MEDICAL COLLEGE.—The Medical Department was organized in 1843. Its teaching faculty includes 23 professors, 31 lecturers, demonstrators and assistants, a total of 54. Clinical facilities are offered students of this school by Lakeside Hospital, having 250 beds; St. Vincent's Hospital, having about 150 beds; City Hospital, with 250 beds; St. Alexis Hospital, with 250 beds, and the Home of Maternity, with the dispensary service at Lakeside and Charity hospitals. The laboratory chairs are endowed, the teachers devoting their entire time to teaching and research work. The new clinical laboratory has recently been added, where a systematic course of instruction is given. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of eight months each. Three years of college work are required for admission to first year of medical course. The total fees are $125 for each year. The Dean is Dr. B. L. Millikin, 278 Prospect St. Total enrolment for 1903-4 was 89; graduates, 31. The next session begins Oct. 1, 1904, and closes June 15, 1905.

CLEVELAND HOMEOPATHIC MEDICAL COLLEGE.—This school was founded in 1850 by a consolidation of Cleveland University of Medicine and Cleveland Medical College, the former of which was incorporated in 1850, and is the second oldest homeopathic medical college in the United States. The faculty includes 32 professors and 41 adjuncts, lecturers, etc., 73 in all. The clinical facilities are obtained from the Cleveland Homeopathic Hospital, the Cleveland City Hospital, the Cleveland Maternity Hospital, and a college dispensary. The course embraces four years of thirty weeks each. Fees: First year, $110; second and third years, $105 each, and $125 for the fourth year. The Dean is Dr. Galus J. Jones. Total number of students registered, 1903-4, was 85; graduates, 25. The next session opens Sept. 18, 1904, and closes May 8, 1905.

Columbus.

OHIO MEDICAL UNIVERSITY.—This school was organized in 1890 and has a faculty of 22 professors, 6 instructors, 5 assistants and 2 demontrators, 35 in all. The Protestant Hospital, State Hospital, Ohio Penitentiary Hospital and a college dispensary provide material for clinical work. This school is a member of the Association of American Medical Colleges. The course is four years of 32 weeks each. Fees: First year, $105; second year, $100; third year, $100, and $110 for the fourth year. The Dean is Dr. George M. Waters. Total students for 1903-4 was 168; graduates, 41. The next session begins Sept. 20, 1904, and ends May 4, 1905.

STARLING MEDICAL COLLEGE.—This school was organized in 1847 and has a faculty composed of 20 professors and 16 lecturers, associates, etc., a total of 36. St. Francis Hospital, which is under the control of this faculty; Hawkes' Hospital of Mt. Carmel, the Lawrence Hospital, St. Anthony Hospital and a college dispensary are available for clinical study. This college is a member of the Asso-

ciation of American Medical Colleges. The work covers four years of thirty weeks each. Fees: $100 per year; graduation fee, $10. The Dean is Dr. Starling Loving. Enrolment for 1903-4 was 124; graduates, 33. The next session opens Sept. 15, 1904, and closes May 4, 1905.

Toledo.

TOLEDO MEDICAL COLLEGE.—The school was organized in 1882, and in 1904 became the Medical Department of Toledo University. It has a faculty of 15 professors, 21 lecturers and assistants, in all 36. Toledo Hospital, St. Vincent's and Robinwood Hospitals, Lucas County Infirmary Hospital, Toledo Hospital for the Insane, and a free dispensary supply clinical facilities. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of eight months each. The fees are $75 for each year, with a matriculation fee of $5, payable once. The Secretary is Dr. Park L. Myers, 1921 Franklin Ave. Total enrolment for 1903-4 was 33; graduates, 7. The next session opens Sept. 22, 1904, and closes May 10, 1905.

OKLAHOMA.

Oklahoma, population 398,331, has only one medical school, which is located at Norman, a city of about 3,682 inhabitants.

Norman.

SCHOOL OF MEDICINE, UNIVERSITY OF OKLAHOMA.—This school, which was organized in 1903, teaches only the first two years of the regular medical course, each course extending over a period of nine months. The total registration for 1903-4 was 9. The Dean is Dr. A. H. Van Vleet; the Registrar, Roy Hadsell. The next session begins Sept. 13, 1904, and ends June 10, 1905.

OREGON.

Oregon, population 413,536, has two medical colleges: Medical Department Willamette University, located in Salem, a city of 10,000 people, and University of Oregon Medical Department, in Portland, a city of about 125,000 population. Board and lodging may be obtained in Salem for from $3 to $5 per week, and in Portland for from $4 to $6.

Salem.

MEDICAL DEPARTMENT WILLAMETTE UNIVERSITY.—The school was organized in 1864. The faculty consists of 16 teachers. Clinical facilities for study are supplied by Salem Hospital, and a college dispensary. This school is a member of the Association of American Medical Colleges. The course embraces four years' work of six months each. Fees: First year, $110; second, $100; third, $75, and $50 for the fourth year. The Dean is Dr. W. H. Byrd. Total enrolment for 1903-4 was 42; graduates, 8. The next session begins Oct. 1, 1904, and ends March 30, 1905.

Portland.

UNIVERSITY OF OREGON MEDICAL DEPARTMENT.—This department of the State University was organized in 1887 and has a faculty of 14 professors and 14 assistants, lecturers, etc., a total of 28. Good Samaritan and St. Vincent's hospitals, containing 200 and 350 beds, respectively, furnish good material for clinical study. The requirements for admission are those of the Association of American Medical Colleges, but the members of the faculty do not hold examinations for entrance. The college building is modern and well equipped, presenting ample teaching facilities. The course is four years of seven months each. Fees: First year, $142.50; second, $137.50; third, $107.50, and for the fourth, $57.50. The Dean is Dr. Simeon E. Josephi, Portland. Total number of students for 1903-4 was 96; graduates, 7. The next session opens Sept. 15, 1904, and closes April 16, 1905.

PENNSYLVANIA.

Pennsylvania, population 6,302,115, has seven medical colleges. Of these Philadelphia, having a population of 1,293,697, contains six, as follows: University of Pennsylvania Department of Medicine, Jefferson Medical College, Hahnemann Medical College, Woman's Medical College of Pennsylvania, Medico-Chirurgical College of Philadelphia, and Temple College Department of Medicine. The clinical facilities of Philadelphia present abundant and varied material for study. Beside the individual hospitals connected with each of the schools the charity hospitals are open to all the students in common. Board and lodging costs from $4 a week upward.

The other school, Western Pennsylvania Medical College, is situated in Pittsburg, a city of 321,616 people. The cost of board and lodging is from $4 to $6 a week.

A preliminary examination is required of all applicants for a license to practice medicine or surgery in the state. This examination is held at stated intervals by the state examiners, and includes: (a) English composition, grammar and rhetoric; (b) mathematics, covering algebra and plane geometry; (c) elementary physics; (d) United States history, and (e) Latin equivalent to a year's study. On passing a successful examination a medical student certificate is issued to the applicant. This certificate will admit the possessor to matriculation in any medical college in the state.

Philadelphia.

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF MEDICINE.—This is the first medical college established in this country, having been organized in 1765 as the Medical Department of the College of Philadelphia; the first degree was granted in 1768. When from the College of Philadelphia the University of Pennsylvania was organized, in 1791, it became the Medical Department of the University, its present relation. The faculty is made up of 30 professors and 92 assistants, lecturers, etc., a total of 122. Abundant and varied clinical material is furnished by the University Hospital, capacity 300 beds, which treats over 14,000 cases annually; University Maternity Pavillion, with 50 beds; Philadelphia Hospital, containing 1000 beds; Pennsylvania, Children's and the Southeastern Hospital and Dispensary. Special attention is paid to bedside instruction and to thoroughly practical work. Applicants for admission must furnish evidence of the education required to enter the academic department of the university. The buildings known as Medical Hall, Medical Laboratory Building, the Laboratory of Hygiene, the Laboratories of Pathology, Physiology and Pharmacology, the Wistar Institute of Anatomy, and the Wm. Pepper Clinical Laboratory supply excellent laboratory and lecture-room facilities and are well equipped. The course embraces study for four years of nine months each. The total fees for each year are $200, with a matriculation fee of $5 for the first year. The Dean is Dr. Charles H. Frazier. Total enrolment for 1903-4 was 472; graduates, 96. The next session opens Sept. 30, 1904, and closes June 21, 1905.

JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1825, and has a faculty of 28 professors and 81 lecturers, demonstrators, etc., a total of 109. Jefferson Hospital, together with its Maternity Department, are used exclusively by students of the school for clinical study. Bedside instruction is given daily to small sections of the senior class. In addition, the following hospitals are open for study of clinical cases: Pennsylvania, Philadelphia, St. Joseph's, German, Municipal and Wills Eye hospitals. The course of study covers graded work of four years of eight months each. The laboratories are large and well equipped; a new five-story laboratory building having recently been added; the lecture rooms and amphitheaters are also ample. A new fireproof hospital is now building, to cost $650,000, to be finished in 1905. The tuition is $180 a year, with a matriculation fee of $5, paid but once. The Dean is Dr. James W. Holland. The total number of students for 1903-4 was 732; graduates 165. The next session opens Sept. 26, 1904, and closes June 2, 1905.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1881 and has a faculty made up of 27 professors and 55 assistants, lecturers, etc., 82 in all. Opportunities for clinical study are offered exclusively to students of this school by the Medico Chirurgical Hospital, with 125 beds, and its children's and maternity hospital, having 30 beds. In common with other schools, the following are used: Philadelphia, Pennsylvania, German, Samaritan, St. Joseph's, St. Agnes', St. Mary's, Methodist, Jewish and the Philadelphia Lying-in hospitals. This school is a member of the Association of American Medical Colleges. With new laboratories, lecture rooms, a modern hospital and fine clinical amphitheater, this college is amply provided and the equipment is good. The work embraces four years of eight months each. Fees: $150 per annum; matriculation, $5, payable once. The Dean is Dr. Seneca Egbert. Total enrolment, 1903-4, was 414; graduates, 70. The next session opens Sept. 28, 1904, and will close May 28, 1905.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—This school was organized in 1850, and has a faculty of 10 professors and 38 assistants, lecturers, etc., in all 48. Clinical facilities are offered exclusively to this college by the Woman's Hospital and West Philadelphia Hospital for Women. Other clinical advantages offered are those of the Pennsylvania, German, Jewish, Children's and Philadelphia hospitals, Wills Hospital for Diseases of the Eye, and the Philadelphia Lying-in Charity. This school is a member of the Association of American Medical Colleges. The lecture room and laboratory equipment is good. The curriculum covers four years of eight months each. Fees: First year, $140; second, $145; third, $135.50, and $100.50 for the fourth year. The Dean is Dr. Clara Marshall. Total enrolment for 1903-4 was 159; graduates, 43. The fifty-fifth session begins Sept. 21, 1904, and will end May 18, 1905.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL.—Homeopathic. This was organized in 1848 and has a faculty of 16 professors and 40 lecturers instructors, etc., in all 56. Hahnemann College Hospital and Pennsylvania Hospital furnish material for clinical work. The requirements for admission are those established by the Intercollegiate Committee of the American Institute of Homeopathy. The work covers four years of thirty-two weeks each. Fees: For each year, $150; matriculation, $5. Total number of students for 1903-4 was 201; graduates, 69. The Dean is Dr. Charles M. Thomas. The next session begins Sept. 26, 1904, and will end May 24, 1905.

MEDICAL DEPARTMENT OF THE TEMPLE COLLEGE.—This department was organized in 1901, and has a faculty of 18 professors and 22 assistants, etc., a total of 40. Instruction is given in the afternoon and evening, and the course extends over five years of nine months each. The fees are $125 per year. The Dean is Dr. I. Newton Snively. The enrolment for 1903-4 was 63; graduates, 2. The next session begins Sept. 14, 1904, and ends June 15, 1905.

Pittsburg.

WESTERN PENNSYLVANIA MEDICAL COLLEGE.—This is the Medical Department of the Western University of Pennsylvania, and was organized in 1886. The faculty is composed of 38 professors and 54 associates, assistants, etc., 92 in all. Clinical material for study is furnished by a college dispensary, and the Emma Kaufman Clinic, Reineman Maternity Hospital, Mercy, South Side, Passavant and St. John's hospitals. This school is a member of the Association of American Medical Colleges. The course of study embraces graded work for four years of nine months each. Special attention is given to practical bedside work. The total fees are $150 for each year. The Dean is Dr. J. C. Lange. Total enrolment for 1903-4 was 250; graduates, 51. The next session begins Oct. 1, 1904, and will close June, 1905.

SOUTH CAROLINA.

South Carolina, population 1,340,316, has one medical college, situated in Charleston, a city of 55,807 people. Board and room can be obtained for from $12 to $16 a month.

Charleston.

THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.—This was founded in 1823. The faculty is made up of 9 professors and 10 assistants, etc., 19 in all. The clinical facilities are those offered by the City Hospital, where surgical, obstetrical and medical instruction is given. Applicants for matriculation must show a diploma of graduation from some literary or scientific institution of learning or a certificate from some legally-constituted high school. The course covers four years of six months each. The total fees for each of the first two years are $100, and $75 each for the last two. The Dean is Dr. Francis L. Parker. Total enrolment for 1903-4 was 91; graduates, 23. The next session opens Oct. 1, 1904, and closes April 5, 1905.

TENNESSEE.

Tennessee, population 2,020,616, has twelve medical colleges. Of these the Medical Department of the University of Nashville, Vanderbilt University Medical Department, University of Tennessee Medical Department, Meharry Medical College and Southwestern Presbyterian University Medical Department are situated in Nashville, a city with a population of 80,865. The City Hospital, containing 100 beds, is used by all the schools in common for clinical study. Board and lodging cost from $3 to $4 a week.

Knoxville, population 32,637, contains two colleges, Tennessee Medical College and Knoxville Medical College. The cost of room and board in that city is from $2.50 to $4 a week.

Chattanooga Medical College and Chattanooga National Medical College are situated in Chattanooga, city of 30,154 people Board and lodging cost there from $2 a week upward.

Memphis Hospital Medical College is located in the growing city of Memphis, population 102,320. Good board can be obtained for from $3 to $4 a week.

The University of West Tennessee is in Jackson, whose population is 15,000.

The other school, the Sewanee Medical College, is located at Sewanee, a mountain town of 1,200 people.

Nashville.

UNIVERSITY OF NASHVILLE MEDICAL DEPARTMENT.—This school, established in 1850, has a faculty of 13 professors and 14 lecturers, assistants, etc., in all 27. This school is a member of the Southern Medical College Association. The course of study covers four years of twenty-six weeks each. The total fees for each of the four years is $65. The Dean is Dr. William G. Ewing. Total enrolment for 1903-4 was 301; graduates, 41. The next session begins Oct. 1, 1904, and ends June 30, 1905.

VANDERBILT UNIVERSITY MEDICAL DEPARTMENT.—This school was founded in 1874, and in 1895, when the present medical building was completed, the course was extended, the standard raised, and the present faculty of 35, consisting of 18 professors and 17 associates, lecturers, etc., was appointed. The school is a member of the Southern Medical College Association. The course covers four years of six months each. The total fees for the first three years are $105 each, and $130 for the fourth year. The Dean is Dr. William L. Dudley. Total enrolment for 1902-3 was 168; graduates, 34. The next session begins Oct. 3, 1904, and ends April, 1905.

UNIVERSITY OF TENNESSEE MEDICAL DEPARTMENT.—This was organized in 1876 as the Nashville Medical College; its present relations were assumed in 1879. The faculty is composed of 14 professors and 14 lecturers, assistants, etc., 28 in all. The school is a member of the Southern Medical College Association. The course of study includes work for four years of six months each. The total fees for each of the first three years are $90, and $65 for the fourth year. The Dean is Dr. Paul F. Eve, 614 Broad St. Total enrolment for 1903-4 was 154 students; graduates, 30. The next session begins Oct. 3, 1904, and ends April, 1905.

MEHARRY MEDICAL COLLEGE.—Colored. This school was organized in 1876 as the Medical Department of Central Tennessee College, now Walden University, "for the purpose of furnishing to the colored people of the South an opportunity of obtaining a medical education." The faculty is made up of 10 professors and 11 instructors, demonstrators, etc., 21 in all. The work embraces a four-year graded course, six months to the year. The total fees for the first three years are $40 each, and $50 for the fourth year. The Dean is Dr. G. W. Hubbard. Total registration for 1903-4 was 287; graduates, 57. The twenty-ninth session begins Sept. 1, 1904, and ends March 1, 1905.

SOUTHWESTERN PRESBYTERIAN UNIVERSITY MEDICAL DEPARTMENT.—This department was established a year ago. Dr. J. W. Brandan is Dean, and about sixteen members of the faculty were chosen. No further steps have been taken toward beginning work, and the probability is that nothing will ever be done.

Knoxville.

TENNESSEE MEDICAL COLLEGE.—This school was organized in 1889, and has a faculty of 13 professors and 7 assistants, 20 in all. A new building with large and well-fitted laboratories has been completed. City General Hospital and a free dispensary supply material for study of clinical cases. This school is a member of the Southern Medical College Association. The curriculum includes graded work for four years of seven months each. Fees Matriculation, $5; annual fee, $50; graduation fee, $25. The Secretary is Dr. S. L. Jones. Total number of students for 1903-4 was 87; graduates, 10. The sixteenth session begins Nov. 1, 1904 and closes May 23, 1905.

KNOXVILLE MEDICAL COLLEGE.—Colored. This school was established in 1900, following the discontinuance of the Medical Department of Knoxville College, organized in 1895. The teaching force comprises 21. The course covers four years of six months each. Fees: First year, $42; second, $37; third, $30, and $40 for the fourth year. The Secretary is Dr. H. M. Green. Total number of students for 1903-4 was 30; graduates, 8. The next session opens Dec. 1, 1904, and closes May 30, 1905.

Chattanooga.

CHATTANOOGA MEDICAL COLLEGE.—This is the Medical Department of Grant University, and was organized in 1889. The faculty consists of 10 professors and 18 instructors, demonstrators, etc., total 28. Adequate clinical facilities are afforded by the wards of Baroness Erlanger Hospital, a county asylum, an outdoor clinic maintained in the college building, and all material furnished by the city physician's office which the faculty desire to utilize. The scholastic requirements are those of the Association of Southern Medical Colleges, and involve a strictly graded course covering four years of six months each. The total fees approximate $60 each session. The trustees materially added to the general facilities of the institution by the erection of another fine four-story building of brick and stone for the medical department about a year ago, wherein much modern and elaborate equipment has been installed. The Dean is Dr. E. A. Polleigh. The total enrolment for the session of 1903-4 was 164, of which 37 graduated The sixteenth annual term opens Oct. 6, 1904, and ends about April 15, 1905.

CHATTANOOGA NATIONAL MEDICAL COLLEGE.—Colored. This was organized in 1898, and claims a teaching force of 19. The course covers four years of seven and a half months each. The total fees are $50 each year, with an additional graduation fee of $20. Total enrolment for 1903-4 was 9; graduates, 1. The Dean is Dr. T. W Haigler, 602 E. 8th St. The next session begins Sept. 2, 1904, and ends April 28, 1905.

Memphis.

MEMPHIS HOSPITAL MEDICAL COLLEGE.—This school, organized in 1878, has a faculty of 10 professors and 18 assistants, beside quiz masters. Excellent clinical facilities are furnished by the City Hospital, Presbyterian Hospital, St. Joseph's Hospital and the East End Dispensary, the latter being located in the college building. The course includes graded work for four years of six months each. The total fees for the first three years are $65; for the fourth, $90. The Dean is Dr. W. B. Rogers. Total registration for 1903-4 was 566; graduates, 153. The twenty-fifth annual session will begin Oct. 1, 1904, and close April 30, 1905.

Jackson.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF WEST TENNESSEE.—Colored. This school, organized in 1900, has a faculty of 11. The course is four years of seven months each. The fees are $40 per year; graduation, $10 extra. Registration, 1903-4, 35; graduates, 13. The next session opens Sept. 12, 1904.

Sewanee.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE SOUTH (Sewanee Medical College).—This school was organized in 1891, and has a faculty of 22. It is a member of the Southern Medical College Association. The course is four years of six months each. The fees are $65 for each of the first two years, $55 for the third and $80 for the last year. The Dean is Dr. John S. Cain. Total enrolment for 1903-4 was 148; graduates, 24. The thirteenth session commenced April, 1904, and will close October 25, 1904

TEXAS.

Texas, population 3,048,710, has eight medical colleges. The University of Texas Department of Medicine is located at Galveston, a city of 37,789 inhabitants. Good board and room can be procured for from $15 to $20 a month.

The Medical Department of Fort Worth University is at Fort Worth, population 35,000. The cost of board and room in that city is from $12 to $15 a month.

The Baylor University College of Medicine, the Dallas Medical College, the Medical Department of Southwestern University and the Physio-Medical College of Texas are situated in Dallas, population 55,000.

Galveston.

UNIVERSITY OF TEXAS MEDICAL DEPARTMENT.—This department of the State University was organized in 1891 and has a faculty of 26. The John Sealy Hospital, also having an outdoor department, and St. Mary's Infirmary supply good material for clinical study. The requirements for admission are proof, either by certificate or examination, that the candidate is sufficiently proficient in English, including grammar, composition and rhetoric; mathematics through plane geometry and algebra, including quadratics, and general history. The curriculum embraces graded work for four years of eight months each. Laboratories of chemistry, physiology, anatomy, pathology, bacteriology, histology, pharmacy and clinical medicine, completely equipped for practical work by students. Fees, to residents of the state: First year, $50; second and third, each $20, and $5 for the fourth. Non-residents of the state are required to pay an additional fee of $50 each year. The President is Dr. William L. Prather. Total registration for 1903-4 was 172; graduates, 23. The next session begins Oct. 3, 1904, and ends May 31, 1905.

Ft. Worth.

MEDICAL DEPARTMENT OF FORT WORTH UNIVERSITY.—This school was organized in 1894, and has a faculty of 15 professors and 17 lecturers, assistants, etc., in all 32. Clinical facilities are supplied by St. Joseph's Hospital, with 200 beds; the Benevolent Home, containing 75 beds; the Delia Collins' Rescue Home, having 50 beds, and a college dispensary. The school is a member of the Southern Medical College Association. The course covers four years of six months each. The total fees for each of the first three years are $75, and $100 for the fourth year. The Dean is Dr. Bacon Saunders. The total enrolment for 1903-4 was 106; graduates, 9. The next session opens Oct. 1, 1904, and closes April 7, 1905.

Dallas.

BAYLOR UNIVERSITY COLLEGE OF MEDICINE.—This is a new name for the University of Dallas Medical Department, which was organized in 1901. In June, 1903, it became the Medical Department of Baylor University at Waco. The faculty numbers 14 professors and 16 assistants, total 30. Parkland Hospital, with 90 beds; St. Paul's Sanitarium, Baptist Memorial Hospital and a college dispensary and hospital are utilized for clinical study. The course covers four years of six months each. The school is a member of the Association of Southern Medical Colleges. The fees are $75 for each of the four years, with a matriculation fee of $5, paid once, and a graduation fee of $25. The Dean is Dr. E. H. Cary. Total registration for 1903-4 was 68; graduates, 12. The next session opens Oct. 1, 1904, and closes April 5, 1905.

BELL MEDICAL COLLEGE.—This school was founded in 1903 by Dr. Arthur C. Bell, its present Dean. It has a total teaching staff of 15. The course of instruction extends over four years of six months each. The requirements for admission are the same as those prescribed by the Association of Southern Medical Colleges. Clinical instruction is given in the City Hospital, St. Paul Sanitarium, and the college dispensary. The fees for the first three years are $80, and $105 for the fourth year. Total registration for 1903-4, 72; graduates, 9. The next session begins Oct. 3, 1904, and closes April 1, 1905.

DALLAS MEDICAL COLLEGE.—This school was the Medical Department of Trinity University, but this relation has been severed. It has a teaching staff of 9 professors and 21 lecturers and demonstrators, a total of 30. The course covers four years of six months each. The Dean is Dr. Hugh L. McKew. Total registration for 1903-4 was 252; graduates, 25. The next session opens about Oct. 1, 1904, and closes about April 1, 1905.

PHYSIO-MEDICAL COLLEGE OF TEXAS.—This college was organized in 1902. It has a faculty of 24 professors and 4 assistants, total 28. The course is four years of twenty-six weeks each. The fees are, first year, $70; fourth year, $85; other years, $65. Enrolment, 1903-4, 21; no graduates. The Secretary is Dr. R. L. Spann. The next session opens Nov. 1, 1904, and closes about April 1, 1905.

SOUTHWESTERN UNIVERSITY MEDICAL COLLEGE.—This is the Medical Department of Southwestern University and was organized in June, 1903. It has a faculty of 31 professors and 8 instructors, total, 39. The course of instruction is graded and covers four years. Requirements for admission are equivalent to those prescribed by the Association of American Medical Colleges. The fees are: Matriculation, $5, paid once; annual tuition, $75; graduation, $25. The hospitals represented by the faculty and open for clinical teaching are: St. Paul's Sanitarium, City Hospital, Children's Home, Rescue Home, Woman's Home, St. Joseph Orphanage, St. Matthew's Home for Children, Dr. H. K. Leake's Private Infirmary, Out Door Clinic of the Settlement Home and Presbyterian Home for Children. The Dean is Dr. John O. Meyer Reynolds. Total registration 1903-4 was 38; graduates, 11. The second session opens Oct. 1, 1903, and closes April 3, 1905.

Texarkana.

GATE CITY MEDICAL COLLEGE.—The length of each course is seven months. The faculty numbers 20 professors and assistants. Registration, 1903-4, 84; graduates, 26. The Dean is Dr. J. W. Decker. The next session begins Oct. 1, 1904, and ends May 1, 1905.

VERMONT.

Vermont, population 343,641, has one medical school, located at Burlington, a town of about 20,000 people. Board and room costs from $3.50 to $5 a week.

Burlington.

MEDICAL DEPARTMENT UNIVERSITY OF VERMONT.—This school was organized in 1822, but suspended from 1836 until 1854, when it was reorganized. The faculty consists of 19 professors and 23 assistants, instructors, etc., in all 42. The Mary Fletcher Hospital and a free dispensary furnish material for clinical instruction. Applicants for admission must be graduates of a four-year high school course or take an examination to show equivalent educational qualifications. The laboratory and lecture-room space and equipment are good. A new and commodious college building is in process of construction. The course of study embraces graded work for four years of seven months each. The total fees for each of the first three years are $115 and $140 for the fourth year. The Dean is Dr. H. C. Tinkham; Secretary, Dr. B. J. Andrews. Total registration of students for 1903-4 was 225; graduates, 55. The fifty-second session begins Nov. 26, 1904, and ends June 28, 1905

VIRGINIA.

Virginia, population 1,854,184, has three medical colleges, situated in Charlottesville (population 6,449) and Richmond (population 85,050). The clinical facilities in Richmond are good. Board and room can be obtained for $18 a month, and upward, in Charlottesville, and from $12 to $20 a month in Richmond.

Charlottesville.

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE.—This school was organized in 1827, and has a faculty of 21. A free dispensary and the new four-story hospital—an addition to which, at a cost of $3,600, will be complete by Jan. 1, 1905—furnish clinical facilities. The requirements for admission are those of the Association of American Medical Colleges. The course is four years of nine months each. Fees: First year, $110; second, $100; third, $80, and $60 for the fourth year. Total enrolment for 1903-4, was 164; graduates, 34. The eightieth session opens Sept. 15, 1904, and closes June 15, 1905.

Richmond.

MEDICAL COLLEGE OF VIRGINIA.—This school was organized in 1838 as the Medical Department of Hampden Sidney College, and in 1854 the present name was assumed. The faculty is made up of 17 professors and 26 lecturers, instructors, etc., a total of 43. Clinical material is furnished by the Memorial Hospital and the City Free Dispensary; an outside obstetric department also furnishes opportunities for clinical work. The magnificent new Memorial Hospital, opened July, 1903, is under the exclusive control of this college for clinical purposes. The State Penitentiary, City Almshouse and other public charities and asylums of the city also afford opportunities for clinical work. This school is a member of the Southern Medical College Association. The buildings are large and contain well-equipped laboratories and amphitheaters. The course embraces four years of nearly eight months each. The fees are $85 for each year, with an additional graduation fee of $30. The Dean is Dr. Christopher Tompkins. Total registration for 1903-4 was 210; graduates, 41. The next session begins Sept. 27, 1904, and will end May 16, 1905.

UNIVERSITY COLLEGE OF MEDICINE.—This school was organized in 1893, and has a faculty of 19 professors, 34 lecturers, assistants, etc., a total of 53. Good clinical facilities are furnished by Virginia Hospital, with a maternity department and annex, which was built especially for the purpose of affording bedside instruction, and is owned and operated by the college; Richmond Eye, Ear and Throat Infirmary, containing 34 beds; the City Hospital, City Jail, State Penitentiary, and a college dispensary. Matriculation is in accord with the rules of the Association of American Medical Colleges, and of the Southern Medical College Association, to both of which this college belongs. The laboratory and lecture-room space and equipment are ample, and some of the instructors devote their entire time to the laboratories. The school lays especial importance on the careful instruction and guidance of each student. The curriculum covers four years of thirty-three weeks each. The total fees are $85 for each year. The President is Dr. J. Allison Hodges; the Dean is Dr. Landon B. Edwards, Richmond. Total enrolment for 1903-4 was 188; graduates, 25. The next session begins Sept. 27, 1904, and ends May 17, 1905.

WEST VIRGINIA.

West Virginia, population 958,800, has one medical college, the Medical Department of the West Virginia University, located at Morgantown, a city with 2,100 inhabitants. This school does not grant degrees, but prepares students in the first two years.

Morgantown.

WEST VIRGINIA UNIVERSITY MEDICAL DEPARTMENT.—This school was organized one year ago, and gives only the first two years of the medical course. Each college term extends over nine months. The faculty consists of 6 professors and 2 assistants, 8 in all. The school is a member of the Association of American Medical Colleges. Dr. J. M. Simpson is the Dean, and Dr. A. J. Collett the Secretary. Total registration in 1903-4 was 23. Next session begins Sept. 19, 1904, and closes June 15, 1905.

WISCONSIN.

Wisconsin, population 2,069,042, has two medical colleges, the Milwaukee Medical College and Wisconsin College of Physicians and Surgeons. They are both situated in Milwaukee, a city of 300,000 people. Clinical facilities are furnished them in common by the County Hospital, with 300 beds, and the Milwaukee Hospital for the Insane. Board and lodging can be had for from $3 to $5 a week.

Milwaukee.

MILWAUKEE MEDICAL COLLEGE.—This school was organized in 1893, and has a faculty of 33 professors and 26 lecturers, instructors, etc., a total of 59. Good clinical material is furnished by Trinity and the County hospitals. Milwaukee Hospital for the Insane, and a college dispensary. This school is a member of the Association of American Medical Colleges. Ample laboratory and amphitheater facilities are afforded. The course covers four years of eight months each. The total fees are $125 each for the first three years and $135 for the fourth year. The President is Dr. William H. Earles. Total number of students for 1903-4 was 148; graduates, 29. The eleventh session begins Sept. 15, 1904, and will close about May 22, 1905.

WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS.—This college was organized in 1893, and has a faculty composed of 21 professors and 29 associates, assistants, etc., a total of 50. St. Joseph's Hospital, containing 150 beds; the college dispensary, the Milwaukee County Hospital, and the Hospital for the Insane supply facilities for clinical study. The school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are well equipped. The curriculum includes four years of eight months

each. Fees: Matriculation, paid once, $5; general ticket, $100; for the use of the microscope, a fee of $2 is charged for each course. The Secretary is DR. W. H. Washburn. Total enrolment for 1903-4 was 86; graduates, 29. The next session begins Sept. 20, 1904, and ends May 18, 1905.

CANADA.

The Dominion of Canada, with a population of 5,335,055 (1900) distributed through seven provinces and the Northwest territories, an area which reaches from the Atlantic to the Pacific, contains only 9 medical colleges. Of these, 4 are situated in Ontario, 4 in the province of Quebec, 2 in Nova Scotia, and one in Manitoba. The distinction between university and college in Canada is definite, namely, the latter is a teaching body only and has no right to grant a degree.

London, Ontario.

MEDICAL DEPARTMENT OF WESTERN UNIVERSITY.—This school matriculates students in accordance with the requirements of the Provincial Council and has a course of four years. Victoria Hospital and St. Joseph's Hospital supply the clinical advantages. The fees are about $90 per year and $25 extra for graduation, with $5 for each examination each year. This school has over 100 students and from 10 to 20 graduates annually. The next session runs from September to May.

Kingston, Ontario.

QUEEN'S UNIVERSITY.—This school had 216 students registered in its medical department during 1903-4, and graduated 42. The faculty numbers 25.

Toronto, Ontario.

UNIVERSITY OF TORONTO, MEDICAL FACULTY.—All the lectures and demonstrations are given in the laboratories and lecture rooms of the University; more than two-thirds of the instruction in the third and fourth years is given in the wards and in the pathologic and clinical laboratories. A fifth year is now required by the Ontario Medical Council. The faculty numbers 88. Clinical instruction is given in the Toronto General Hospital, Mercer Eye and Ear Infirmary, Burnside Lying-In Hospital, Hospital for Sick Children, and St. Michael's Hospital. Before commencing, students who propose to practice in the Province of Ontario must satisfy, as to qualifications, the College of Physicians and Surgeons of Ontario (Provincial Board), but those who desire the degree of the university must obtain junior matriculation standing prior to admission to the second examination. Fees are: Registration (payable once), $5; each of the first four years, $100; fifth year, $50; for the degree M.B. and M.D., each $20. Number of students registered last session, 721; graduates, 96. The next session will commence Oct. 1, 1904. Trinity Medical College of Toronto, which has been in affiliation, was amalgamated with the university in 1903.

ONTARIO MEDICAL COLLEGE FOR WOMEN.—This college is not empowered to grant degrees, but it qualifies students fully to take the examination in any university. The faculty numbers 35. The fee for each year is $110, exclusive of hospital and university fees. The number of undergraduates, 1903-4, was 31; graduates, 4. Twenty-first session will open Oct. 1, 1904, and continue for eight months.

Montreal, Quebec.

MCGILL UNIVERSITY, FACULTY OF MEDICINE.—This college has a course of four years of nine months each. The faculty numbers 24 professors and 66 assistants, total 90. The total fees for the course are $500. Clinical instruction is given in the Montreal General Hospital, Royal Victoria Hospital, and Montreal Maternity Hospital. Students, except university graduates in arts, must pass the medical matriculation of this university or that of one of the provincial medical boards. Students registered during session 1903-4, 415; graduates in June, 1904, 86. The seventy-third session will commence Sept. 20, 1904.

UNIVERSITY OF BISHOP'S COLLEGE, FACULTY OF MEDICINE.—The course leading to the degree of C.M., M.D., extends over four years of nine months each. The annual fees are $100, which include all practical classes and material for the same. Students must, on entering the study of medicine, pass the college matriculation examination, or, if the license for the Province of Quebec is desired, that of the College of Physicians and Surgeons of that Province. Special facilities are offered for the practical teaching of obstetrics, and undergraduates are obliged to take entire charge of several accouchements before being allowed to take the final examination. Other clinical facilities are offered in the Montreal General Hospital, the Royal Victoria Hospital, the Western Hospital, the Hotel Dieu, and the Woman's Hospital. During the last session the students numbered 70; graduates, 10. The next session will open Sept. 15, 1904.

Quebec, P. Q.

UNIVERSITY LAVAL, FACULAE DE MEDICINE.—This is the Quebec branch of Laval University medical faculty. The course consists of four years. The fees for the entire course are from $200 to $300, according to preliminary qualifications. The matriculants are about 100 annually, and the graduates about 20.

Halifax, Nova Scotia.

FACULTY OF MEDICINE OF DALHOUSIE UNIVERSITY.—The course consists of four years of eight months each, and leads to the final M.D. and C.M. examination. Prospective students must pass the preliminary examination of the Provincial Medical Board, a university examination or a recognized equivalent. During last session (1903-4) there were 58 students, of whom 17 graduated. The faculty numbers 23, and the next session is from September to April (inclusive).

Winnipeg, Manitoba.

MANITOBA MEDICAL COLLEGE.—This is in affiliation with the University of Manitoba, and has a faculty of 21. Winnipeg General Hospital and St. Boniface Hospital supply clinical material. The fees are $400 for the course of four years. There were 108 students in 1903-4, and 15 graduates.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

The requirements for admission to be maintained by colleges belonging to this Association are as follows:

SECTION 1.—Each college holding membership in this Association shall require of each student, before admission to its course of study, an examination, the minimum of which shall be as follows:

1. In English, a composition on some subject of general interest. This composition must be written by the student at the time of the examination, and should contain at least 200 words. It should be criticised in relation to thought, construction, punctuation, spelling, and handwriting.

2. In Arithmetic, such questions as will show a thorough knowledge of common and decimal fractions, compound numbers, and ratio and proportion.

3. In Algebra, such questions as will bring out the student's knowledge of the fundamental operations, factoring, and simple quadratic equations.

4. In Physics, such questions as will discover the student's understanding of the elements of mechanics, hydrostatics, hydraulics, optics, and acoustics.

5. In Latin, an examination on such elementary work as the student may offer, showing a familiarity usually attained by one year of study; for example, the reading of the first 15 chapters of Cæsar's Commentaries, and the translation into Latin of easy English sentences involving the same vocabulary.

SEC. 2.—In place of this examination, or any part of it, colleges, members of this Association, are at liberty to recognize the official certificates of reputable literary and scientific colleges, academies, high schools, and normal schools, and also the medical student's certificate issued by any state examining board covering the work of the foregoing entrance examination.

SEC. 3.—Colleges, members of this Association, may allow students who fail in one or more branches in this entrance examination the privilege of entering the first-year course, but such students shall not be allowed to begin the second course until the entrance requirements are satisfied.

SEC. 4.—Colleges, members of this Assocoiation, are free to honor official credentials issued by medical colleges of equal requirements, except in the branches of study embraced in the last year of their own curriculum.

SEC. 5.—Candidates for the degree of Doctor of Medicine in the year 1899 and thereafter shall have attended at least four courses of medical instruction, each course of at least six months' duration, no two courses of which shall have been in the same calendar year.

SEC. 6.—Colleges, members of this Association, are free to give to students who have met the entrance requirements of the Association additional credit for time on the four years' course as follows: (a) To students having the A.B., B.S., or equivalent degree from reputable literary colleges, one year of time; (b) To graduates and students of colleges, of homeopathic or eclectic medicine, as many years as they attended those colleges, provided they have met the previous requirements of the Association and that they pass an examination in materia medica and therapeutics; (c) To graduates of reputable colleges of dentistry, pharmacy, and veterinary medicine, one year of time.

SEC. 7.—A college not giving the whole four courses of the medical curriculum, and not graduating students, but otherwise eligible, may be admitted to membership.

At the last meeting of this Association new regulations were adopted. After July 1, 1905, matriculants must have a diploma from a four-year high school or an equivalent education. Full particulars were given in THE JOURNAL, July 25, page 274.

The following colleges are members:

College of Medicine, University of Southern California, Los Angeles, Cal.; University of California Medical Department, San Francisco,

Cal.; Colorado School of Medicine, University of Colorado, Boulder, Colo.; Denver and Gross College of Medicine, Medical Department of the University of Denver, Denver, Colo.; Yale University Department of Medicine (Yale Medical School), New Haven, Conn.; Columbian University Department of Medicine, Washington, D. C.; Georgetown University School of Medicine, Washington, D. C.; Howard University Medical Department, Washington, D. C.; American Medical Missionary College, Battle Creek, Mich., and Chicago; College of Physicians and Surgeons, College of Medicine of the University of Illinois, Chicago; Illinois Medical College, Chicago; Northwestern University Medical School, Chicago; Rush Medical College (in affiliation with University of Chicago), Chicago; Fort Wayne College of Medicine, Ft. Wayne, Ind.; Central College of Physicians and Surgeons, Indianapolis, Ind.; Medical College of Indiana, University of Indianapolis, Ind.; Drake University College of Medicine, Des Moines, Iowa; College of Medicine University of Iowa, Iowa City, Iowa; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa; Sioux City College of Medicine, Sioux City, Iowa; Kansas Medical College, Medical Department of Washburne College, Topeka, Kan.; School of Medicine University of Kansas, Lawrence, Kan.; Hospital College of Medicine, Louisville, Ky.; Kentucky School of Medicine, Louisville, Ky.; Kentucky University Medical Department, Louisville, Ky.; Flint Medical College, Medical Department New Orleans University, New Orleans, La.; Baltimore Medical College, Baltimore, Md.; College of Physicians and Surgeons, Baltimore, Md.; Johns Hopkins University Medical Department, Baltimore, Md.; University of Maryland School of Medicine, Baltimore, Md.; Woman's Medical College, Baltimore Md.; College of Physicians and Surgeons, Boston, Mass.; Detroit College of Medicine, Detroit, Mich.; Michigan College of Medicine and Surgery, Detroit, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, Mich.; Hamline University College of Medicine, Minneapolis, Minn.; College of Medicine and Surgery of the University of Minnesota, Minneapolis, Minn.; Medical Department University of Mississippi, Oxford, Miss.; University of Missouri Department of Medicine, Columbia, Mo.; Kansas City Medical College, Kansas City, Mo.; University Medical College, Kansas City, Mo.; Marion Sims-Beaumont College of Medicine, Medical Department St. Louis University, St. Louis, Mo.; St. Louis College of Physicians and Surgeons, St. Louis, Mo.; Jno. A. Creighton Medical College, Medical Department of Creighton University, Omaha, Neb.; University of Nebraska College of Medicine, Lincoln and Omaha, Neb.; University of Buffalo Medical Department, Buffalo, N. Y.; Syracuse University College of Medicine, Syracuse, N. Y.; University of North Carolina Medical Department, Raleigh and Chapel Hill, N. C.; Wake Forest College School of Medicine, Wake Forest, N. C.; Medical College of Ohio, Medical Department University of Cincinnati, Cincinnati, Ohio; Miami Medical College, Cincinnati, Ohio; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, Cleveland, Ohio; Western Reserve University Medical College, Cleveland, Ohio; Ohio Medical University, Columbus, Ohio; Starling Medical College, Columbus, Ohio; Toledo Medical College, Toledo, Ohio; University of Oregon Medical Department, Portland, Ore.; Willamette University Medical Department, Salem, Ore.; Medico-Chirurgical College of Philadelphia, Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, Pa.; Western Pennsylvania Medical College, Medical Department Western University of Pennsylvania; Meharry Medical College, Medical Department Walden University, Nashville, Tenn.; University College of Medicine, Richmond; West Virginia University Medical Department, Morgantown, W. Va.; Milwaukee Medical College, Milwaukee, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.

The secretary-treasurer of the Association is Dr. Fred C. Zapffe, 1764 Lexington St., Chicago.

SOUTHERN MEDICAL COLLEGE ASSOCIATION.

The requirements for admission to the freshman year are exacted by the colleges belonging to this association.

ART. IV. SEC. 3. He must possess a diploma of graduation from some literary or scientific institution of learning, or a certificate from some legally constituted high school, general superintendent of state education, or superintendent of some county board of public education, attesting that he has been regularly examined and is possessed of at least the educational attainments required of first-grade teachers of public schools, or a certificate that he has passed the entrance examination to a University. A student may be given one month from the date of his admission to submit his certificate of qualification, and if he fails to possess the requisite educational qualifications in one or more branches, he may matriculate and attend his first course of lectures, but must present the requisite certificate before matriculating in the second course, and all tickets or certificates issued in such cases must have the conditions printed plainly on the face of each.

A candidate for graduation (among other provisions), "must have attended, in a regular and reputable medical college, four full courses of lectures, of not less than six months (26 weeks) each, in four separate years, which is construed to mean that no two courses shall either commence or close in the same calendar year—that is, between January 1 and the ensuing December 31." (Art. VI, Sec. 2.)

The following colleges are members:

Medical Department University of Tennesesee, Nashville, Tenn.; Medical Department University of Nashville, Nashville, Tenn.; Medical Department University of the South, Sewanee, Tenn.; Medical Department Vanderbilt University, Nashville, Tenn.; Medical Department Fort Worth University, Fort Worth, Texas; Medical College of Virginia, Richmond, Va.; Tennessee Medical College, Knoxville, Tenn.; Medical College of Alabama, Mobile, Ala.; Birmingham Medical College, Birmingham, Ala.; University College of Medicine, Richmond, Va.; Medical Department Baylor University, Dallas, Texas; Medical Department, University of Mississippi, Oxford, Miss.

The secretary-treasurer is Dr. G. C. Savage, Nashville, Tenn.

NATIONAL CONFEDERATION OF ECLECTIC MEDICAL COLLEGES.

The following are the present minimum requirements for admission to colleges members of this association.

1. Good English education, to be attested by (a) first grade teacher's certificate; or (b) a diploma from a graded high school, or literary or scientific college or university; or (c) regents medical students certificate; or (d) entrance examination covering a good English education including an elementary knowledge of natural history, physics and Latin.

2. Graduates from pharmaceutical, dental, and veterinary colleges may be allowed one year's time on a four-year medical course, only on condition that they comply with the entrance requirements, and pass all examinations and perform all laboratory work embraced in the course of study of the Freshman year. One year's advanced standing may be given students with degrees from a recognized literary college.

3. The course of instruction shall consist of a four-year graded course or its equivalent, as herein prescribed, including four sessions of six months each in four different calendar years.

The following colleges are members of this confederation:

American Medical College, St. Louis, Mo.; Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.; California Medical College, San Francisco, Cal.; Eclectic Medical College of the City of New York, New York, N. Y.; Eclectic Medical Institute, Cincinnati, Ohio; Georgia College of Eclectic Medicine and Surgery, Atlanta, Ga.; Lincoln Medical College, Lincoln, Neb.; Kansas City Eclectic Medical University, Kansas City, Mo.

The secretary-treasurer is John K. Scudder, M.D., 1009 Plum St., Cincinnati, Ohio.

AMERICAN INSTITUTE OF HOMEOPATHY.

The minimum requirements for entrance into the freshman class of all homeopathic medical colleges, as adopted in 1901, are, with abbreviation, as follows:

1. English Composition. Exercise on assigned theme, not less than 200 words. Exercise in reading. Exercise in correction of ungrammatical sentences.

2. Mathematics. Arithmetical exercises in (a) vulgar fractions; (b) decimals; (c) percentage; (d) proportion; (e) square and cube root; (f) weights and measures; (g) decimal system. Mensuration. (a) Definition of terms; (b) exercises under the more fundamental rules.

3. Geography (general facts about North America).

4. History. General, with particular reference to human progress in art, science and letters. (The examination to avoid exact dates and minor details.)

5. Latin Language. (a) Grammar; (b) four books of Cæsar, or its equivalent.

The colleges recognized as in good standing by this organization are: Hahnemann Medical College of the Pacific; Denver Homeopathic Medical College; Hahnemann Medical College, Chicago; Chicago Homeopathic Medical College; Hering Medical College; Homeopathic Medical Department of the State University of Iowa; Southwestern Homeopathic College; Kansas City Hahnemann Medical College; Southern Homeopathic Medical College; Boston University School of Medicine; Homeopathic Medical College of University of Michigan; College of Homeopathic Medicine and Surgery of University of Minnesota; Homeopathic Medical College of Missouri; New York Homeopathic Medical College; New York Medical College for Women; Cleveland Homeopathic Medical College; Pulte Medical College; Hahnemann Medical College of Philadelphia.

The secretary is Dr. Chas. Gatchell, 100 State St., Chicago.

NAME OF COLLEGE.	Estimated population of city in which college is located.	No. of students registered session 1903-1904.	Graduates, 1904		Total number of teachers.	Number of weeks in college year.	Total graduates all colleges in state, 1904.	Total students in all colleges in state, 1903-4
			Men	Women				
ALABAMA							43	271
Birmingham Medical College.—R	38,000	104	5		29	26		
Medical College of Alabama.—R	"	167	38		21	26	19	115
ARKANSAS							140	628
Medical Department Arkansas University.—R	60,000	112	3	19		35	25	
CALIFORNIA	400,000	159	34	38	6	61	38	
Cooper Medical College.—R	"	100	13	24	3	70	39	
Medical Department University of California.—R	"	38	9	7	1	35	32	
California Medical College.—E	"	27	6	6	2	42	28	
Medical College of the Pacific.—H	"	109	15	27	2	46	34	
Hahnemann Medical College of the Pacific, San Francisco.—R	67,000	7	1			23	35	
College of Physicians and Surgeons.—R	102,479	101	9	21	3	39	30	
Oakland College of Medicine and Surgery.—R	103,624					57	35	
College of Medicine, University of Southern California.—R								56
College of Physicians and Surgeons, Los Angeles.—R								212
*College of Physicians and Surgeons	175,000	115	12	30	2	81	35	
COLORADO	"	26	6	7		32	30	
Denver and Gross College of Medicine.—R	6,150	46	6	17		27	38	
Denver Homeopathic College.—H								23
Colorado School of Medicine.—R	115,000	140		23		47	39	
CONNECTICUT								120
Yale University, Department of Medicine.—R	278,718	306		52		65	34	
DISTRICT OF COLUMBIA	"	140		33		53	34	
Columbian University, Department of Medicine.—R	"	138	17	32	4	32	31	
Georgetown University School of Medicine.—R								74
Howard University, Medical Department.—R								
GEORGIA	89,872	215		31		43	26	
Atlanta College of Physicians and Surgeons.—R	"	54		17		16	26	
Georgia College of Eclectic Medicine and Surgery.—E	39,441	115		26		25	26	
Medical College of Georgia.—R								824
ILLINOIS	1,900,000	61	27	14	7	35	39	
American Medical Missionary College.—R	"	103	12	7	3	42	32	
Bennett College of Eclectic Medicine and Surgery.—E	"	106	9	36	1	64	35	
Chicago Homeopathic Medical College.—H	"	50	20	9	2	41	35	
College of Medicine and Surgery.—Ph.M	"	642	53	198	16	144	36	
College of Physicians and Surgeons, Chicago.—R	"	117	21	38	11	70	30	
College of Physicians and Surgeons and Hospital.—H	"	215	15	16	2	63	40	
Hahnemann Medical College and Hospital.—H	"	64	28	17	12	46	30	
Harvey Medical College.—R	"	222	15	55	3	51		
Hering Medical College.—H	"	120	2	24		53	43	
Illinois Medical College.—R	"	587		133	7	112	34	
Jenner Medical College.—R	"	973	60	153	1	213	36	
Northwestern University Medical School.—R	"	228	6	19	1	76	36	
Rush Medical College.—R	"	237	23	22	1	66	33	
National Medical University	"	127	7	14	3	42	40	
American College of Medicine and Surgery.—E	"	18	2			12	39	
Chicago.—R	19,407							117
Dearborn Medical College, Galesburg.—R								560
Medical Department, Lombard College,	169,164	129	3	20	1	51	30	
INDIANA	"	202	10	79	1	68	30	
Central College of Physicians and Surgeons.—R	"	26	6	8	1	31	30	
Medical College of Indiana.—R	"	30		3		30	26	
Physio-Medical College of Indiana.—Ph.M	"	4	2	5		36	31	
Eclectic Medical College of Indiana.—E	45,115	17	1			9	38	
Fort Wayne College of Medicine.—R	7,000							130
Indiana University School of Medicine.—R								675
IOWA	91,515	61	4	13	2	42	39	
Drake University College of Medicine.—R	14,641	260	7	45		201	31	
Keokuk Medical College of Physicians and Surgeons.—R	33,111	53	6	12		26	34	
Sioux City College of Medicine.—R	7,987	35		9		24	38	
State University of Iowa, Homeopathic Medical Dept.—H	"	240	9	45	4	39	38	
State University of Iowa, Medical Department.—R								35
KANSAS	55,000	78	6	11		43	30	
College of Physicians and Surgeons of Kansas City.—R	33,608	92	12	15	9	33	32	
Kansas Medical College.—R	10,862	21	1			18	39	
School of Medicine, University of Kansas.—R								263
KENTUCKY	225,000	421		99		49	26	
Hospital College of Medicine.—R	"	272	3	57	1	50	32	
Kentucky School of Medicine.—R	"	248		61		28	30	
Louisville Medical College.—R	"	36	2	4		28	30	
Louisville National Medical College.—H	"	15	6	2	4	22	30	
Southwestern Homeopathic Medical College.—H	"	204	6	35	4	34	36	
Medical Department, University of Louisville.—R	"	370		71		34	26	
Kentucky University, Medical Department.—R								96
LOUISIANA	287,104	48	2	4	1	11	28	
Flint Medical College of New Orleans University.—R	"	438		91		46	28	
Tulane University, Medical Department.—R								22
MAINE	50,000	101		22		23	35	
Medical School of Maine, Bowdoin College.—R								172
MARYLAND	508,951	409		77		54	33	
Baltimore Medical College.—R	"	70	1	50	1	25	30	
Baltimore University School of Medicine.—R	"	343		83		49	32	
College of Physicians and Surgeons of Baltimore.—R	"	253	23	42	3	81	36	
Medical Department, Johns Hopkins University.—R	"	32	7	11	2	34	30	
Southern Homeopathic Medical College.—H	"	340		96		58	32	
University of Maryland, School of Medicine.—R	"		24		3	32	34	
Woman's Medical College of Baltimore.—R	"	223		104		38	30	
Maryland Medical College.—R								237
MASSACHUSETTS	603,163	81	18	27	5	62	35	
Boston University School of Medicine.—H	"	106	11	24	3	36	40	
College of Physicians and Surgeons.—R	"	364		133		149	39	
Harvard University Medical School.—R	"	341	53	50		108	36	
Tufts College Medical School.—R								228
MICHIGAN	300,000	260		72		71	32	
Detroit College of Medicine.—R	"	43	7	8	1	37	30	
Detroit Homeopathic Medical College.—H	"	109	1	25		36	34	
Michigan College of Medicine and Surgery.—R	87,565	47	2		1	32	30	
Grand Rapids Medical College.—R	14,509	384	34	91	10	78	38	
University of Michigan Dept. of Medicine and Surgery.—R	"	60	9	20	1	49	38	
University of Michigan Homeopathic Medical College.—H								88
University of Michigan			3	3	1	33	39	
MINNESOTA	225,000	15	7	67	1	102	38	
College of Homeopathic Med. and Surg., Univ. of Minn.—H	"	239	5	16		43	37	
College of Medicine and Surgery, Univ. of Minnesota.—R	"	81						
College of Medicine and Surgery, University.—R						11	37	
Medical Department of Hamline University.—R								
MISSISSIPPI	2,000	15	1					
Medical Dept., University of Mississippi, Oxford.—R								

*First session begins Oct. 1, 1904.

Name of College	Estimated population of city in which college is located	No. of students registered session of 1903-1904.		Graduates, 1904.		Total number of teachers.	Number of weeks in college year.	Total graduates all colleges in state, 1904.	Total students in all colleges in state, 1903-4.
		Men	Women	Men	Women				
MISSOURI								546	2,340
Medico-Chirurgical College.—R.	163,752	84	...	20	...	52	32	...	....
*Woman's Medical College.—R.	"	...	...	...	...	...	...	...	....
University Medical College of Kansas City.—R.	"	234	...	67	...	53	30	...	....
Kansas City Hahnemann Medical College.—H.	"	42	10	14	3	38	28	...	....
Kansas City Medical College.—R.	"	120	...	34	...	49	31	...	....
Eclectic Medical University.—E.	"	51	9	14	2	25	32	...	....
Central Medical College.—R.	105,000	66	6	13	...	28	30	...	....
Ensworth Medical College.—R.	"	94	...	19	...	32	30	...	....
Barnes' Medical College.—R.	575,238	442	43	116	9	22	32	...	....
Marion Sims Beaumont College of Medicine.—R.	"	407	...	93	...	99	32	...	....
St. Louis College of Physicians and Surgeons.—R.	"	250	...	47	...	53	30	...	....
American Medical College.—E.	"	76	...	12	...	17	30	...	....
Homeopathic Medical College of Missouri.—H.	"	50	7	9	1	31	28	...	....
Medical Department, Washington University.—R.	"	279	...	63	...	61	35	...	....
University of the State of Missouri.—R.	5,651	79	4	10	...	33	38	...	....
NEBRASKA								79	386
University of Nebraska College of Medicine.—R.	102,555	140	10	30	...	60	35	...	....
John A. Creighton Medical College.—R.	"	151	2	27	...	50	34	...	....
Lincoln Medical College of Cotner University.—E.	40,169	75	8	18	4	28	31	...	....
NEW HAMPSHIRE								13	68
Dartmouth Medical College.—R.	1,884	68	...	13	...	29	40	...	....
NEW YORK								504	2,575
Albany Medical College.—R.	100,000	173	...	41	...	62	32	...	....
College of Physicians and Surgeons.—R.	3,437,202	691	...	174	...	125	34	...	....
Cornell University Medical College.—R.	"	323	37	50	5	145	37	...	....
Eclectic Medical College.—E.	"	77	18	5	3	33	34	...	....
Long Island College Hospital.—R.	"	389	...	47	...	95	35	...	....
New York Homeopathic Medical College and Hospital.—H.	"	118	...	28	...	71	31	...	....
New York Medical College and Hospital for Women.—H.	"	...	33	...	5	41	31	...	....
University and Bellevue Hospital Medical College.—R.	"	342	...	61	...	107	36	...	....
Syracuse University College of Medicine.—R.	108,374	124	7	30	1	49	35	...	....
University of Buffalo, Medical Department.—R.	352,387	231	12	51	3	82	31	...	....
†Medical Department, Fordham College, New York.—R.	....	...	...	...	...	...	...	...	....
NORTH CAROLINA								42	209
Leonard Medical School.—R.	13,643	125	...	21	...	11	28	...	....
Wake Forest School of Medicine.—R.	823	18	...	...	...	10	39	...	....
North Carolina Medical College.—R.	904	83	1	17	...	21	35	...	....
Medical Department, University of North Carolina.—R.	13,643	72	...	4	...	29	38	...	....
OHIO	381,768	88	...	31	...	44	37	...	985
Western Reserve University Medical College.—R.	381,768	88	...	31	...	44	37	...	....
Cleveland College of Physicians and Surgeons.—R.	"	70	5	19	...	63	32	...	....
Cleveland Homeopathic Medical College.—H.	"	76	9	23	2	23	32	...	....
Eclectic Medical Institute.—E.	325,902	133	9	26	1	23	30	...	....
Medical College of Ohio.—R.	"	145	...	46	...	54	36	...	....
Pulte Medical College.—H.	"	20	2	7	...	35	31	...	....
Miami Medical College.—R.	"	92	11	22	5	60	35	...	....
Ohio Medical University.—R.	125,560	161	7	38	3	35	32	...	....
Starling Medical College.—R.	"	124	...	33	...	36	33	...	....
Toledo Medical College.—R.	131,822	32	1	7	...	36	33	...	....
OKLAHOMA								...	9
University of Oklahoma, Norman	3,682	9	...	4	...	4	36	...	....
OREGON								24	138
University of Oregon Medical Department.—R.	125,000	85	11	14	2	28	30	...	....
Medical Department, Willamette University.—R.	10,000	38	4	7	1	16	26	...	....
PENNSYLVANIA								493	2,300
Temple College of Philadelphia, Dept. of Medicine.—R.	1,293,697	54	9	2	...	40	39	...	....
University of Pennsylvania Department of Medicine.—R.	"	472	...	96	...	122	38	...	....
Hahnemann Medical College and Hospital.—H.	"	201	...	66	...	56	34	...	....
Jefferson Medical College.—R.	"	732	...	165	...	109	35	...	....
Woman's Medical College of Pennsylvania.—R.	"	...	159	...	43	48	34	...	....
Medico Chirurgical College of Philadelphia.—R.	"	414	...	70	...	82	35	...	....
Western Pennsylvania Medical College.—R.	321,616	257	2	50	1	102	35	...	....
PHILIPPINE ISLANDS								...	....
†San Tomaso University, Manila.—R.	150,000	...	...	...	...	...	...	...	....
PORTO RICO								...	....
†Medical Department Univ. of Porto Rico, San Juan.—R.	....	...	...	...	...	...	...	...	....
SOUTH CAROLINA								23	91
Medical College of the State of South Carolina.—R.	55,807	90	1	23	...	19	26	...	....
TENNESSEE								398	2,028
Tennessee Medical College.—R.	32,637	86	...	10	...	20	30	...	....
Knoxville Medical College.—R.	"	30	...	8	...	21	26	...	....
Medical Department of University of Nashville.—R.	80,865	301	...	41	...	27	39	...	....
Vanderbilt University Medical Department.—R.	"	168	...	34	...	36	30	...	....
University of Tennessee, Medical Department.—R.	"	154	...	30	...	28	30	...	....
Meharry Medical College.—R.	"	275	12	54	3	21	26	...	....
Memphis Hospital Medical College.—R.	102,320	566	...	153	...	28	30	...	....
University of the South.—R.	1,200	148	...	24	...	22	29	...	....
Chattanooga National Medical College.—R.	30,154	9	...	1	...	19	30	...	....
Chattanooga Medical College.—R.	"	249	3	36	1	28	27	...	....
University of West Tennessee, Medical Department.—R.	15,000	27	...	3	...	10	30	...	....
TEXAS								123	773
Medical Department Fort Worth University.—R.	35,000	105	1	8	1	32	27	...	....
University of Texas Department of Medicine.—R.	37,789	166	6	22	1	36	34	...	....
Baylor University College of Medicine.—R.	55,000	66	2	12	...	30	26	...	....
Physio Medical College of Texas.—P.M.	"	21	...	...	...	28	26	...	....
Dallas Medical College.—R.	"	205	7	28	...	30	26	...	....
Gate City Medical College, Texarkana.—R.	5,000	83	1	25	1	20	30	...	....
Southwestern University Medical College, Dallas.—R.	55,000	35	3	11	...	30	26	...	....
Bell Medical College, Dallas.—R.	"	69	3	13	1	15	26	...	....
VERMONT								55	225
University of Vermont Medical Department.—R.	20,000	225	...	55	...	42	31	...	....
VIRGINIA								97	571
Medical College of Virginia.—R.	85,050	219	...	41	...	43	33	...	....
University College of Medicine.—R.	"	188	...	25	...	44	33	...	....
University of Virginia Department of Medicine.—R.	6,449	164	...	31	...	21	38	...	....
WEST VIRGINIA								0	23
University of West Virginia, Morgantown.	2,100	23	...	...	...	8	38	...	....
WISCONSIN								51	234
Milwaukee Medical College.—R.	300,000	147	1	22	...	59	35	...	....
Wisconsin College of Physicians and Surgeons.—R.	"	83	3	28	1	50	34	...	....

*Not in session. †Not yet organized completely. *Can not obtain any information.

NAME OF COLLEGE.	Alabama, 533.	Arizona, 7.	Arkansas, 443.	California, 526.	Colorado, 183.	Connecticut, 300.	Delaware, 50.	Dist. Columb., 153.	Florida, 117.	Georgia, 479.	Idaho, 34.	Illinois, 2,258.	Indian Ter., 155.	Indiana, 940.	Iowa, 1,002.	Kansas, 618.	Kentucky, 616.	Louisiana, 482.	Maine, 208.	Maryland, 450.	Mass., 1,125.
Birmingham Medical College.—R.	94		1						5	1											
Medical College of Alabama.—R.	146								2												
Medical Department Arkansas University.—R.			93										10					3			
Cooper Medical College.—R.	1			104	1						1	4		2	7	4			2		
Medical Dept. University of California.—R.				106																	
California Medical College.—E.				47																	
Hahnemann Med. College of the Pacific.—H.				33																	
Col. of Physicians and Surgeons, San F.—R.				53		1						5		5	6	1		1			1
Oakland College of Med. and Surgery.—R.				8																	
College of Med., Univ. of So. California.—R.				72	2							5		3	2	1					
Denver and Gross College of Medicine.—R.	2				69	2					1	5		2	3	3	1		1		1
Denver Homeopathic College.—H.			1	1	17						1			1	1	1					1
Colorado School of Medicine.—R.					32							1			3				3		
Yale University, Medical Dept.—R.						108		1		1					1	1					12
Columbian Univ., Dept. of Medicine.—R.	1		1	2		3		57	1	5	1	14		6	2	2	5	4	3	27	8
Georgetown Univ. School of Medicine.—R.	1				1	3	1	37				1		2		1	1			4	27
Howard University, Medical Dept.—R.	3		2					33	5	9		2		3		3	2	1		4	2
National University, Medical Dept.—R.																					
Atlanta Col. of Phys. and Surgeons.—R.	21								14	158			1				1				
Georgia Col. of Eclectic Med. and Surg.—E.	3		1						1	48											
Medical College of Georgia.—R.					2	1			4	91											1
American College of Med. and Surgery.—E.																					
American Medical Missionary College.—R.				6											12	1			1		1
Bennett Col. of Eclectic Med. and Surg.—E.			1								1	65		7	4						
Chicago Homeopathic Medical College.—H.				2								45		12	14	8	2				
College of Medicine and Surgery.—Ph.M.	1		2	2	2	1						35		5	2			1		2	1
College of Phys. and Surgeons, Chicago.—R.			3	5	2	2					1	372	1	32	75	11	3	2			1
Hahnemann Med. College and Hospital.—H.			1	2		1			1		1	49		3	17	7	2				1
National Medical University.	1		1	1	3					1	1	154	1	5	11	3	2	1	1		1
Hering Medical College.—H.				5								38		2	3	7	3				
Illinois Medical College.—R.	1		3	1						1	1	86	1	45	7	1	2	4	1		
Jenner Medical College.—R.	1		1	1						1		83		4	3	2	2	1			
Dearborn Medical College.												134									
Northwestern University Med. School.—R.			1	2	1						5	243		22	88	9	1	3		1	
Rush Medical College.—R.	4	3	18	20	10	3		2		3	4	322	2	80	103	31	9	3	2		5
Central Col. of Physicians and Surgeons.—R.												6		111	1	1					
Indiana University School of Medicine.												1		17							
Medical College of Indiana.—R.												20		264		1					
Physio-Medical College of Indiana.—Ph.M.												10		13	1						
Eclectic Medical College of Indiana.											1			28							
Fort Wayne College of Medicine.—R.														34							
Drake University, College of Medicine.												3			55	2					
Keokuk Medical Col. of Phys. and Surgs.—R.				1	4	1						59	1		164	23					
Sioux City College of Medicine.—R.												1			45	1					
State Uni. of Iowa Medical Dept.—R.				1								10			228						1
State Univ. of Iowa, Homeo. Med. Dept.—H.															34						
Col. of Phys. and Surgs. of Kansas City.—R.			2										2	1		56					
Kansas Medical College.—R.					2			1								91					
School of Medicine, University of Kansas.																22					
Hospital College of Medicine.—R.																					
Kentucky School of Medicine.—R.																					
Louisville Medical College.—R.	9		10	2	2				4	5		1	5	21	2	14	50	7			
Louisville National Med. College.—R.	1											1	1	3			28				
Kentucky University, Medical Dept.—R.	5		5			2			1	4		4	1	52	1	2	174	7	1		1
Medical Dept., University of Louisville.—R.			2									3		25			114	5			
Southwestern Homeopathic Med. College.—H.												1		5			14				
Flint Med. College of New Orleans Univ.	1																	29			
Tulane University, Medical Dept.—R.	32		21						9	7		1	2	1				209			
Medical School of Maine, Bowdoin Col.—R.																			88		10
Baltimore Medical College.—R.	1		1	2		18		5	1			1					1		13	67	69
Baltimore Univ. School of Medicine.—R.						2			1	2								1	1	6	6
Col. of Phys. and Surgs. of Baltimore.—R.					1	18	7			7		1		3			1		4	48	20
Maryland Medical College.—R.	12			1		3	2		2	19									4	4	34	12
Medical Dept., Johns Hopkins Univ.—R.	7		1	8	2	14		3	4	6		6		7	9		6		11	52	9
Southern Homeopathic Med. College.—H.							4	1									1			17	1
Univ. of Maryland, School of Medicine.—R.				1		2	4	2	4	15							2	1	1	143	6
Woman's Medical College of Baltimore.—R.								2		1				1			1			11	
Boston University School of Medicine.—H.						2			1										3	1	71
College of Physicians and Surgeons.—R.				1		3		1											1	1	79
Harvard University Medical School.—R.	1			3	1	4						8			1				18		266
Tufts College Medical School.—R.						3													15		326
Detroit College of Medicine.—R.								1			1				2		1				1
Detroit Homeopathic Medical College.—H.														1							
Grand Rapids Medical College.—R.														2							
Michigan College of Med. and Surgery.—R.																	1				
Univ. of Mich. Dept. of Med. and Surg.—R.	2			1	1	1			2	3	1	22	1	15	11	3	1				5
Univ. of Mich. Homeopathic Med. Col.—H.				1	1							1		3				1	2		2
Col. of H. Med. and Surg., U. of Minn.—H.																					
College of Med. and Surg., Univ. of Minn.—R						1						1			9	1					
Medical Dept. of Hamline University.—R.																					
Medical Dept. University of Mississippi.																					
American Medical College.—E.			6												2	1	1				
Barnes Medical College.—R.	1		23	4	4			1			2	85	14	13	17	14	14	2			
Central Medical College.—R.					1						1		1		1	10					
Eclectic Medical University.—E.			1	1	1								1			25					
Ensworth Medical College.—R.												1			6	10					
Homeopathic Med. College of Missouri.—H.																					
Kansas City Hahnemann Med. College.—H.												2	1			70					
Kansas City Medical College.—R.												2	1			70					
Marion-Sims-Beaumont Col. of Medicine.—R.		1	7	2	3					1	1	134	1	3	16	18	3	2			1
Medical Dept., Washington University.—R.	1		13		3						4	66	6	2	3	7	1	2			
Medico-Chirurgical College.—R.			3		1						1	1	1		2	30					
St. Louis College of Phys. and Surgeons.—R.			9		2							70	3	5	14	4	10				
University Med. College of Kansas City.—R.			1	2	1							1	4		5	78					
Medical Dept., University of Missouri.—R.	1		2	1								4		2	3	3	1				
Woman's Medical College.—R.																					
John A. Creighton Medical College.—R.											1	1			29	2					
Lincoln Medical College of Cotner Univ.—E.															3	10					
Univ. of Nebraska College of Medicine.															20	1					
Dartmouth Medical College.—R.						5													5		20
Albany Medical College.—R.																					6

Michigan, 811.	Minnesota, 453.	Mississippi, 541.	Missouri, 1,208.	Montana, 38.	Nebraska, 434.	New Hamp., 120.	New Jersey, 508.	New Mexico, 19.	New York, 2,439.	Nevada, 10.	N. Carolina, 416.	N. Dakota, 67.	Ohio, 1,120.	Oklahoma, 105.	Oregon, 150.	Penna., 2,077.	Rh. Island, 114.	S. Carolina, 242.	So. Dakota, 92.	Tennessee, 652.	Texas, 1,153.	Utah, 67.	Vermont, 160.	Virginia, 523.	Washington, 105.	West Va., 329.	Wisconsin, 561.	Wyoming, 13.	Canada, 210.	Foreign, 356.	Total, 25,777
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3	2	...	1	1	...	...	2	...	4	6	...	...	...	...	6	4	...	...	...	...	2	2	...	4	...	2	...	6	22	193
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2	...	...	2	...	3	...	1	...	3	2	...	...	4	...	2	1	1	...	...	...	1	3	1	1	...	...	...	3	21	124
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5	...	...	3	...	3	...	...	2	5	...	...	...	...	...	3	3	...	...	...	...	...	...	...	3	...	...	...	3	...	110
2	...	...	1	...	4	...	...	...	6	...	1	...	2	...	...	3	...	...	...	...	1	...	2	2	...	3	2	1	4	127
1	1	...	1	...	1	...	...	...	1	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	32
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Sewanee Medical College.—R.....	13	...	3	...	...	...	...	...	3	11	...	1	1	...	...	1	...	19	...	...	...
Tennessee Medical College.—R.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	...	...	...	...
Univ. of West Tennessee, Medical Dept.—R..	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
University of Tennessee, Medical Dept.....	7	...	5	1	...	1	...	...	1	...	...	2	3	...	...	...	16	3	...	...	...
Vanderbilt University Medical Dept.—R....	15	...	4	...	...	1	...	...	2	5	...	2	1	...	...	...	13	3	...	1	...
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Bell Medical College	...	...	3	...	...	...	...	...	...	...	...	1	5	...	...	1	...	...	...	...	...
Dallas Medical College.—.....	...	2	4	2	...	...	...	...	...	...	...	...	28	...	1	2	...	8	...	...	...
Medical Dept. Fort Worth University.—R....	...	...	3	...	1	...	...	...	...	...	...	1	4	1	1	...	...	3	...	...	...
Gate City Medical College	1	...	23	...	...	...	...	...	...	...	...	...	14	1	...	...	...	7	...	...	...
Physio-Medical College of Texas.....	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Southwestern University Medical College...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Univ. of Texas Dept. of Medicine.—R.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Univ. of Vermont Medical Dept.—R.....	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	7	...	27
Medical College of Virginia.—R.....	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2
University College of Medicine.—R.....	1	...	...	...	...	...	...	...	5	1	...	...	...	...	...	...	...	...	...	...	1
University of Virginia Dept. of Medicine.—R.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
West Virginia University	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Milwaukee Medical College.—R.....	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Wisconsin College of Phys. and Surgs.—R...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Aug. 6, 1904:

Klersted, H. S., asst.-surgeon, left Fort Myer, Va., with Fourth Battery Field Artillery and Troop E, Fifteenth Cavalry en route to Harper's Ferry, W. Va.

Baily, Howard H., asst.-surgeon, reported for duty at Plattsburg Barracks, N. Y.

Stephenson, William, and Kendall, Wm. P., surgeons, Edger, Benj. J., Rockhill, E. P., Winn, Robt. N., Truby, Albert E., Baker, F. C., and Rand, Irving W., asst.-surgeons, detailed for duty with troops on field exercises at the Rancho del Encinal, San Luis, Cal., in pursuance of G. O. 27 C. S., Department of California.

Godfrey, G. C. M., asst.-surgeon, relieved from duty at Fort Apache, Arizona Territory, to take effect on Sept. 1, 1904, and will proceed to New York City, N. Y., and assume the duties of attending surgeon and examiner of recruits and medical superintendent Army transports.

McCulloch, C. C., Jr., asst.-surgeon, on being relieved at New York City by Capt. Godfrey, asst.-surgeon, will proceed to Fort Hancock, N. J., and report to the commanding officer of that post for duty, to relieve Capt. B. H. Dutcher, asst.-surgeon, U. S. Army.

Dutcher, Basil H., asst.-surgeon, on being relieved at Fort Hancock, N. J., by Capt. McCulloch, Jr., asst.-surgeon, will proceed to Fort Apache, Ariz., and report to the commanding officer of that post for duty.

Geer, Charles C., asst.-surgeon, reports from sick in U. S. Army General Hospital, Washington Barracks, D. C., to sick leave of absence for three months.

Bevans, Jas. L., asst.-surgeon, granted twenty days' leave of absence.

Gardner, Edwin F., deputy surgeon general, retired from active service this date as lieutenant colonel.

Appel, Daniel M., deputy surgeon general, promoted deputy surgeon general with rank of lieutenant colonel from Aug. 3, 1904.

Winter, Francis A., surgeon, promoted surgeon, U. S. Army, with rank of major to date from Aug. 3, 1904.

Jean, Geo. W., asst.-surgeon, reported for temporary duty at Fort Wadsworth, N. Y., left from temporary duty at Fort Jay, N. Y., same date.

Bosley, Jno. R., asst.-surgeon, reported for duty at Fort Egbert, Alaska.

Raymond, Thos. N., surgeon, detailed to represent Medical Department of the Army at meeting of American Roentgen Ray Society, St. Louis, Mo., Sept. 9 to 13, 1904.

Foster, Douglas E., contract dental surgeon, ordered to Fort Monroe, Va., for two months' duty.

Browo, Henry D., contract surgeon, returned July 23 to duty at his proper station, Fort Ward, Washington, from temporary duty at Fort Casey Washington.

White, J. Samuel, contract surgeon, returned July 28 to duty at his proper station, Fort Snelling, Minn., from temporary duty at Fort Keogh, Mont.

Woods, Oscar W., contract surgeon, returned July 25 to duty at his proper station, Vancouver Barracks, Wash., from temporary duty at Fort Stevens, Wash.

Decker, George M., contract dental surgeon, departed July 29 from Fort Logan, Colo., for his home at Owego, N. Y.

Slater, Ernest F., contract surgeon, returned to duty July 30 at Fort Hancock, N. J., from leave of absence.

Halliday, Francis A., contract surgeon, ordered from Fort McPherson, Ga., to Fort Screven, Ga., for temporary duty.

Stearns, Charles H., contract surgeon, ordered from Fort Monroe, Va., to Fort Washington, Md., for temporary duty.

Jones, John F., contract surgeon ordered from Fort Totten, N. Y., to Fort Terry, N. Y., for temporary duty.

Corbusier, Harold D., contract surgeon, ordered from Fort Mansfield, R. I., to Fort Greble, R. I., for temporary duty.

Hess, John H., contract examining and supervising D. S., ordered from West Point, N. Y., to Watervliet Arsenal, N. Y., for temporary duty and return.

Michigan, 811.	Minnesota, 453.	Mississippi, 541.	Missouri, 1,208.	Montana, 38.	Nebraska, 434.	New Hamp., 120.	New Jersey, 508.	New Mexico, 19.	New York, 2,439.	Nevada, 10.	N. Carolina, 416.	N. Dakota, 67.	Ohio, 1,120.	Oklahoma, 105.	Oregon, 150.	Penna., 2,077.	Rh. Island, 114.	S. Carolina, 212.	So. Dakota, 92.	Tennessee, 652.	Texas, 1,153.	Utah, 67.	Vermont, 160.	Virginia, 523.	Washington, 10.	West Va., 329.	Wisconsin, 561.	Wyoming, 13.	Canada, 210.	Foreign, 356.	Total, 25,777
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Corbusier, Harold D., contract surgeon, returned August 2 to duty at Fort Mansfield, R. I., from leave of absence.

Tigner, Edwin P., contract dental surgeon, ordered from Fort Riley, Kan., to Fort Robinson, Neb., for one month's duty, thence to Fort Des Moines, Iowa, for one month's duty, then to return to Fort Riley.

Foster, Douglas E., contract dental surgeon, returned August 1 to duty at Fort Hancock, N. J., and August 3 proceeded to Fort Monroe, Va., for two months' duty.

Hussey, Samuel W., contract dental surgeon, returned August 1 to Fort Snelling, Minn., having completed an eight months' tour of duty of the posts in the Department of Dakota.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General Public Health and Marine-Hospital Service, during the week ended Aug. 5, 1904:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, July 23-30, 1 case.
Florida: At large, July 23-30, 13 cases.
Illinois: July 23-30, Chicago, 5 cases; Danville, 1 case, Springfield, 3 cases.
Iowa: Clinton, July 16-30, 4 cases.
Louisiana: July 23-30 Baton Rouge, 3 cases, New Orleans, 1 case traced to importation.
Michigan: At 78 localities, July 16-23, present
Missouri: St. Louis July 17-30, 2 cases.
Nebraska: Omaha, July 23-30, 2 cases.
New Jersey: Jersey City, July 17-24, 2 cases.
New York: New York City, July 23-30, 1 case
Pennsylvania: Johnstown, July 23-30, 1 case
Tennessee: Nashville, July 23-30, 1 case.
Washington: Tacoma, July 18-25, 2 cases.
Wisconsin: Milwaukee, July 25-30, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, July 2-16, 8 cases; Vienna, July 9-16, 1 death
Brazil: Bahia, July 2-9, 8 cases; Rio de Janeiro, June 12-26, 304 cases, 124 deaths.
China: Hongkong, June 11-18, 1 case, 1 death.
France: Paris, June 9-16, 9 cases, 2 deaths.
Great Britain: Leeds, July 16-23, 6 cases; July 2-9, Newcastle-on-Tyne, 23 cases; Sheffield, 2 cases; Nottingham, July 9-25, 20 cases.
India: Calcutta, June 18-July 2, 2 deaths.
Italy: Palermo, July 2-16, 11 cases, 2 deaths.
Mexico: City of Mexico, July 10-17, 2 cases, 3 deaths.
Peru: Arequipa, June 18, epidemic.
Russia: Moscow, June 25-July 9, 29 cases, 7 deaths; Odessa, July 9-16, 1 case; St. Petersburg, July 2-16, 9 cases, 2 deaths; Warsaw, 34 deaths.
Spain: Barcelona July 10-26, 9 deaths.
Turkey: Beirut, July 9-16, present: Constantinople, July 3-17 9 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, June 12-26, 6 cases, 3 deaths
Costa Rica: Limon, July 17-23, 1 case, 1 death.
Ecuador: Guayaquil, June 29-July 13, 13 deaths.
Mexico: Centzacoalcos, July 9-16, 1 death; July 10-23, Merida, 9 cases; Tehuantepec, 10 cases, 7 deaths; Vera Cruz, July 16-23, 3 cases.

CHOLERA.

China: Hongkong, June 11-18, 3 cases, 3 deaths.
India: Calcutta, June 18-July 2, 39 deaths.
Persia: Teheran, June 25-July 9, 300 deaths daily
Turkey in Asia: June 28, 481 cases, 852 deaths Bahrein Islands, May 1-June 1, 1,500 deaths.

PLAGUE.

Africa: Cape Colony, June 18-25, 1 case, 1 death; Durban, May 28-June 4, 2 deaths; Johannesburg, June 5-12, 1 case
Brazil: Bahia, July 2-9, 5 cases, 2 deaths; Rio de Janeiro, June 12-26, 3 cases, 3 deaths.
China: Amoy, June 4-25, 45 deaths, estimated; Canton and vicinity, June 2, increasing; Hongkong, June 11-18, 53 cases, 52 deaths.
Egypt: June 18-25, 36 cases, 16 deaths.
Formosa: June 11-25, 178 cases, 129 deaths.
India: Calcutta, June 18-July 2, 31 deaths; Karachi, June 26-July 3, 1 case, 1 death.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Academy of Ophthalmology and Otolaryngology, Denver, August 24-26.
Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.
Oregon State Medical Association, Portland, August 30-31.
Wyoming State Medical Society, Rawlins, September 13.
American Electro-Therapeutic Assn., St. Louis, September 13-15.
American Association of Obstetricians and Gynecologists, St. Louis, September 13-16.
Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.

BRITISH MEDICAL ASSOCIATION.

Seventy-Second Annual Meeting, held at Oxford, July 26-30, 1904.

(From Our British Correspondent.)

The President, Dr. Collier, Oxford, in the Chair.

A Large and Successful Meeting.

About 1,600 members attended and were accompanied by members of their families and guests to the number of 1,000. The authorities of the ancient university freely placed at the disposal of the association their ample buildings, and this large number was provided for without crowding. All the official arrangements were excellent in design and execution, and nothing seemed to be left undone to provide for the comfort of the members and guests and the success of the meeting.

Opening Exercises—The Association Declared Prosperous.

As usual the meeting opened with a religions service in the cathedral, where the master of University College, the Rev. Dr. Bright (appropriately enough a son of the great Bright, whose name is often used in connection with diseases of the kidneys) preached the sermon. The retiring president, Dr. Griffiths, in his valedictory address, said that the association had now come to the close of the first year of the new constitution. The association is divided into local "divisions," every member of which has a voice in their management, and through their "representatives" in the policy of the whole association. There are now 300 divisions which cover the United Kingdom and its colonies. The association has as a result greater power of promoting the interests of the profession, greater power to improve the public health, and greater power of influencing parliament.

The financial position of the association is most satisfactory, the excess of income over expenditure for 1903 amounting to $27,000. Of the foreign distinguished guests of the association the Americans greatly predominated and amounted to about half the entire number. They included Professors Osler, Deaver, Gilchrist, MacCallum, Rodman, Tyson, and Dr. George H. Simmons.

Conferring of Degrees.

An interesting and quaint ceremony was performed in the famous Sheldonian Theater—the conferment by Oxford University of the degree of D.Sc. *honoris causa* on eminent members of the association and guests, namely: Prof. Clifford Allbutt, Mr. Andrew Clark (chairman of the council of the association), Dr. Griffiths (the retiring president), Mr. Jonathan Hutchinson, Sir William MacEwen, Sir Patrick Manson, Sir John Moore and Professor Osler.

Medical Defense.

In the afternoons the representatives of the various local branches of the association waged keen discussions on many thorny subjects of medical politics. The subject of medical defense attracted great interest, and has been before the association for some time. At the last annual meeting, held at Swansea the council appointed a committee to consider whether the general or individual defense of its members should be undertaken by the British Medical Association and to draw up a scheme. The general feeling of the meeting was strongly in favor of medical defense, but it was thought that it should be optional and not made compulsory for the members of the association to join in it. After a heated discussion it was resolved by a large majority to refer back the scheme to the original committee for reconsideration, with instructions to provide for amalgamation with the existing defense societies, and to submit the new scheme to the divisions of the association before the next annual meeting of the representatives.

(To be continued.)

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Fourteenth Annual Meeting, held at Atlantic City, N. J., June 6, 1904.

(Continued from page 420.)

Report of Secretary-Treasurer.

The report of the Secretary-Treasurer was called for and read, as follows:

To the President and Delegates:—When I was honored with this position, I realized and appreciated fully all that the Association expected of its Secretary, and, therefore, I entered on the duties of this office fully cognizant of what lay before me, and determined to do all I could to further the interests of this Association in its effort to elevate medical education.

On taking up the work I found that the records were scanty and incomplete, so that it was impossible to glean from them anything that would have aided me in my work. My first effort was to make the Secretary's office a bureau of information for the members of the Association. With this end in view I set about collecting the proceedings of all the meetings held since the organization of the Association in 1891. I succeeded in procuring all of the transactions, with the exception of those of the meetings held in 1893, 1894 and 1895. I was unable to obtain these records from anyone, and, thus far, I do not know who were the officers of the Association during those years, nor what work was done. I shall be glad to receive this information from such members as are in a position to supply it.

ASSOCIATE AND HONORARY MEMBERS.

Permit me in this connection to call your attention to Article iv, Section 1, which empowers the Association to elect associate and honorary members. Associate members shall consist of former representatives and representatives of postgraduate medical schools, and members of state boards of medical examiners. Distinguished teachers of medicine and surgery may be elected to honorary membership. The following were elected to honorary membership in the Association in 1895, at Baltimore: H. P. Bowditch, George M. Sternberg, J. M. Da Costa, Levi Cooper Lane, Hunter McGuire, T. Gaillard Thomas.

It appears that the Secretary's office, apparently, has not had the broad scope it should have, nor have the members made use of it during the intervals between the meetings. In order to remedy this defect, I have endeavored to keep in touch with all the colleges during the past year, and also, but to a less extent, with colleges who are not members, in order that I would be in a position to furnish any information that might be desired. It has been a very difficult and arduous task, largely by reason of the fact that it was a new department. I found, much to my surprise, that few of the members were aware of the existence of this office, judging from the little use there was made of it, but every assistance was given me in my work, many courtesies were shown me by the colleges, and for this I wish to express my gratitude and appreciation.

Necessarily, the correspondence has been unusually heavy during the year, but I believe that it has been productive of much good. Many letters have been received from prospective medical students inquiring as to the names of the colleges in certain cities that are members of the Association, for the reason that they wished to attend a college that was a member in preference to attending one that was not. Many inquiries were also received from colleges, both members and non-members, with reference to the laws of the Association and the work done by it. All this, I take it, is an indication that this Association is recognized as a potent factor in medical education, and that its labors are appreciated by all.

COMMITTEE ON MEDICAL EDUCATION.

In this connection, permit me to suggest the appointment of a committee of one to confer with similar committees from the American Medical Association, the National Confederation of State Licensing and Examining Boards, the Southern Medical College Association and the national associations of the several

medical sects. The purpose of these committees is to further medical education by establishing a uniform standard of requirements for entrance to and graduation from medical schools. The appointment of such a committee will do much to harmonize the work done by these various associations.

As soon as the copies of the proceedings of the New Orleans meeting were delivered to me by THE JOURNAL of the American Medical Association, I forwarded one copy to each college in the United States, members and non-members, and an additional copy to each delegate present at that meeting. Colleges members of the Association also received a copy of the Constitution and By-Laws, which I compiled from previous proceedings and had printed, believing that it would assist the members in their work. This pamphlet also contained a list of the members of the Association, the rules of the Judicial Council and the recommendations submitted to the Association by the Committee on Uniformity of Records at the Saratoga meeting.

CORRECTION IN PROCEEDINGS OF LAST YEAR.

My attention has been called to an omission in the published transactions in the new Article iii, Section 5. The following line was dropped accidentally: "Annual course to have been of not less than seven months' duration." By referring to the copy of the former Secretary, I find that this line was omitted, although it appears in its proper place on page 17 of the transactions, and also in the Constitution.

CHANGES IN MEMBERSHIP.

During the year the following changes have taken place that concern the Association directly: The Jefferson Medical College of Philadelphia withdrew from membership in January of this year. The Barnes Medical College of St. Louis, Mo., was dropped from the membership roll because of non-payment of dues for the year 1903. Several notices were sent this college, as well as a personal letter to the secretary of the college, but all failed to elicit a reply. The Laura Memorial College of Cincinnati, O., was absorbed by the Miami Medical College of the same city. The National University Medical Department of Washington, D. C., was merged into the Columbian University Medical Department. The Omaha Medical College became the Medical Department of the University of Nebraska. The Medical Department of the University of Missouri established a full four years' course of nine months each. Their application for recognition is in the hands of the Judicial Council.

NEW COLLEGES.

The following colleges have been founded during the year: College of Physicians and Surgeons, Los Angeles, Cal.; Medical Department University of Indiana (first two years), Bloomington, Ind.; Fordham College, Medical Department, New York; Medical Department, Lombard College, Galesburg, Ill.; Bell's Medical College, Dallas, Texas; University of West Virginia Medical Department, Morgantown, W. Va.

APPLICATIONS FOR MEMBERSHIP.

Applications for membership were received from the College of Physicians and Surgeons of San Francisco, Cal.; the Medico-Chirurgical College of Kansas City, Mo.; the Medical Department of the Universtiy of West Virginia, of Morgantown, W. Va., and the Medical Department of the University of Mississippi, of Oxford, Miss. All these applications were referred to the Judicial Council for further action.

VISITATION AND INSPECTION.

In accordance with the suggestions contained in the report of the previous Secretary, which was approved by the Association, and acting on the instructions of the chairman of the Judicial Council, your Secretary undertook the work of visiting the colleges members of the Association, and continued this work until it was discovered that no specific appropriation for this work had been made, although Dr. Hall's report stated that $400.00 be appropriated annually to defray the expenses of such visitations. In the meantime, the following colleges were visited: The College of Medicine and Surgery of the University of Minnesota, the College of Medicine of Hamline University, the Milwaukee Medical College, the Wisconsin College of Physicians and Surgeons, the Medical Department of the Georgetown University, Medical Department Columbian University, Medico-Chirurgical College of Philadelphia, Jefferson Medical College and Woman's Medical College of Philadelphia. I have not made out a detailed report of the result of these visitations, waiting until the Association had decided definitely as to the nature of the report to be submitted. The data are in hand and a report can be filed at any time hereafter.

After having made these few visitations, and on attempting to make a detailed report, it became evident to me that it would be desirable to have an inspection sheet or report, to be filled out at the time of such visitations, and to be signed by an official of the college visited, thus procuring full and exact information as to the facilities for teaching possessed by the college. This blank also would be of service in reporting on colleges making application for membership in the Association. With this end in view, your Secretary, with the co-operation of the chairman of the Judicial Council, Dr. Means, prepared a blank which is submitted herewith for your consideration. This blank, it will be seen, contains a vast fund of information that will be of value not only to the Association, but also to educators of all classes. The Judicial Council has made use of this blank in a number of instances, and has found it of great assistance in the work of passing on the eligibility of applicants for membership.

[The blank asks for the following facts:]

1. Name of school. 2. Address. 3. When founded. 4. Dean. Secretary. 5. Population of city in which you are located. 6. Number and name of medical colleges in your city. 7. Number and name of hospitals in your city open to you for clinical work. Charity beds in each. Private beds in each. Maternity beds in each that can be used for clinical purposes.

8. Describe in detail your college building or buildings. 9. Estimated value. (a) Of buildings. (b) Of equipment. 10. What endowment, if any. 11. Are you connected in any way with a university? If yes, what is the connection? 12. Are the buildings owned by the college corporation? 13. Have you any funds other than the income from students?

14. How many lecture or recitation rooms in the college buildings? Size of each as to seating capacity. 15. Give equipment of laboratory for histology, embryology, biology, pathology, bacteriology, physiology, chemistry, other laboratory departments. 16. How many microscopes? Old. Modern. 17. Are any of your teachers salaried? If yes, which ones and how? 18. What facilities have you for getting dissecting material?

19. Corps of instructors: Number of professors, associate professors, assistant professors, lecturers, demonstrators, assistants, etc.

20. Students: Number of matriculants. Number of students in attendance. Freshmen. Sophomores. Juniors. Seniors. Special. Co-educational. Do you draw color line? Number graduated at the close of last session. 21. Do you adhere strictly to a four years' graded course? 22. How do you determine the standing of the students? (a) by term examinations? (b) by recitation grades? (c) Or both?

23. Length of course: (a) How many years of attendance are required for graduation? (b) How many actual teaching weeks in each session (including examinations)? (c) On what date does regular session begin? (d) On what date does it close? (e) If a continuous course, how many semesters? (f) How many semesters are required to complete an annual session? (g) How many hours are devoted to college work by student during first year? Second year? Third year? Fourth year? (h) How many hours during the four years are devoted to: D.—Didactic work (including lectures, quizzes, class demonstration)? L.—Laboratory teaching? A. C.—Amphitheater clinics? D. C.—Dispensary clinics? 24. Name subjects taught during first year, second year, third year, fourth year. State whether taught by D., L., A.C., D.C. 25. Have you any electives? If so, state which subjects and how many of each. 26. Are amphitheater clinics held in college building or in an affiliated hospital? If hospital, which one? 27. Is attendance on all clinics obligatory? 28. Have you a library? If yes, give details as to size, scope, management and how supported. 29. Have you a museum? If yes, give details as to size, scope and whether it is used in connection with the teaching. 30. What teaching facilities have you in the line of charts, models, stereopticons, photographic equipment, static machine, *x*-ray apparatus, etc.?

31. Do you grant scholarships? If yes, how is such grant determined? 32. Do you make any reduction in fees? If yes, to whom? 33. Fees: (a) Annual charge for tuition. (b) Graduation or examination fees. (c) Caution fee (breakage). (d) Dissection or other laboratory fee. (e) Amount of total fee for the entire annual course, including all charges.

34. On what minimum requirements, other than examination, do you admit students? 35. By whom are students who do not have proper credentials examined relative to their primary education? 36. What is the percentage of rejections of those who are examined? 37. Do you condition students? State conditions. 38. Do you grant any time credits for degrees or work done elsewhere? If yes, explain fully. 39. Do you grant work credits? If yes, explain fully. 40. Are you willing to bear the expense necessary for a personal examination of your institution by one or two members of the judicial council or by the secretary and the chairman of the judicial council?

STATISTICAL STUDY OF MEDICAL COLLEGES.

Another duty devolving on your Secretary was entailed by the suggestion and recommendation contained in the report of the previous Secretary, to the effect that the Secretary make a detailed study of all the medical colleges of this country, the report to embody the requirements for admission and the various conditions of admission set forth in the curricula of such colleges, and the facilities offered for giving the courses, and such other details as may be advisable. It is, of course, impossible to prepare such a report as was contemplated by the previous Secretary, within a year, although its desirability is evident. Comparatively few of the colleges responded to the request for a catalogue, and in many instances the catalogues do not contain all the information necessary for the preparation of such a detailed and lengthy report. As soon as the

work of visitation and inspection is resumed, the preparation of the report can be proceeded with as was contemplated in the recommendation, because the information can be obtained directly from the college much more correctly and expeditiously than it is possible to obtain it from a catalogue.

I have, however, begun this work and am prepared to give you the results of the little I have been able to do under the circumstances.

On taking up this work I was struck by the heterogeneity and variableness of the information to be obtained from a catalogue. Contradictory statements were made as often as three times in one catalogue. After I had figured out the amount of time devoted to various studies in about fifty catalogues, I was forced to abandon the work because the information obtained in that way could not be utilized for any purpose. Each college has its own ideas as to what should be taught and how much time should be devoted to it. Some colleges devote considerable time to studies not considered worthy of a place in the curriculum by others. Again, some studies are merged and are taught from one chair, so that no estimate can be made as to the time devoted to each of the studies so merged. A personal communication with the teacher would be the only proper way for obtaining such information, and that requires considerable time and correspondence, as well as an outlay of much money. Therefore, I have laid this portion of the work aside until some future time when conditions are more favorable for taking up a study of the curricula of medical colleges. It can not be denied, however, that such a report would be of assistance to all colleges in preparing their courses of study, and in establishing a uniformity of curricula.

LENGTH OF TERM.

Next I took up the length of the courses, and here, too, I found considerable variation. Six months may mean 24 weeks or 26 weeks. Seven months usually means a 28 weeks' course, but in some instances it is only a 27 weeks' course. Eight months means 30, 31 or 32 weeks. Nine months means anywhere from 33 to 36 weeks. I made my calculation according to the calendar, including examination weeks and omitting the vacation periods. A calculation based on the number of days of actual attendance would, perhaps, have been more interesting, and it certainly would have been more exact, and I shall make future calculations on this basis. Then, too, the length of the senior course always is shorter than the courses of the first three years, so that the fourth year of an eight months' school would not exceed 28 weeks in length.

ENTRANCE REQUIREMENTS.

Considerable variation also shows itself in the matter of entrance requirements. Admission by examination is possible in nearly all colleges. Some colleges admit only on presentation of a high school diploma, and some specify what such a diploma should represent in work done. In some instances it is rather difficult to determine just what credentials for entrance are required. Some colleges give time credits for nearly all kinds of work done. Others give only work credits, even to holders of baccalaureate degrees. A few colleges that are parts of a university prefer to admit only such students who have completed a prescribed course in such university. I have prepared a preliminary report on this, and expect to be able to present a complete report, giving the name of each college and its entrance requirements in detail. It is impossible to do this in a summarized report.

A number of colleges will not admit students on conditions, and that, in a large measure, may be responsible for the falling off in numbers of the medical students during the past year. Of course, the raising of the entrance requirements quite generally has had much to do with this falling off.

It is almost impossible to obtain a correct list of the medical colleges in this country. I believe that at present I have a list that is more nearly correct than any other. My information has been obtained from any and varied sources, but because of the constant formation of new colleges it is quite a task to keep the list correct.

I have studied all the colleges in this country—those that are members of this Association and those that are not. As a result of this study, I present the following summarized report:

There are at present in the United States, including the Philippine Islands, 128 regular schools, 19 homeopathic, 10 eclectic, 3 physiomedical, and 1 nondescript, a total of 161. Of this number, 66 of the regular schools belong to the Association and 65 are non-members. (Of this number, four have been received into membership since the writing of this report, and applications have been filed by two more.)

MEMBERS.

Of the colleges belonging to the Association, 2 are exclusively for women, 2 for negroes, 1 has both day and evening courses, 3 have a continuous course extending over twelve months and divided into four semesters of three months each; 1 college is a member of this Association and also of the Southern Medical College Association; 7 schools confer two degrees, the baccalaureate and the medical degree, at the end of six and seven years; 37 colleges have a university connection, either actual or in affiliation.

AS TO THE LENGTH OF THE TERM.

Four years of six months each, 6 colleges; four years of seven months each, 19 colleges; four years of seven and a half months each, 2 colleges; four years of eight months each, 23 colleges; four years of eight and a half months each, 1 college; four years of nine months each, 15 colleges, a total of 66.

ENTRANCE REQUIREMENTS.

Rules of this Association, 41; rules of state boards of medical registration, 9; high school diploma, 8; either a baccalaureate degree or a high school diploma, plus 15 units, 1; high school diploma, plus two years of college work, 2; high school diploma, plus one and one-third years of college work, 1; high school diploma, plus one year of college work, 1; baccalaureate degree, plus credits in physics, chemistry, biology, Latin and a reading knowledge of French and German, 1; high school diploma, plus three years of college course, 1.

This information was taken from the catalogues of the colleges, and is the minimum requirement, in lieu of which an examination may be taken.

Some colleges give no advanced standing whatever for any degree; some give a time credit of one year to dentists only; others, to dentists and veterinary surgeons; a very few give credit to graduates in pharmacy; some colleges give work credits but no time credit.

FEES.

I have included the matter of fees in my study. The fees vary from $35.00 a term to $200.00. The medical departments of universities have low fees for residents, but the same fee does not apply to non-residents. A very few colleges give a discount to the sons of physicians and clergymen. One college offers the tuition of the third and fourth years to students who matriculate for the freshman work in October, 1903 and 1904.

NON-MEMBERS.

Of the colleges who are not members of this Association, 1 is exclusively for women; 1 teaches all of the "pathies" and "sects" of medicine, including osteopathy, the student choosing his work; 5 are for negroes (4 are night schools); 4 teach the first two years only of the medical course, and 1, I understand, is a diploma mill; 34 have a university connection of some kind.

AS TO THE LENGTH OF THE COURSE.

Fours years of six months each, 19; four years of seven months each, 18; four years of seven and a half months each, 2; four years of eight months each, 11; four years of nine months each, 4; four years of ten months each, 3 (night schools); five years of nine months each, 1 (night school); two years of nine months each, 4; no information, 2—a total of 65.

ENTRANCE REQUIREMENTS.

Twelve of these schools are members of the Southern Medical College Association, and exact the entrance requirements laid down by this Association. Seven other schools abide by the rules of the Association of American Medical Colleges; 5 abide by the rules of the Southern Medical College Association; 19 require a high school diploma or its equivalent; 1, a baccalaureate degree, plus a chemistry credit; 2, a high school diploma, plus one year of college work; 1 requires "satisfactory evidence of educational qualifications necessary for the successful prosecution of medical studies"; 1, "a diploma, certificate, or examination showing proficiency"; 1, "a certificate showing proficiency"; 1, "certificate showing possession of sufficient knowledge"; 1, "preliminary examination for applicants not possessing requisite diploma or certificate."

FEES.

The fees range from $30.00 to $250.00. The colored schools ask the lowest fees, and nearly all of them ask less than $50.00 per term.

This work is merely a preliminary study, and the forthcoming catalogues for the session of 1904 and 1905 will vary considerably from those of the last session, so that this work will

have to be revised from year to year. One fact is very evident, and that is, a total lack of uniformity in the rules and regulations of all the medical colleges in this country, and the desirability of having uniformity, in some things at least.

Respectfully submitted,

FRED. C. ZAPFFE, Secretary.

The financial report was referred to the following Auditing Committee: Drs. Egbert, Kober and Steele.

Committee on Medical Education.

The balance of the report was accepted, and, in accordance with the suggestion contained therein with reference to the appointment of a Committee on Medical Education, the Chair later appointed as such committee the Secretary, Fred. C. Zapffe.

Report of Judicial Council.

Dr. William J. Means, chairman of the council, reported as follows:

The Judicial Council held one regular meeting during the year, at the Wiltshire Hotel, Atlantic City, N. J., June 6. There were present Drs. W. J. Means, chairman; E. F. Ingals of Chicago, T. H. Hawkins of Denver, Randolph Winslow of Baltimore and H. B. Ward of Nebraska. The meeting was called to order by the chairman. H. B. Ward was elected secretary.

The first business was a consideration of the applications for membership made in 1903, on which action was deferred pending further investigation of the standing of the colleges.

Dallas (Texas) Medical College, withdrew its application.

The application of the University of Tennessee, located at Jackson, Tenn., referred to Dr. Means for investigation, was taken up, and, because of insufficient facilities and lack of teaching force, was not considered eligible for membership. Rejection of the application is, therefore, recommended.

The application of the University of West Virginia, located at Morgantown, W. Va., for membership, covering the first and second years only of a four years' medical course, is, on a report from Dr. Dodson, who investigated the college, recommended.

The application of the Medical Department of Wake Forest College, at Wake Forest, N. C., for membership, covering the first and second years only of a four years' medical course, is, on a favorable report from Dr. Winslow, recommended.

The application of the Medical Department of the University of Mississippi, located at Jackson, Miss., for membership, was considered, and it was decided to recommend membership covering the first and second years of a medical course.

The Medical Department of the University of Missouri made application to complete its membership for a full four years' course. A thorough investigation was made of the clinical facilities of the college, and the members of the council believe they are sufficient to meet the requirements for a thorough medical course. The council, therefore, recommends a full membership.

The Medico-Chirurgical College of Kansas City, Mo., made application for membership. After due consideration the council recommends that the matter be laid over one year pending further investigation.

COMMUNICATIONS AND ANSWERS.

During the year many inquiries were received asking for a construction of rules governing admission of students, credits, etc. Among the most important, we submit the following:

CHARGES AGAINST BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.

The following charges were preferred by the Baltimore Medical College against the Baltimore University School of Medicine:

BALTIMORE, May 18, 1904.

William J. Means, A.M., M.D., Chairman Judicial Council of the Association of American Medical Colleges, 715 North High St., Columbus Ohio:

Dear Doctor:—The Board of Directors of the Baltimore Medical College has directed me to lay before your Council the following complaint against the Baltimore University School of Medicine: That the said Baltimore University School of Medicine received students, then in attendance at the Baltimore Medical College, on or about the following dates, the same being other than is permitted by the rules of the Association of American Medical Colleges:

Charles H. Glover left the Baltimore Medical College on or about Feb. 17, 1904, entered the Baltimore University School of Medicine and graduated therefrom on April 19, 1904.

Wm. E. Giesregen left the Baltimore Medical College on or about March 1, 1904, and graduated from the Baltimore University School of Medicine April 19, 1904.

Frederick S. Bootay left the Baltimore Medical College on or about Feb. 20, 1904, and graduated from the Baltimore University School of Medicine April 19, 1904.

H. Forsythe Stapp left the Baltimore Medical College on or about March 26, 1904, and graduated from the Baltimore University School of Medicine April 19, 1904.

Harper A. Wright left the Baltimore Medical College on or about Dec. 24, 1903, and graduated from the Baltimore University School of Medicine April 19, 1904.

Harry E. Duffy left the Baltimore Medical College on or about Feb. 2, 1904, and graduated from the Baltimore University School of Medicine on April 19, 1904.

Should other proof than this statement be required we will be pleased to place before your council on request documents proving the correctness of the charges herein made.

We regret to have to make this complaint against a school in our own city, a member of the Association of American Medical Colleges, but believing the charges to be true and in contravention of the rules of the Association of American Medical Colleges, as well as inimical to the general welfare of medical education, we feel it our duty to do so.

Kindly acknowledge receipt hereof, at the same time advising us what further action, if any, may be necessary on our part.

Assuring you of our cordial personal esteem, we have the honor to remain, Yours very truly,

DAVID STREETT, M.D., Dean.

P. S.—On April 20 our Dr. Samuel T. Earle informed Dr. R. Winslow, the resident member of your council, of this matter, and I presume that he has already notified you of it. D. S.

A copy was furnished the Baltimore University School of Medicine May 21. The following answer was received May 30:

BALTIMORE, May 30, 1904.

Dr. W. J. Means, Chm. Jud. Coun., Association American Medical Colleges, No. 715 N. High St., Columbus, Ohio:

My Dear Doctor Means:—I am in receipt of your favor of the 21st, and in reply our faculty is more than surprised to hear that the directors of the Baltimore Medical College should have preferred any charges against the Baltimore University School of Medicine, and the faculty at a meeting held Friday evening, May 27, 1904, has instructed me to say that each and every one of the students mentioned in your letter, that is Messrs. Charles H. Glover, William E. Geisregen, Frederick S. Bootay, H. F. Stapp, H. A. Wright and Harry E. Duffy, matriculated in the Baltimore University School of Medicine in October, and were students at our College during the session, and if they were in attendance at another college at the same time our faculty was not aware of it.

We have no desire to do anything that would conflict with the constitution or by-laws of the Association of American Medical Colleges in any way, shape or form whatever, and we do all we can to uphold and support the Association. We have done nothing to conflict with "Section 4, Article 3, of the Constitution," we only honor official credentials of recognized medical colleges, and under no circumstances do we allow *any member of the senior class to graduate at our institution* unless he takes all of the branches embraced in our senior year.

It is our custom when a student applies to us for matriculation and shows us his credentials for his past years, we never think of such a thing as asking him whether he is in attendance at any other medical college at that time.

Trusting this will be satisfactory, and assuring you of our earnest desire not to do anything that will conflict with your body, I beg to remain, Very respectfully yours,

H. H. BIEDLER, Dean,
Baltimore University School of Medicine.

Due notice was given both colleges to prepare their evidence for presentation to the council June 6, at Atlantic City.

Dr. Streett, Dean of the Baltimore Medical College, submitted evidence, properly attested, from the records of the college and teachers in support of the charges.

Dr. Biedler, Dean of the Baltimore University School of Medicine, denied the charges in a general way, but furnished no documentary evidence to support his statement.

After due consideration of the testimony the council adopted the following:

RESOLVED, The testimony presented by the officers of the Baltimore Medical College clearly established the fact that Chas. H. Glover, Wm. E. Giesregen, Frederick S. Bootay, H. Forsythe Stapp, Harper A. Wright and Harry E. Duffy were regularly matriculated students in said college, and continued in attendance during the time stated in specifications; and, the statement of the dean of the Baltimore University School of Medicine that said students were matriculated in his college in the month of October, and were in attendance during the session, unsupported by attested evidence from records of the college and teachers, is not a sufficient refutation.

Therefore, inasmuch as the charges are clearly in contravention to the rule of the association, and the requirements for graduation set forth in the college announcement, the council recommends that the Baltimore University School of Medicine be suspended from membership until satisfactory evidence is furnished from the class records and teachers of the college, properly attested, sustaining the contention that said students were in attendance during their senior year.

The members of the council wish to express to the officers of the association and the members thereof, their appreciation of the many kindly courtesies shown them. Respectfully,

W. J. MEANS, E. F. INGALS, T. H. HAWKINS, RANDOLPH WINSLOW, H. B. WARD.

On motion the report was accepted.

(To be continued.)

STATE BOARD EXAMINATION RESULTS IN 1903.

Name of College.	Arkansas.		California.		Connecticut.		Delaware.		D. Columbia.		Georgia.		Idaho.		*Illinois.		Indiana.		Iowa.		Kansas.		Louisiana		Maine.	
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
ALABAMA—																										
Birmingham Medical College.—R.																										
Medical College of Alabama.—R.	1	0			0	1									1	0							2	1		
ARKANSAS—																										
Medical Department Arkansas University.—R.																										
CALIFORNIA—																										
Cooper Medical College.—R.			32	7																						
Medical Department University of California.—R.			1	0																						
California Medical College.—E.			0	2																						
Hahnemann Medical College of the Pacific.—H.			8	3																						
College of Physicians and Surgeons, San Francisco.—R.			16	8																						
College of Medicine, University of Southern California.—R.			21	6																						
COLORADO—																										
Denver and Gross College of Medicine.—R.					1	0									1	0			1	0						
Denver Homeopathic College.—H.																										
Colorado School of Medicine.—R.			1	0									3	0												
CONNECTICUT—																										
Yale University Medical Department.—R.			1	0	32	2															1	0				
DISTRICT OF COLUMBIA—																										
Columbian University, Department of Medicine.—R.									2	1																
Georgetown University School of Medicine.—R.			1	0	1	1			1	0					1	0										
Howard University, Medical Department.—R.			1	0					5	1	0				1	1										
National University, Medical Department.—R.									4	3																
GEORGIA—																										
Atlanta College of Physicians and Surgeons.—R.											31	0														
Georgia College of Eclectic Medicine and Surgery.—E.																										
Medical College of Georgia.—R.											2	1														
ILLINOIS—																										
American Medical Missionary College.—R.			1	1											5	0			1	0	1	0				
Bennett College of Eclectic Medicine and Surgery.—E.															9	2										
Chicago Homeopathic Medical College.—H.			1	1					1	0			1	0	24	5	1	0	3	1	1	0				
College of Medicine and Surgery.—Ph.M.															18	7			0	1						
College of Physicians and Surgeons, Chicago.—R.	1	0	5	4	1	0							2	0	141	1	7	1	13	2	3					
Hahnemann Medical College and Hospital.—H.													1	0	48	2	3	0	3	1	0	1				
Harvey Medical College.—R.	1	0											1	1	18	0	2	0								
Hering Medical College.—H.															8	1	1	0	1	0	2	0				
Illinois Medical College.—R.															12	5	2	0	1	0	1	1				
Jenner Medical College.—R.															11	2										
Northwestern University Medical School.—R.			5	1									1	0	50	0	4	2	13	1	3	1				
Rush Medical College.—R.	1	0	4	4									2	1	140	0	15	0	18	2	5	0	1	1		
National Medical University.															7	4										
American College of Medicine and Surgery.—E.																	1	1								
Dunham Medical College.																	1	0	1	0						
INDIANA—																										
Central College of Physicians and Surgeons.—R.																	0	1								
Medical College of Indiana.—R.											1	1					3	1								
Physic Medical College of Indiana.—Ph.M.	1	0																	1	0						
Eclectic Medical College of Indiana.—E.																	0	1								
Fort Wayne College of Medicine.—R.			1	0																						
IOWA—																										
Keokuk Medical College of Physicians and Surgeons.—R.	1	0							1	0			1	0	1	1	1	2	3	3	1	1				
Iowa College of Physicians and Surgeons.—R.															0	1			10	3						
Sioux City College of Medicine.—R.															1	0			3	0						
State University of Iowa, Homeopathic Medical Dept.—H.																			12	0	1	0				
State University of Iowa, Medical Department.—R.			2	1									1	1	4	0			81	1						
KANSAS—																										
College of Physicians and Surgeons of Kansas City.—R.													1	1					0	1						
Kansas Medical College.—R.													0	1												
KENTUCKY—																										
Hospital College of Medicine.—R.													1	0	2	0	8	0	1	0	1	0	1	0		
Kentucky School of Medicine.—R.			1	0									0	3	3	0	23	3	0	1			0	2	1	0
Louisville Medical College.—R.													1	1	1	0		3			1	0	3	1		
Southwestern Homeopathic Medical College.—H.											1	0														
Medical Department, University of Louisville.—R.			0	8	1						2	0					3	1					2	0		
Kentucky University, Medical Department.—R.															1	0	6	0			1	0				
LOUISIANA—																										
Flint Medical College of New Orleans University.																							2	5		
Tulane University, Medical Department.—R.	1	0									1	0					1	0					6	0		
MAINE—																										
Medical School of Maine, Bowdoin College.—R.			1	2																					21	0
MARYLAND—																										
Baltimore Medical College.—R.			1	1	7	3	2	0	0	1					4	0	2	0			1	0	1	0	2	0
Baltimore University School of Medicine.—R.							0	1							2	1									3	0
College of Physicians and Surgeons of Baltimore.—R.			0	2	1	3					0	1	2	0			1	0							1	0
Medical Department, Johns Hopkins University.—R.			3	0	2	0					7	0	2	0	3	0			1	0					1	0
Southern Homeopathic Medical College.—H.													1	0												
University of Maryland, School of Medicine.—R.											1	0	3	0											1	0
Women's Medical College of Baltimore.—R.															1	0										
Maryland Medical College.—R.							0	2																	2	0
MASSACHUSETTS—																										
Boston University School of Medicine.—H.			1	0	2	1																			1	0
College of Physicians and Surgeons.—R.					0	1																			2	0
Harvard University Medical School.—R.			3	0	4	0					1	0					1	0	1	0					8	0
Tufts College Medical School.—R.			0	1	2	2			1	0													1	0		
MICHIGAN—																										
Detroit College of Medicine.—R.			2	2													1	0								
Detroit Homeopathic Medical College.—H.					1	0																				
Michigan College of Medicine and Surgery.—R.																			1	0						
Grand Rapids Medical College.—R.																										
Saginaw Valley Medical College.—R.					1																					
University of Michigan Dept of Medicine and Surgery.—R.			1	0	1	0							2	0	7	0	3	0					1	0	1	0
University of Michigan Homeopathic Medical College.—H.																										
MINNESOTA—																										
College of Homeopathic Med and Surg., Univ. of Minn.—H.													2	0					1	0						
College of Medicine and Surgery, Univ. of Minnesota.—R.			2	0	1	0											1	0								
Medical Department of Hamline University.—R.																										
MISSOURI—																										
Medico-Chirurgical College.—R.													1	0												
Woman's Medical College.—R.													0	1	1	0		0	1	1	3	0	1	0		
University Medical College of Kansas City.—R.			1	0																						

*Reports from one or two examinations not received.

COMPILED FROM REPORTS OF STATE BOARDS. (SEE EDITORIAL.)

Maryland.		Massachusetts.		Michigan.		Minnesota.		* Montana.		New Hamp.		New York.		No. Carolina.		No. Dakota.		Ohio.		Oklahoma.		Oregon.		* Pennsylvania		Rhode Is'and		So. Carolina.		So. Dakota.		Tennessee.		Texas.		Utah.		Vermont.		Virginia.		Washington.		West Virginia.		Wisconsin.		Totals.	Passed.	Failed.	Percentage of Failures.
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F				
																														1	0													1	1	0	0.
																												0	1	1	0	1	0											8	6	2	25.0
																																3	0											3	3	0	0.
						1	0															1	0	1	0													5	1					48	40	8	17.9
												0	0																					1	0					1	0			4	4	0	0.
																																								0	1					3	0	3	100.0
																																		1	0									12	9	3	25.0
																						1	0											1	0					2	1			29	20	9	31.0
																																												21	21	0	0.
												1	0	2	0							1	0	1	0									1	0			1	0					10	10	0	0
																1	0																														
																																													5	5	0	0.
		1	0									5	0											1	0	1	0																	45	43	2	4.4
1	0											1	0					1	0					1	0											4	1			1	0			14	12	2	14.3
												2	0					1	0	1	0			1	0	1	0					1	0											18	18	0	0.
2	0											0	1	1	0																					2	0			3	1			27	19	8	29.6
														1	0																							2	0					10	7	3	30.0
												1	1	1	2							1	0					3	1	1	0	2	0			2	0							56	42	14	25.0
												1	0	0	1											0	1			0	1													4	1	3	75.0
												1	0	1	1													1	1			1	0											9	6	3	33.3
		1	0									1	0							1	0									2	0													14	13	1	7.1
																0	1			0	1	1	0									0	1									2	1	20	14	6	30.0
						1	0	1	0			2	0					1	0	1	0																	1	0			1	0	14	10	4	9.1
						0		2	0																																			29	22	9	31.0
							8	2	0			1	0				3	3	1			4	0			1	0															13	0	247	229	18	7.3
							5	4				0	1																									2	0			1	1	71	64	7	9.9
																																										1	0	2	32	25	7	21.9
																																										1	0	14	14	0	0.
						0	1					0	1									0	1	2	2							2	1	1	0			1	1	2	1	1	0	40	28	12	30.0
						8	0	2	0							4	1	1	0									2	0									5	2			9	1	18	11	2	15.4
						11	2	3	0			3	0			4	1	5	0	1	5	0	3	0				4	0			1	0	0				9	4			12	0	274	238	16	5.8
																																											11	7	4	36.4
																																											1	0	1	100.
																																		0	1					1	0			4	3	1	25.0
																				0	1									1	0													3	1	2	66.7
																																													4	4	0	0.
																																													2	2	0	0.
												0	1																															1	0	1	100.0
																																													2	1	1	50.0
						2	0	0	1							0	3			0	3																	1	0					56	42	14	25.9
												1	0																															15	11	4	26.7
						0	1																					1	1															17	15	2	11.8
																																													13	13	0	0.
						2	2											1	0			1	0									1	0											98	93	5	5.1
								0	1											1	0																							4	1	3	75.0
																						1	0	1	1																			4	2	2	50.0
																0	1			0	1	1						1	0			3	0	2	1									28	23	5	17.9
		2	1													2	0			0	2			0	1							2	0	1	1			0	1	1	0	1	3	54	32	19	37.3
												2	0	2	1	1	0			3	0	2	0	1	0					1	0	1	0	3	0			2	1	0	1	2	2	1	0			39	30	9	23.1
																																													1	1	0	0.
		1	0									1	0	2	0			0	1													4	2					1	0			0	2	27	17	10	37.0
														0	0					0	1											1	0							1	0			14	13	1	.....
																										1	0			1	0	7	0					1	0					7	2	5	71.4
																										1	0																	79	79	0	0.
		1	1									0	1																															28	24	4	14.3
24	6	16	3							2	1	9	0	4	0			3	0					12	4	2	3									7	2	1	1			10	1			135	110	25	18.5
6	0	5	0									3	1	1	0									5	3	3	0									1	0	2				8	2			43	19	24	55.8
11	5	5	3									3	0	1	0					1	1	0	6	1	5	0	1	0		1	1			1	0			1	1	1	0	1	0			74	56	18	24.3
11	1	5	0									6	0			1	0	3	0					1	0			1	0							2	0						2	0	58	52	1	1.9
		0	1																													1	0											3	2	1	33.3
40	7						2	0				3	0	11	3			2	0					3	1			7	0			2	0	1	0			4	2	1	0	5	0			102	89	13	12.7
	1																																											2	2	0	0.
7	11	2	2									2	0							1	1			1	2			1	1			2	0			0	1	4				2	2			56	31	25	44.6
		2	4							0	1	3	0	0	1					2	0									1	0					1	0	1	0	1	0			46	39	7	15.2
		2	4									1	1																							0	1			1	0			18	11	7	38.8
		80	1							1	0	9	1			2	0	1	0					1	0	0	1											2	0					133	132	1	0.8
		41	2							1	1	1	0																	1	0													55	48	7	12.7
						1	0					1	0			2	0	3	0					1	0	1	0							1	0			5	0			2	1	23	20	3	13.0
																		1	0																									1	1	0	0.
																		1	0	1	0																							1	1	0	0.
		1	0																																									3	3	0	0.
		2	0			2	0	1	1			10	1	1	0	3	0	8	0			4	0	3	0	1	0			1	0					1	0	7	1					68	65	3	4.4
												1	0																																		
												1	0																	1	0													1	1	0	0.
						74	7	1	0			1	0			11	0																							5	0			3	0	113	106	7	6.2
						29	7									6	1																											44	36	8	17.9
																																		1	0									1	1	0	0.
																																												1	1	0	0.
								0	1																																			19	8	11	57.9

STATE BOARD EXAMINATION RESULTS IN 1903.

Name of College.	Arkansas.		California.		Connecticut.		Delaware.		D. Columbia		Georgia.		Idaho.		*Illinois.		Indiana.		Iowa.		*Kansas.		Louisiana.		Maine.	
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
MISSOURI—*Continued*:																										
Kansas City Hahnemann Medical College.—H																			0	1	2	0				
Kansas City Medical College.—R	1	0											2	0							2	1				
Eclectic Medical University.—E																			*							
Central Medical College.—R													0	1												
Ensworth Medical College.—R																					0	1				
Barnes Medical College.—R			1	1							1		2	1	2	1	1	0	4	5						
Marion-Sims-Beaumont College of Medicine.—R													1	0	4	0	3	1	1	0	2	0	1	0		
St. Louis College of Physicians and Surgeons.—R													1	0	1	0	2	0	2	1	0	1				
American Medical College.—E			0	1									0	1	1	0										
Homeopathic Medical College of Missouri.—H															1	0	2	0								
Medical Department, Washington University.—R				2													1	0	1	0						
University of the State of Missouri.—R																							1	1		
NEBRASKA—																										
University of Nebraska College of Medicine			0	1															4	1	1					
John A. Creighton Medical College.—R			1	0									1	0	2	0			1	1						
Lincoln Medical College of Cotner University.—E																										
NEW HAMPSHIRE—																										
Dartmouth Medical College.—R					2	1													1	0					2	0
NEW YORK—																										
Albany Medical College.—R			1	0																						
College of Physicians and Surgeons.—R			3	0	17	0			2	0			1	0					1	0					3	0
Cornell University Medical College.—R						0									1	0										
Eclectic Medical College.—E																										
Long Island College Hospital.—R			0	1	2	1											1	0								
New York Homeopathic Medical College and Hospital.—H			0	1	1	0																				
New York Medical College and Hospital for Women.—H					1	0																				
University and Bellevue Hospital Medical College.—R			3	5	11				2	0	2	0			1	0	1	0			2	0			1	0
Syracuse University College of Medicine.—R					2	0																				
University of Buffalo, Medical Department.—R																										
Niagara University			1	0	1	0																				
NORTH CAROLINA—																										
Leonard Medical School.—R											3	0														
North Carolina Medical College.—R																										
Medical Department, University of North Carolina																										
OHIO—																										
Western Reserve University Medical College.—R			1	0													1	0								
Cleveland College of Physicians and Surgeons.—R				1																						
Cleveland Homeopathic Medical College.—H			0	1							0	1			1	0			1	0	1	0				
Eclectic Medical Institute.—E			0	1											3	1	4	2	0	2	1	0				
Laura Memorial Woman's Medical College.—R			1	0													1	0								
Medical College of Ohio.—R			2	0											1	0	7	0								
Pulte Medical College.—H			1	0													1	0								
Miami Medical College.—R																	2	0	1	0						
Ohio Medical University.—R			1	0													2	2			1	0				
Starling Medical College.—R					0	2											1	0								
Toledo Medical College.—R																										
Cincinnati College of Medicine and Surgery					1	0											1	0								
OREGON—																										
University of Oregon Medical Department.—R																										
Medical Department, Willamette University.—R																										
PENNSYLVANIA—																										
University of Pennsylvania Department of Medicine.—R	1	0	5	1	3	0	2	0	3	0	1	0			0	1	1	0			1	0	1	0	4	0
Hahnemann Medical College and Hospital.—H					4	0			4	0							2	0							1	0
Jefferson Medical College.—R	2	0	2	0	6	1	0	1			2	0	2	1	2	0	5	0	2	0	1	0	2	0	2	0
Woman's Medical College of Pennsylvania.—R						0	1	0	1	1																
Medico-Chirurgical College of Philadelphia.—R			1	0	3	1	2	0									1									
Western Pennsylvania Medical College.—R																										
SOUTH CAROLINA—																										
Medical College of the State of South Carolina.—R					1	0																				
TENNESSEE—																										
Tennessee Medical College.—R																							1	0		
Medical Department of University of Nashville.—R											3	0														
Vanderbilt University Medical Department.—R	1	0	1	1							2	0											1	1	1	0
University of Tennessee Medical Department.—R	2	0																			1	0	3	0		
Meharry Medical College.—R			0	1							5	1			1	0			0	2			1	3		
Memphis Hospital Medical College.—R	1	0																					5	6		
Sewanee Medical College.—R			0	2	0	2					4	0											6	8	1	0
Chattanooga National Medical College.—R																										
Chattanooga Medical College.—R	2	0									1	0									1	1			1	0
TEXAS—																										
Medical Department Fort Worth University.—R																							1	0		
University of Texas Department of Medicine.—R																										
Baylor University College of Medicine																										
Dallas Medical College.—R																										
VERMONT—																										
University of Vermont Medical Department.—R			0	1	7	1																			1	0
VIRGINIA—																										
Medical College of Virginia.—R																										
University College of Medicine.—R																										
University of Virginia Department of Medicine.—R									2	0	1	0														
WISCONSIN—																										
Milwaukee Medical College.—R					1	0									2	0			1	0						
Wisconsin College of Physicians and Surgeons.—R																										
CANADA—																										
University of Toronto, Medical Faculty					1	1							1	0			2	0	1	0						
Ontario Medical College for Women																			1	0						
Queen's University																										
Medical Department of Western University																										
University of Bishop's College, Faculty of Medicine																										
McGill University, Faculty of Medicine			2	1	1	0									0	1					1	0			6	0
Universite Laval, Faculte de Medicine			0	1											1	0									5	0
Manitoba Medical College																			1	0						
FOREIGN	1	0	4	8	1	0									9	6	2	0	3	0			0	1		
Totals by states	18		226		151		11		59		85		45		594		157		313		48		156		73	
Totals—Passed	18		152		128		7		46		73		31		559		141		273		43		132		73	
Totals—Failed			74		23		4		13		12		14		35		16		40		5		24			
Percentage of failures	0.0		32.7		15.2		36.4		22.0		14.1		31.1		5.9		10.2		12.8		10.4		15.4		0.0	

*Reports from one or two examinations not received.

COMPILED FROM REPORTS OF STATE BOARDS. (SEE EDITORIAL.)

	Maryland.		Massachusetts.		Michigan.		Minnesota.		*Montana.		New Hamp.		New York.		No. Carolina.		No. Dakota.		Ohio.		Oklahoma.		Oregon.		*Pennsylvania.		Rhode Island.		So. Cardina.		So. Dakota.		Tennessee.		Texas.		Utah.		Vermont.		Virginia.		Washington.		West Virginia.		Wisconsin.		Totals.	Passed.	Failed.	Percentage of Failures.
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F				
									0	1																																					4	2	2	50.0
							2	1									1	0															2	0	1	0					4	0					17	15	2	11.8
																																									0	1					1	0	1	100.0
																																								1	0					2	1	1	50.0
																																														1	0	1	100.0
							5	5													0	3											5	1	1	0					2	0	2	0	1	0	45	24	21	46.7
							0	2									0	1			1	0	1	0	1	0							1	0	1	0					1	0					21	18	3	14.3
																	1	0	1	0	1	0											1	0	0	2					2	1	1	1			24	15	6	28.6
													1	0																																	4	2	2	50.0
					1	0							1	0	1	0					2	1																			1	1					5	4	1	20.0
													1	0			1	0			1	0											2	0							1	0					13	10	3	23.0
																													1	0															9	8	1	11.1
					1	0																	0	1			1	1					1	0					2	0					19	11	8	42.1
																					1	0																				1	0			11	10	1	9.0
																											1	0	1	0	1	0									0	1			3	2	1	33.3
			8	0	0	2	1	0			5	0							1	0			1	0			2	1									2	0			0	1					30	25	5	16.7
			1	0									32	3																							1	0									38	35	3	7.9
			3	1							2	0	12	7	3	0	1	0									2	0			1	0	1	0	1	0			1	0	2	0	1	0	175	167	8	4.6
													5	1											3	0	1	0											1	0					57	56	1	1.8
													15	1																															16	15	1	6.2
			1	0							1	0	42	3																							1	0									53	48	5	9.4
			1	0							1	1	22	1	0	1			1	0					0	1																			31	26	5	16.1
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		2	0										6	0					3	0					15	0			1	0									1	0					33	32	1	3.0
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		0	1												4	0																					23	7	1	0	10	0					46	38	8	17.4
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		4	0	1	0	2	0	2	0	1	0	1	5	0			3	0									2	0											5	0					40	38	2	5.0
		8	2			1	0	4	0	0	0	1															1	0									1	0							22	18	4	18.2
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		12	3	3	0	0	1				53	16							1	0					1	1	3	4					3	0	1	0			0	1			1	0	1	0	133	98	35	26.3
142		306		21		206		25		33		688		103		74		104		38		35		388		67		51		20		84		137		33		46		173		138		118		61	5027	1312	715	14.2
10		263		19		163		17		29		633		77		60		93		19		32		337		52		47		17		78		116		30		42		134		115		102		54				
40		43		2		43		8		4		55		26		14		6		19		3		51		15		4		3		6		21		3		4		39		23		16		7				
28.2		14.1		9.5		20.9		32.0		12.1		8 0		25 2		18.9		5.8		50.0		8.6		13.1		22 4		7.8		15.0		7.1		15.3		9.1		8.7		22.5		16.7		13 6		11 5				

Therapeutics.

Hay Fever.

Parsons, in the *Med. Record* for July 16, 1904, discusses the treatment of this condition under the following three heads: 1. Constitutional. 2. Local. 3. Treatment of the exacerbation.

1. On account of the frequent occurrence of the disease in those persons with a neurotic temperament, the treatment should be directed toward building up the tone of the nervous system. For this he recommends: (a) The daily cold plunge, to be taken immediately on rising, or for those not robust, cold sponging of the neck and chest. The bath should be begun several weeks before the usual time for the hay-fever to make its appearance. (b) The mode of life, diet, and exercise should be regulated. (c) Wear suitable clothing and use especial care to prevent cooling off too suddenly after perspiring. Avoid unnecessary exposure to drafts. (d) The sleeping room should be ventilated. (e) Tonics, such as strychnin, arsenic and phosphorus, are indicated. 2. The nasal cavities should be examined, preferably two months before the hay fever season. If any chronic inflammatory condition be found it should be relieved; if any obstruction to the nasal passages is present it should be removed. All sensitive points should be touched with a caustic, such as a solution of nitrate of silver. This plan of treatment may need to be renewed at the same period for two or three years before marked improvement in the severe cases can be expected. 3. Treatment of the exacerbation. Locally the author suggests some spray of a mild alkalin solution, followed by adrenalin solution as a spray in the proportion of 1 to 5,000 in normal salt solution. The strength may be increased as found necessary. It is best to follow this with some bland oily spray.

For the general treatment of the exacerbation the author refers to the strong plea made by other authorities for the so-called uric acid theory in the production of hay fever and the recommendations for the active treatment of this diathesis six weeks or two months before the expected onset of the exacerbation. He suggests the administration of aromatic sulphuric acid, or phosphoric acid, for a time, followed by small doses of salicylate of sodium, three grains three times a day, and cutting off the acid-producing drinks, such as beer, wine, cider, lemonade, etc. Avoid meat, strawberries, coffee, tea, meat extracts, vinegar, sour pickles, preserves, sugar, potatoes and other starchy foods. Ham and bacon may be allowed. The diet should consist principally of cereals, eggs, fish, fresh fruit, vegetables, milk and cocoa. Water should be drunk freely.

For internal medicinal treatment the author recommends the saccharated extract of the dried suprarenal gland, in doses of two grains, three times a day, beginning about two weeks before the attack of hay fever usually occurs, given with a view to retarding and mitigating the attack so far as possible.

Camphor will often give temporary relief in hay fever, administered five drops every fifteen minutes for the first hour and repeated at longer intervals as required.

COLD APPLICATIONS.

Aside from the medicinal measures relief may be obtained from the use of a cold spinal douche, for from fifteen to thirty seconds, at a pressure of twenty to thirty pounds to the square inch, at a temperature of 60 degrees. Patients soon become used to the douche if properly administered and followed by a brisk rub. If an apparatus for the douche is not at hand, water from a pail should be dashed over the patient's back, the operator standing at a distance.

CLIMATE.

Change of climate benefits a large number of patients, a sojourn among the mountains benefits some, others obtain most relief at the sea shore especially from the surf bathing. The surf bathing acts as a general stimulant and locally, by the force with which it enters the nostrils, to induce contraction of the capillaries and dilated veins. Patients should not remain in the water long enough to chill. The associated asthma and bronchitis may require special treatment. The author advises against the use of opium or cocain in any form. Patients should be advised against the use of tobacco and alcoholic stimulants during the exacerbation. They should be further cautioned not to ride in the dust when that is known to bring on an attack.

The following is recommended as a bland oily and sedative spray, to be used after the adrenalin solution:

℞. Acidi carbolici
Mentholi, āā ..... gr. i 06
Camphoræ ..... gr. v 30
Liq. albolin ..... ʒi 30
M. Sig.: Use locally as a spray for the nose.

Medicolegal.

Validity of Medical Practice Act—Association of American Medical Colleges Standard.—The Supreme Court of California says, *ex parte* Gerino, where a rehearing has been denied, that the act of Feb. 27, 1901, for the regulation of the practice of medicine and surgery, provides, with respect to the membership of the board of examiners, that "five members thereof shall be elected by the Medical Society of the State of California, two members thereof by the California State Homeopathic Medical Society, and two members thereof by the Eclectic Medical Society of the State of California." The power of the state to constitute such a board, and to impose restrictions on the right to practice medicine, to be enforced by the board, rests entirely on the theory that such regulations are for the general welfare, and specifically to protect people from the arts of quacks and pretenders and from the mistakes of incapable practitioners. The societies named, by receiving this power of appointment, are constituted agencies of the state to perform a part of the duty pertaining to the sovereign power of the state, and they are not, in that respect, the recipients of private rights or privileges. It may be true that in making these appointments each medical society will choose persons who believe in the school of medicine of which its members are composed. This, however, does not render the law unconstitutional. The board, when appointed, must act equally for the benefit of all applicants, and impartially with respect to each, regardless of the school of medicine to which they belong. Moreover, even if method provided in the law for the appointment of the members was invalid, and other provisions of the law would stand unaffected. There would then be a legal office established, without any specific provision for the appointment of any person to fill it, and the vacancy thus existing could be filled by appointment of the governor. But, as it would be a legal office, it could be filled by a de facto officer, and in that case the validity of his appointment and his right to hold the office could not be questioned in a proceeding in habeas corpus. Nor does the court think the act rendered unconstitutional by the provision that the applicant for examination must produce a diploma issued by some legally chartered medical school, the requirements of which "shall have been, at the time of granting of such diploma, in no particular less than those prescribed by the Association of American Medical Colleges for that year." It says that the law on this point is not to be construed so as to require these colleges to have the identical course of study and other requirements prescribed by the association. The standard of scholarship required is that it shall be equal to the standard required by the association. It need not be the same course of study, nor the study of the same text-books, nor the attendance for the same length of time, but it must be such as requires of the student a degree of proficiency in the studies necessary to prepare him for practice equal to that which would ordinarily be produced by the requirements prescribed by the association. Whether or not the Association of American Medical Colleges is composed of those only which teach the allopathic branch of that profession, the court can not say; but, admitting it to be so, it can not say that there is in this

provision of the law, thus understood, an arbitrary or unjust discrimination against other schools. Surely they would not claim the right to have their adherents admitted to practice the profession on a less degree of proficiency in the preparatory studies than is required of those in the regular school. It being proper for the legislature to demand some standard of efficiency, the court thinks it equally within its power to declare that it shall be the same as that prescribed from time to time by an association composed of colleges devoted to the work of preparing persons for the profession. It says that evidently the standard of proficiency in scholarship as a preparation, and the particular studies necessary to secure a fair preparation, must change as the discoveries in natural science open new fields of investigation, and suggest or reveal new curative agencies. The legislature can not successfully prescribe in advance a standard to meet these new and changing conditions. Lastly, the court says that it was not necessary to consider whether or not the provision for reciprocity is constitutional. Conceding, but not deciding, that such provision is void, it did not affect the other provisions of the act under which the petitioner was held in custody on the charge of practicing medicine without a certificate from the state board of medical examiners.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 30.

1. Treatment and Control of the Tuberculous Patient in the Home. Lawrence F. Flick.
2 Edema. Consideration of the Physiologic and Pathologic Factors Concerned in Its Formation. S. J. Meltzer.
3 *Immediate Repair of Laceration of the Perineum, with Special Reference to Placing the Sutures in Position Before Laceration Takes Place. A. Lapthorn Smith.
4 *Carcinematous Transformation of Ulcer of the Stomach. John Dudley Dunham.
5 *Treatment of Gonorrhea: A Clinical Study. Henry T. Byford.
6 Persistence of Certain Racial Characteristics. Pearce Kintzing.

3.—See abstract in The Journal, xlii, p. 1584.

4. Carcinomatous Transformation of Gastric Ulcer.—Dunham is of the opinion that cases of carcinomatous transformation of ulcer of the stomach are probably more frequent than is currently believed. Treatment may be along surgical lines with a reasonable hope of prolonging life, and along medical lines in a palliative manner. A most important phase of this question is the diagnosis and prophylaxis. In the majority of cases the indications of ulcer continue until the malignant invasion. It is rarely possible to find a tumor. The chemic and microscopic findings in the stomach contents are not characteristic of cancer until late in the progress of the disease. An increase in the hydrochloric acid, usually noted until very near the fatal issue, often misleads in the diagnosis. In another class of cases the ulcer symptoms continue until the end, and in a third class the ulcer symptoms may have subsided for months, or perhaps years, and a recurrence of digestive difficulties seems to indicate a return of the ulcer, but in reality they are due to the beginning of the malignant growth. Having established the presence of ulcer, the physician should impress on the patient the gravity of his case. He should insist on the importance of appropriate treatment, such as rest in bed, with rectal alimentation, followed by milk diet over a period of perhaps four weeks. Under such a course of treatment the symptoms may become more marked. The patient may have paroxysms of pain three or four times a day after taking food, and under such circumstances, with the stomach contents showing increased acidity, we may be fairly certain that the diagnosis is cancer of the ulcer. Speaking of prophylaxis, Dunham says the proper treatment medically of simple ulcer in its first manifestations is a preventive measure which physicians should enforce rigidly. Gastro-enterostomy by a skillful surgeon should be employed in intractable chronic ulcer to prevent cancer development. A recurrence of digestive disturbances after a history of ulcer with apparent recovery should be treated at once. Surgical interference is successful only when resorted to early, in cases of development of cancer on ulcer.

5.—See abstract in The Journal, xlii, p. 1585.

New York Medical Journal.

July 30.

7 Removal of Obstructions and Cicatricial Contractions of the Nose by the Plastic Method. John O. Roe.
8 Lentigo; Unilateral Distribution; Report of a Case. John Irvine McKelway.
9 *Some Notes on Riggs' Disease and Its Treatment. George F. Souwers.
10 Consideration of Some Points in Obstetrics. Helen Hughes.
11 Report on the Curricula of American Medical Colleges. (Concluded.) George W. Webster.
12 Regulation of the X-ray Tube. J. Sherman Wight.
13 Reflections on the Financial Status of the Medical Career. Nathaniel G. Price.

9. Riggs' Disease.—Souwers emphasizes the importance to the practitioner of knowing more about the treatment of Riggs' disease. The family history is as important as the patient's personal history and should receive proper attention if any treatment is needed. Locally, the mouth should be cleansed with hydrogen peroxid, dilute aromatic sulphuric acid, sodium carbonate and borax. The mouth is then cleansed thoroughly with water and dried, after which sulphate of quinin is dusted along the seat of the disease and lightly packed between the teeth. The patient should use a mouth wash two or three times daily; at bedtime, or other convenient period, he should rinse the mouth with milk of magnesia or a solution of magnesia, the portion of the drug precipitated or adhering to the teeth, etc., not being removed by subsequent washing. Mouth washes containing tincture of myrrh are not advisable, because myrrh is precipitated by contact with the watery secretions of the mouth, and at times finds lodgment between the gums and the necks of the teeth, thus acting as a foreign irritating body. As an aid in the relief of the gum congestion, a 1 to 1,000 solution of adrenalin acts nicely, particularly in the declining stage of the inflammation. In those cases in which the teeth are sensitive to temperature changes, relief may be obtained by adding a few drops of phosphoric acid to oxid of zinc and applying a thin layer of the mixture to the painful area. A coat of sandarac varnish will serve as a temporary expedient. This treatment, if carried out carefully, always gives the desired result.

Medical News, New York.

July 30.

14 *Eye-strain and the Psychoses. Charles L. Dana.
15 Migraine and Sick Headache. Colman W. Cutler.
16 *Relation of Epilepsy, Chorea and Other Motor Disturbances of the Nervous System to Eye Disease. B. Sachs.
17 Eye Symptoms of Hysteria, Neurasthenia and the Traumatic Neuroses. Ward A. Holden.
18 Intrahepatic Cholelithiasis. (To be continued.) Edwin Beer.
19 Value of a Knowledge of Abnormal Mobility of the Iris as an Aid in Diagnosing Diseases of the Nervous System. D. Kerfoot Shute.

14. Eyestrain and the Psychoses.—Dana says that alienists do not recognize eyestrain, even as a contributing cause. He has seen a few cases of eyestrain with apparent bad results mentally, in students. It seemed as if the eyestrain really led to a kind of exhaustion psychosis—a mental confusion—so that they could no longer read or study, or remember. This condition was accompanied by apathy and depression and lack of general interest. The eyes showed refractive errors and secondary muscular strain. Recovery came very quickly in most cases after rest and proper glasses. He believes it wise to have the eyes of psychopathic children examined carefully. After sixteen years of watching he has found hardly any cases in which eyestrain is an important and direct factor in establishing even a minor psychosis, though it modifies its symptoms and secondarily adds to the disturbance. The visual function is largely automatic and spinal, and when the mind is a good mind, the visual machinery does not overthrow or directly and seriously affect it. When the mind is unstable or the body weakened, cerebral eyestrain plays its part; and when the mind is unstable and the visual machinery is very poor, even spinal and migraine eyestrain may do some harm. Dana suggests that "glassing" has become something

of a minor psychosis. He does uot think that our mental balance and nervous wellbeing are so entirely at the mercy of slight defects in an organ that has been perfected by millenniums of use and misuse.

16. Eyestrain and Motor Disturbances of the Nervous System.—The relation of diseases of the eyes to functional nervous disorders characterized by motor phenomena is discussed by Sachs. He is convinced that not a single case can be cited in which the cure of a genuine epilepsy followed the relief of any one of the many "phorias" with which oculists are pleased to puzzle us. The evidence furnished from time to time by advocates of this special doctrine is wholly untrustworthy. What is true of epilepsy applies also to the relation of eyestrain and other ocular conditions to chorea minor. The idea that it might be due to some slight lack of adjustment in the ocular apparatus is too absurd to be considered even for an instant. In cases of so-called "habit chorea" it is well to have the patient examined carefully for his ocular as well as for his nasal condition, and any existing defect, however slight, remedied. It is these cases of habit chorea, and not cases of chorea minor that are relieved by such treatment as a competent oculist may suggest. A careful distinction must be drawn between these two diseases. The relationship between ocular affections and epilepsy, chorea and convulsive tic may be a close one in the minds of same "faddists," but it must remain a very remote one in the minds of those who have no special axes to grind and no particular therapeutic territory to exploit.

Boston Medical and Surgical Journal.

July 28.

20 Congenital Dislocation of the Hip. E. H. Bradford, R. W. Lovett, E. G. Brackett, Augustus Thorndike and John Dane.
21 *A Meteorological Study of the Winter of 1903-4. Carroll E. Edson.
22 Implantations of Silver Filigree for Cure of Large Ventral Hernia. Report of Two Cases. H. B. Perry.

21. A Meteorologic Study.—Some of the meteorologic data of the winter of 1903-04, as prevailing in various parts of the country, teach a lesson of therapeutic value. Edson undertook this work, selecting for study only the period of winter from Nov. 1, 1903, to April 1, 1904—a period of five months or 152 days, and took the following cities: Boston, New York, Philadelphia, Buffalo, Chicago and Denver. The article contains a number of tables showing the mean temperatures, the mean maximum and mean minimum temperatures, the average daily excess or deficiency of temperature over mean of 33 years, number of days with maximum temperature 32 F. or lower, mean relative humidity, sunshine, number of cloudy, partly cloudy and clear days, precipitation in inches, and wind. He says that climate is not a thing in itself; it is only the conditions of sun and rain and heat and cold and wind prevailing in any place. It is not a treatment for anything, but in a disease in which our weapons are discipline, food and outdoor life, a study of meteorologic conditions will enable us to place the patient where he can obtain the best opportunity for living that outdoor life most constantly and most comfortably. All weather is not the same, all fresh air is not equally good, but a location like that of Denver offers, by the conditions of its climate, its lack of storm, its absence of cloud, its warmer sunshine, definite advantages for the outdoor life so essential to the welfare of the tubercular individual.

Medical Record, New York.

July 30.

23 Age and Youth in Medicine. W. W. Keen.
24 Observations on Radium. Max Einhorn.
25 *Tic. Charles J. Aldrich.
26 Some Phases of Chronic Laryngitis. Z. L. Leonard.
27 Recent Progress in Genito-urinary Surgery. Martin W. Ware.

25. Tic.—Aldrich discusses tic, as distinguished from chorea, at great length, and describes cases illustrative of the various classes. The following is the classification of tic which he has adopted: 1. Involutional tic, the so-called senile acquired tic of other writers. 2. Evolutional tic, or the so-called early tic. The first variety usually presents itself in the simple form, but not rarely may be quite complex and even associated with psychic stigmata. Evolutional tic may be divided into: (*a*) degenerative evolutional tic, a morbid manifestation on the part of a degenerative nervous system usually inherited but possibly acquired; (*b*) acquired evolutional tic; (*c*) imitative evolutional tic. His definition of tic is: "Evolutional tic is a psycho-neurosis, in which a subconscious idea tends to arise spontaneously and force recognition by externalizing itself in expressed thought (*tic de pensée*), or in a more or less automatic repetition of some stereotyped movements which are identical with volitional acts—co-ordinate tic."

Cincinnati Lancet-Clinic.

July 30.

28 Gastrectasia; Its Clinical Significance and Treatment. D. B. Conklin.
29 Pyuria. G. S. Van Horn.
30 Dilated Heart. D. C. Houser.

St. Louis Medical Review.

July 16.

31 Report of Twenty Cases of Typhoid Fever. Clarence A. Good.

Physician and Surgeon, Detroit and Ann Arbor.

May.

32 *The Present Status of Streptococcus and Tetanus Antitoxin Injections. Victor C. Vaughan.
33 What Light Does Our Recent Knowledge of Tetanus Throw on Other Muscle and Nerve Affections. David Inglis.

32. Streptococcus and Tetanus Antitoxin.—The present status of streptococcus and tetanus antitoxin injections is discussed by Vaughan, and he reviews the work done in this field by Marmorek, Moser, Tavel and other investigators, both in the laboratory and the clinic. Many of these streptococcus sera are practically valueless against either weak or virulent cultures of the organism. The results obtained by various clinicians have been extremely variable, and while one man strongly indorses a particular serum, another just as strongly and unequivocally condemns it. The results obtained from the use of this serum are so variable as to cast considerable doubt and uncertainty over its efficacy in the treatment of streptococcus infections. It is evident that our knowledge of the streptococcus toxin is deficient, and before a satisfactory antistreptococcic serum can be prepared we must be able to prepare a soluble streptococcus toxin. The various sera now on sale are all made very carefully and with the best of intent. Each investigator has prepared what he believes to be the only true antitoxin, but they are all alike in their inefficacy. There is at present no satisfactory method of standardizing antitetanic serum, and we are quite ignorant of the value of any preparation we are employing. There is, however, apparently no danger of using too much, as it has been shown that antitetanic serum is harmless. Its prophylactic value has been demonstrated repeatedly, and Vaughan recommends that prophylactic doses be given whenever the physician is called on to dress a wound which in his opinion might be infected with tetanus bacilli, and that this injection be repeated on the third, fifth and seventh days after the infliction of the injury.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 23.

1 Dosage of Isolated Mammalian Heart by Chloroform. C. S. Sherrington and S. C. M. Sowton.
2 Report on the Form of Chloroform Inhaler. A. Vernon Harcourt.
3 Estimation of Chloroform Dissolved in Blood. D. B. Byles, A. V. Harcourt and Victor Horsley.
4 *Use and Abuse of Midwifery Forceps. J. A. C. Kynoch.
5 Present Position of Radium in Therapeutics; with a Summary of the Finsen Light and X-ray Treatment. C. M. O'Brien.
6 Some Results of Treatment by X-rays, High Frequency Currents and Ultra-violet Rays. J. Alfred Codd.
7 Colitis Polyposa. Frank Pope.
8 Fatal Case of Cyanosis with Enlarged Spleen. Theodore Fisher.

4. Use and Abuse of Midwifery Forceps.—This subject is discussed fully by Kynoch, who believes that the forceps are used too often by men without the necessary experience in their use, and that the mortality is thereby much higher than is necessary. This statement is borne out by the lower mortality rate in hospital practice than in private practice. It

has not yet been proved that by a frequent application of the forceps a very large saving of fetal life is obtained, but the figures at our disposal show at least a slight saving, with equally good results for the mother. In the hands of a skillful operator, the condition being satisfactory for the application of the forceps, a moderately frequent use of the instrument is to be recommended. Too little knowledge in the technic of the application of the forceps, and over-confidence in the safety of the abundant use of antiseptics, are responsible for many of the pelvic lesions following instrumental delivery. The abuse of the forceps will disappear to a great extent when medical students can obtain a sound practical training in obstetrics before they can present themselves for graduation, as is the case in the German universities. Although the student may not acquire any great degree of skill or dexterity during a brief residence in a maternity hospital, yet he would learn such important details as the position of the child's head and methods of pelvimetry which would prevent one frequent abuse of the forceps, viz., in contracted pelvis.

The Lancet, London.

July 23.

9 Bright's Disease and Its Varieties. John Rose Bradford.
10 Post-graduate Demonstration on Rheumatoid Arthritis. Charles J. Macalister.
11 One Hundred and Ten Cases of Total Enucleation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.
12 *Method of Closing an Abdominal Wound. John D. Malcolm.
13 Education of Visual Centers. W. Hamilton Hall.
14 *Radical Cure of Umbilical Hernia. B. G. A. Moynihan.
15 Case of Excision of the Cecum; Recovery. J. B. Footner.
16 Post-diphtheritic Chronic Bulbar Paralysis. Wilfred Harris.
17 Case of Wilful Introduction of Foreign Bodies Into the Esophagus; Death. J. H. Tagett and Stanley B. Atkinson.
18 Use of Phenylhydrazin in the Clinical Examination of Urine. W. H. Wilcox.
19 One Form of Suppurative Appendicitis. Arthur C. Roper.
20 *Abdominal Pain of Intestinal Origin. Frederick Holme Wiggin.

12. **Method of Closing Abdominal Wound.**—Malcolm describes a method he has employed for some years in operating for the cure of herniæ in abdominal scars. He avoids the middle line and cuts down on the rectus muscle, dividing it with his fingers, using the knife only if one of its tendenous intersections has to be divided. The first ligatures are passed in through one side of the incision and out through the other side, with an interval of one or two inches between—nearer if the abdominal wall is thin, and further if there is much fat. In order to approximate like tissues, the sutures must enter near the skin edge and pass deeply into the structures of the abdominal wall so as to describe a semicircle before being brought out close to the edge of the peritoneum: a similar deep grip of the structures is taken on the other side from within outward.

14. **Radical Cure of Umbilical Hernia.**—Moynihan believes that the operation devised by Mayo surpasses all others and achieves a veritable "radical cure."

20.—See abstract in THE JOURNAL, xlii, p. 484.

Bulletin de l'Académie de Médecine, Paris.

Last indexed page 287.

21 (LXVIII, No. 25.) Cure of Neuralgia by Electrolytic Treatment with Morphin Ions and with Quinin Ions. S. Leduc (Nantes).—Abstract.
22 *Treatment of Tuberculosis by Intra-tracheal Injections. Mendel. Abstract.
23 Action analgésiante et névrosthénique du radium à doses infinitésimales et inoffensives. Darier.
24 *Application de l'hygiène à l'enseignement (to pedagogics). Mme. Kachperov-Macaigne.
25 L'action hypertensive ou hypotensive des bains carbo-gazeux suivant leurs modes d'emploi (carbonated baths). Lausedat.
26 *La tuberculose ganglio-pulmonaire dans l'école parisienne (in Paris schools). Grancher.

22. **Intra-Tracheal Injections in Treatment of Tuberculosis.**—Mendel reports that fully half of 100 patients in various stages of tuberculosis were remarkably improved with intra-tracheal injections of 6 to 9 c.c. of eucalyptol in an oil vehicle. The technic is so simple that no special experience or skill is required, and the patients all submitted willingly to the injections.

24. **Hygiene Culture; Application of Hygiene to Pedagogics.**—This communication was read at the meeting of the Académie on May 31, the first time in its history that a woman was given the privilege of the floor. Mme. Macaigne applies the term "hygiene-culture" to the new method of pedagogics which she advocates. Its principle is that the child from the first should be taught that the aim of all human culture is to be useful to others, and that the foundation for this culture is the development of the two principal faculties of the human being, goodness, which impels us to wish well to our neighbor, and intelligence, which teaches us how to be useful to him. History, literature, philosophy, should all be taught on an entirely different basis from that at present employed; the evolution of peoples toward progress and goodness should be the points insisted on. The main idea throughout the entire education of the child and youth should be that his studies are for the purpose of perfecting and augmenting his usefulness to the world at large. Mme. Macaigne has made an attempt to carry out some of her ideas in several of the Paris primary schools during the last two years, with gratifying results. She insists that the true rôle of the physician is to form a new science of living, which will result in a rational cultivation of the human being as we cultivate plants to derive the finest fruits from them. No living creature, she says, receives such unsystematic and capricious, whimsical care as the human being. The cultivation of the child, both in respect to its physical functions and the development of its mind, is not based on rational laws to produce the best results for the individual and for society. We need a science of living, and it is to medicine, which possesses in hygiene the rules of healthy living, that the world looks to guide it toward this science.

26. **Glandular-Pulmonary Tuberculosis in the School Children of Paris.**—Grancher, assisted by a dozen of his present or former pupils, has been making a careful examination of all the school children in a certain Paris ward. They found that out of 896 children 141 were affected with latent but unmistakable ganglio-pulmonary tuberculosis. This is a proportion of 14 per cent. of 438 boys, and 17 per cent. of 458 girls. The mere "suspects" are not included in these figures. If they were, the figure 141 might possibly have to be doubled or trebled. Application was made to the authorities and cod-liver oil and meat powder were supplied for some of the affected children, while others were transferred to a children's sanatorium. Grancher makes an earnest appeal that schools should be established in the country for these latent tuberculous cases, where the children can grow up healthy in country air. The total number in the schools of Paris must be in the neighborhood of 20,000 to 25,000, judging from the proportions already ascertained. If boarding schools in the country are an unattainable ideal for these city children, he suggests that they might at least be boarded out in farmers' families and attend the village schools. [Kerley (THE JOURNAL, July 9, 1904), has recently suggested that one of the factors in the healthiness of children brought up in the country is that the articles of food are made at home. The baker and the corner grocery are at too great a distance to be available.—ED.]

Beitrage zur klin. Chirurgie (von Bruns), Tubingen.

Last indexed XLII, pages 985 and 1524.

27 (XLI, No. 2.) *Meniscus-Luxation des Knie-Gelenkes. C. Schlatter (Zurich).
28 *Ueber Leucocyten Zählungen und deren Verwertbarkeit bei chirurgischen Affektionen. A. Reich (Tübingen).
29 Zur Kasuistik und operativen Behandlung der Bauchhöhlen-Teratome (of abdominal cavity). E. Bayer (Prague).
30 Sweat Gland Tumors. O. Klauber (Prague).—Schweissdrüsentumoren.
31 *Genu recurvatum osteomyelitieum. J. Kisch (Prague).
32 *Ueber 828 operativ behandelte Hernien. H. Illigenreiner.
33 *Ueber retroperitoneale Lage der Milz (displacement of spleen). E. Ehrich (Rostock).
34 *Aneurysma der Subclavia. Oberst (Freiburg).
35 Ueber die Abscesse des Spatium prevesicale (Retzii) B. Honsell (Tübingen).

27. **Dislocation of the Semilunar Cartilage of the Knee.**—Schlatter adds 5 cases from Krönlein's clinic to those found in the literature, bringing to 62 the number of known instances of dislocation of the semilunar cartilage of the knee. All but 17 were dislocations of the internal meniscus. The luxation is always due to rupture of some kind, and it may

be suspected when there is sudden pain, resistance developing in the cleft in the joint and swelling of the joint capsule. Contrary to von Bruns' experience, he found that the cartilage protruded more frequently during flexion while it disappeared in extension. The results were invariably fine in every case after operative intervention, although all had been long treated in vain by other measures. In some rare cases, however, some trivial disturbance in the function of the joint developed in the course of years, slight atrophy of the muscle or limitation of extension.

28. **Leucocyte Count in Surgical Affections.**—Reich's statements are based on examination of 138 cases of inflammation of cellular tissue, 24 of osteomyelitis and a large number of appendicitis and other serious inflammations in serous membranes. When the leucocyte count stands at 20,000 for three or more days or constantly rises, a progressive suppuration may be assumed. Diffuse peritonitis may be suspected when the leucocyte count decreases and the general condition grows worse in case of an existing intra-abdominal suppuration, even when there are no other manifest clinical signs of the peritonitis. His observations indicate that a high leucocyte count testifies rather against the presence of tuberculosis. After trauma or operation the leucocyte count rises abruptly in the course of six to eighteen hours to a maximum of 16,000, and gradually returns to normal at latest in seventy-two to seventy-eight hours. He noted also this post-operative, nonseptic leucocytosis after strumectomies, in which case it was in striking contrast to the high or constantly rising temperature curve. The objection to this diagnostic measure is that several counts may be necessary for a decisive result, and this may delay the operation too long.

31. **Osteomyelitic Genu Recurvatum.**—Kisch describes 2 cases, both in 18-year-old patients. The epiphysis was forcibly liberated in the first case without the use of the knife, but this intervention induced fat embolism, rapidly fatal. The danger of this should deter from bloodless reposition, he thinks, and advocates, instead, linear osteotomy at the point of the deformity, with extension and the covering of the cleft in the bone with the patella taken up in a flap comprising both skin and bone.

32. **Wolfler's Method of Treating Hernia.**—Hilgenreiner's communication has already been editorially mentioned in THE JOURNAL, page 1421 of the last volume. The proportion of recurrences in the 828 cases operated on has been 7.3 per cent. This compares favorably with the Bassini operation at Albert's clinic with 7.5 per cent. recurrences. The Wölfler technic is described in full. It requires only twenty to twenty-five minutes and healing is complete on an average in 14.4 days. Healing was by primary intention in all but .8 per cent. during the last two years. The advantages over the Bassini are the avoidance of complications from traction on the spermatic cord. The herniotomy is generally done with local anesthesia alone.

33. **Retroperitoneal Displacement of the Spleen.**—A case is described in which serious symptoms were observed, attributed to an incarcerated wandering kidney. Fixation of the spleen in its place banished all the symptoms. Splenopexy, therefore, is sufficient in such cases and it is not necessary to remove the organ even in case of threatening symptoms.

34. **Aneurism of the Subclavian.**—Oberst reports a case from Kraske's clinic which brings the number on record to 188. Study of this material impels him to the conclusion that central compression is the best non-operative treatment, and central ligature the most promising operative measure. The results of peripheral ligation are uncertain, and extirpation is practicable only under remarkably favorable conditions. Resection of the clavicle should always be done whenever necessary.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 288.

36 (XXXI, No. 24.) *Application of Elastic Band in Changing Dressings of Wounds on the Limbs. L. Isnardi (Turin).—Die Anwendung der elastischen Binde beim Wechsel des Verbandes von Gliederwunden.

37 *Simple Method of Lifting Sunken-in Nostrils. S. Kofmann (Odessa).—Eine einfache Methode des Wiederaufrichtens der eingesunkenen Nasenflügel.

38 (No. 25.) *Ueber plastische Wander-Lappen (migrating flaps). Steinthal (Stuttgart).

39 (No. 26.) First Dressing on Battlefield. W. J. van Stockum. Der erste Verband auf dem Schlachtfelde.

40 *Turning Back Costal Arch on Account of Impermeable Cicatricial Stricture of the Esophagus. W. Meyer (New York). Aufklappen des Rippenbogens wegen undurchgängiger Narbenstriktur der Speiseröhre.

36. **Constriction of Limb as Aid in Changing Dressings.**—The danger of hemorrhage and all inconveniences of changing the dressings on a limb are obviated by applying an elastic band to constrict the limb above the wound. Isnardi has been utilizing this simple measure during the last two years, and announces that its advantages are obvious and manifold. The blood pressure in the parts is reduced to zero and the blood vessels are emptied by the anemia induced. This not only prevents hemorrhage, but protects the delicate granulation tissue from injury. He has used the Esmarch bandage or ordinary rubber tube, but has found a tube like that used in the Riva-Rocci sphygmomanometer the best adapted for the purpose, as also for operations on a limb. He applies the tube in a linen cover which can be sterilized. The chief advantage of this tube is that it can be inflated and flattened out at any moment, without removing it from the limb, thus allowing the blood pressure to be shut off or restored without the trouble of removing the tube. This is frequently an advantage in operating.

37. **Restoration of Sunken-in Nostrils.**—Kofmann gives illustrations of a patient to show the benefit derived by his method of paraffin prothesis supplemented by slitting the cicatricial tissue in the nostril intracutaneously, and then proceeding to progressive dilatation of the nostril with gauze tampons.

38. **Plastic "Wandering Flaps."**—Steinthal was called on to supply a covering for a loss of substance on the right leg, involving the knee and back of the leg. The patient was a girl of 5 who had been run over by a wagon. The defect was too extensive to be covered by a flap from the other leg and he found it impossible to apply a pedunculated flap from the trunk in such a way as to fit it over the defect, as it was principally on the rear aspect of the limb. He overcame these difficulties by taking a pedunculated flap from the left side of the trunk and inserting its free end in a gaping incision along the inner margin of the tibia in the sound leg, which was flexed and fastened against the trunk for the purpose. The flap grew in the incision and its attachment to the trunk was severed the eleventh day, after which it was an easy matter to cover the defect with the transplanted flap hanging from the sound leg like an apron. The flap was originally 10 by 17 cm. in size, and the final healing was excellent, preserving the knee region from functional disturbances. The healing was delayed by the fact that the granulations of the wound had become infected, and two months elapsed before the granulations became healthy and the flap took root. After this it healed rapidly and could be severed from the other leg in twelve days and sutured finally in place five days later.

40. **Costal Arch in Turned-Back Flap for Access to Esophagus.**—A case is described and illustrated to show the peculiar advantages of surgical intervention on the lower part of the esophagus through an incision shaped like a flaring U, extending from the junction of the seventh costal cartilage with the sternum downward and up through the cartilages of the seventh to the tenth ribs at their junction with the latter, thus including the cartilaginous portion of the costal arch in the flap which was readily turned far back, freely exposing the diaphragm and allowing the esophagus to be drawn down into view. Meyer is convinced that this incision would facilitate resection of the stomach or any intervention on organs in the vault of the diaphragm.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 288.

41 (XXVIII, No. 16.) Calculation of Size of Conjugata vera from Conj. diagonalis. Krönig (Jena).—Die Berechnung der Grösse der Con. vera aus der Conj. diag.

42 Eine modifizierte Kugelzange (ball forceps). O. Frankl.

43 Zur Technik der gynäkologischen Heissluftbehandlung (treatment with superheated air). Ibid

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Original Articles.

STATIC FOOT ERROR.

ANALYSIS OF ONE THOUSAND CASES.

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BOSTON.

The object of this investigation was (1) to contribute to the sum of available statistics of static foot error; (2) to draw from the cases any warrantable conclusions.

STATISTICAL SUMMARIES.

The cases are from the Orthopedic Out-patient Department of the Carney Hospital, Boston, through the courtesy of Dr. Painter, and include only those cases of foot trouble in which the chief factor appears to be static, i. e., an error of weight bearing. Thus acute and chronic arthritis of the foot, paralytic, circulatory, and recent traumatic and inflammatory conditions are excluded; but those cases are included in which any of the preceding causes determined a faulty static condition which itself had become the chief factor in the foot trouble. The cases are the thousand next preceding Sept. 1, 1903, and cover a period of two years and four months. The data are from the hospital records and from the replies of 44 and the special visits of 125 patients in response to 600 postals.

TABLE 1.—SEX. RELATION TO TOTAL ORTHOPEDIC CASES.

	Static Foot Cases.	All Orthopedic Cases in Same Period.	Per cent. Static Foot Cases to all Cases.
Male	426	1,162	36.7 per cent.
Female	574	1,290	44.5 per cent.
Totals	1,000	2,452	40.8 per cent.

The female cases were in moderate excess, and the percentage of female cases to all the orthopedic female cases was slightly larger than the corresponding male percentage. The static foot cases were about two-fifths of the total orthopedic cases in the same period.

TABLE 2.—AGE.[1]

		Per cent.
12 to 19 years	166	17.0
20 to 29 years	260	26.6
30 to 39 years	234	24.1
40 to 49 years	181	18.6
50 to 59 years	96	9.9
60 to 69 years	35	3.6
70 to 79 years	2	.2
Total	974	100.0
Unrecorded	26	

Two-thirds of the cases were under 40 years of age.

The seasons of the year in order of the frequency of application during them of static foot cases, the season of greatest frequency being first, are summer, spring, winter, fall. There were entered in the summer on the average nearly twice as many cases as in the fall. The total attendance of all new orthopedic cases, however, shows much the same seasonal fluctuation.

1. Cases under 12 years were not treated.

TABLE 3.—TIME OF YEAR.

	Static Foot Cases.	Total Orthopedic Cases.	Percentage Static Foot Cases to Total Orthopedic.
May, 1901	31	95	32.6
June 1 to Sept. 1, 1901	109	216	50.5
Sept. 1 to Dec. 1, 1901	52	144	36.1
Dec., 1901, to March 1, 1902	73	174	42.0
March 1 to June 1, 1902	128	305	42.0
June 1 to Sept. 1, 1902	129	332	38.9
Sept. 1 to Dec. 1, 1902	78	215	36.3
Dec. 1, 1902, to March 1, 1903	93	240	38.8
March 1 to June 1, 1903	144	387	37.2
June 1 to Sept. 1, 1903	163	438	37.2
Total	1,000	2,546[2]	

TABLE 4.—OCCUPATION.

		Per cent.
Housework (wife)	176	23.6
Housework or cooking (hired)	89	12.0
Clerk	36	4.8
Mill or factory	34	4.6
Laborer	32	4.3
Railroad	28	3.8
Waiter	24	3.2
Unclassified, requiring standing, as washerwoman, barber, bartender, etc.	147	19.7
Unclassified, not requiring standing	179	24.0
	745	100.0
Occupation unrecorded	255	

The relation of occupation to static foot error is illustrated by the following: Of 14 surface car motormen with static foot error, 7 had symptoms in only the left foot (the foot supporting the body-weight, the right being used to operate bell and brake); 2 had symptoms in both feet, but worse in the left; 4 had symptoms in both feet equally; and only 1 had symptoms in the right foot only, and in this case the left was objectively the worse. The weight-bearing foot, therefore, was affected alone in half the cases, whereas the free foot was affected alone in only one case, and in this case the weight-bearing foot appeared objectively the worse.

ETIOLOGY.

TABLE 5.—ETIOLOGY.

Trauma	85
"Acute rheumatism" or other arthritis including gonorrhea	88
Excessive weight (over 180 pounds) or sudden increment of weight, as at the menopause	22
Illness just preceding onset of symptoms	22
Postpartum	12
Congenital, i. e., said to have existed since birth and presenting, though at an early age, a foot completely flat with scaphoid dislocation	6

The figures in Table 5 understate the absolute frequency of operation of the respective causes in the thousand cases, because often no record was made; but they may be regarded as representing the relative frequency of the causes tabulated. Cases of foot error, in which the present general condition or non-static local condition appears to be the more important factor, are, as stated above, not included in the thousand cases, thus explaining the absence of present frank polyarthritis in a review of the causes of these cases. Certain condi-

2. Including 94 orthopedic cases with diagnosis unknown. In figuring the percentage to total orthopedic cases, in a previous table, these cases were excluded, as some of them were probably static foot cases.

tions, local and general, though perhaps not direct causes, have been noted as predisposing or contributing to the weight-bearing error and to the liability to symptoms therefrom. Local: (1) Long, slender foot; (2) hallux valgus. General: (1) Mild, fleeting polyarthritic symptoms, probably toxemic; (2) depression of physical vigor, without local symptoms, except in feet, as shown by soft muscles, pale skin and mucous membranes, excessive complaining without effort at self-help, and general indolence of body and mind.

The commonest direct cause was trauma. (It may be questioned whether the trauma, for instance, a sprain, was not sometimes, rather than the cause, more the result of a static error already existent.) In many cases no satisfactory cause was found.

TABLE 6.—RIGHT, LEFT, OR BOTH.

		Per cent.
Right only	140	14.9
Left only	152	16.2
One side only (not specified)	28	3.0
Both	618	65.9
	938	100.0
Unrecorded	62	

In about two-thirds of the cases, therefore, both feet gave symptoms, though often not beginning at the same time. In the remaining cases, the symptoms were about equally divided between the right and the left. It was not rare to find the symptomless foot used in objectively the worse position.

TABLE 7.—DURATION AT ENTRANCE.

		Per cent.
One month or less	105	12.7
One to 6 months	278	33.8
Six months to 2 years	251	30.8
More than 2 years	188	22.7
	822	100.0
Unrecorded	178	

In slightly less than half the cases the duration of symptoms at entrance was six months or less. The duration of symptoms, however, was often entirely disproportionate to what must have been the duration of the deformity, only a week or two of pain being not uncommonly attributed to at least a year's or two flatfoot. Moreover, as shown in several investigated cases, a patient, especially of the working class, learns to spare his feet unconsciously, and, until he suffers a decided increase of pain, due perhaps to some unusual exertion, he regards what discomfort he has as natural fatigue. It is believed, therefore, that the duration as tabulated is too short.

TABLE 8.—SYMPTOMS.

		Per cent.
Pain in feet only	643	68.1
Pain in feet and above	244	25.9
Pain wholly above feet	21	2.2
Disability or deformity (practically painless)	36	3.8
	944	100.0
Unrecorded	56	

In slightly more than 95 per cent. of the cases, therefore, pain was the leading symptom, and in slightly more than two-thirds of these painful cases the pain was in the feet and ankles only. Special interrogation of 125 cases, however, would seem to show that this proportion of cases with pain wholly confined to the feet or ankles is too large. Of the 36 painless cases 19, or more than half, were under twenty years, although of the whole thousand only one-sixth were under this age.

TABLE 9.—LOCALIZATION OF PAIN IN THE FOOT.

Astragalo scaphoid articulation (and immediate vicinity)	164
Heads of metatarsals	116
Center of heel (plantar surface)	106
Sole generally	30
Between external malleolus and cuboid	24
Plantar surface of head of first metatarsal	8

The pain in the foot was often variable and diffuse, so that the patient could not refer it to any exact site. The records, moreover, usually mention the "foot" or the "ankle" as the location of the pain. Table 9 gives the exact data as far as obtained. When pain was referred definitely by the same patient to two distinct spots the case was entered in the table twice.

Pain in the foot, therefore, usually diffuse or variable, when localized, was most frequently referred to the astragalo-scaphoid joint.

TABLE 10.—LOCALIZATION OF PAIN ABOVE THE ANKLE ASSOCIATED WITH PAIN IN THE FOOT.

Calf (including front of tibia)	147
Knee	73
Back	32
Hip	14

When pain was definitely referred by the same patient to two parts, as the knee and the back, it is entered twice, thus making the total larger than the whole number that had pain above the ankle associated with pain in the foot.

The calf, therefore, was much the commonest place for pain above the ankle associated with pain in the foot.

LOCALIZATION OF PAIN WHOLLY ABOVE THE ANKLE.

Of the 21 cases of static foot trouble without subjective foot symptoms 13, or more than half, had pain only in the knee, usually over the internal condyle, and 4 others had pain in the knee associated with pain elsewhere above the ankle. In these cases the examination of the knee was negative, except perhaps for slight hyperemia of the joint membranes. Exact figures can not be given, but in several of the cases the causal relation of the static error in the foot to the knee trouble was attested by prompt improvement of the knee following correction of the foot. The relation of static foot error to knee symptoms as seen in the clinic is commoner than the thousand cases would thus indicate, for cases of well-developed simple villous arthritis of the knee are found frequently associated with pronated or flat feet; but, although the static foot error may well have been the fundamental cause, and although part of the treatment is directed to the feet, these cases could not justly be grouped with the static foot cases, as the static foot element in them, whatever its causal importance, was no longer the chief factor.

TYPES OF STATIC FOOT ERROR.

To give the exact figures compiled regarding the types of deformity affecting chiefly the longitudinal arch would imply accuracy that is unwarrantable, for the nomenclature of the records has not been always uniform, and the types themselves are not distinct. In general, however, much the commonest type, occurring oftenest in massive feet of full-grown adults, was a moderate rotation of the sub-astragaloid tarsus about an antero-posterior axis into a valgus position, together with considerable depression of the longitudinal arch during weight-bearing, but without much abduction of the forefoot, *i. e.*, not much rotation outward of the foot anterior to the astragalus about a supero-inferior axis (patient standing). Without weight-bearing, the longitudinal arch in this type is normal or only slightly flattened, and during weight-bearing the arch is never entirely lost. The foot is relaxed and spread out. The next commonest type, occurring oftenest in slender feet, was moderate valgus, decided abduction of the forefoot, and an arch unusually high even during weight-bearing. The deformity in both these types is pronation, but with difference in the relative amounts of the three clinical components of pronation—valgus, abduction, and de-

pression of the longitudinal arch. The common incidence of a general type of deformity with a general type of foot, as noted above, suggests a determining difference in the internal conformity of the types of feet, especially of the calcaneo-astragaloid facets, as alluded to by Lovett and Cotton.[3] Other types observed were (1) the thoroughly flat foot, with prominence of the scaphoid; (2) flattening of the arch of relaxed feet in weight-bearing, without commensurate pronation, due to apparently direct depression; (3) pes cavus or the contracted foot, with short tendo Achillis, but no other evidence of paralysis.

In nearly all the cases the anterior arch was involved to some extent; in 156 cases, notably spread and flattened; and in 116 cases, as tabulated, painful. In 68 cases, the concurrence of spreading and flattening of the anterior arch, distinctive pain at the heads of the metatarsals (almost always centering at the head of the fourth metatarsal), and usually callous under the anterior arch, made the distinct diagnosis of broken anterior arch. Of these cases, 41, or about three-fifths (only 2.9 per cent. more than the percentage of total female static foot cases), were women; 10 (2 men and 8 women) had had the definitely characteristic, sudden attacks of excruciating matatarsalgia, relieved by removal of shoe.

The degree of deformity, whatever its type, was no indication of the severity of symptoms. A few of the cases complaining of pain had feet apparently normal, but were relieved by treatment of the inferred static error.

TABLE 11.—CONGESTION. VARICOSITY. HALLUX VALGUS.

Congested	65
Varicose veins	45
Hallux valgus, marked	77
(Minor grades common.)	

Of the 77 cases of marked hallux valgus, 14, or 18.2 per cent., suffered from definitely broken anterior arches, while in the 1,000 cases the percentage of broken anterior arches was only 6.8 per cent.

TABLE 12.—SWELLING.

		Per cent.
About astragalo-scaphoid articulation	33	58.9
About external malleolus	10	17.9
About both malleoli	6	10.7
Over dorsum	4	7.1
Prolonging heel cushion forward	3	5.4

TABLE 13.—TENDERNESS.

		Per cent.
Center of heel	16	64.0
Over astragalo-scaphoid joint	6	24.0
Sole	2	8.0
Cushion of first metatarpo-phalangeal joint	1	4.0

Tables 12 and 13 are incomplete, and represent relative, rather than absolute, frequency. Swelling when diffuse, as commonly, is not included.

In broken anterior arch there was usually tenderness about the head of the fourth metatarsal.

The commonest place for swelling was over the astragalo-scaphoid articulation, and the commonest tender point was the center of the heel.

TABLE 14.—MOBILITY. (IN PASSIVE MOTION.)

Inversion restricted (with dorsal flexion, as a rule, also restricted)	130
Dorsal flexion restricted (with inversion practically normal)	45
Generally restricted	69
Increased	20
Normal	257
Unrecorded (presumably no restriction)	479
	1,000

In 88 cases, mobility, almost always in inversion, was sufficiently restricted by spasm, adhesions, or adaptive changes in tendons or bones, to require special treatment; of these cases, 58, or 65.9 per cent., were men, contrasted to the 42.6 per cent. of male cases in the whole series.

In about one-quarter of the cases there was notable restriction of passive motion; in one-twelfth of the cases this restriction required special treatment; restriction of motion requiring special treatment was commoner among men than among women.

TREATMENT.

To make the results significant, it is necessary to give an outline of the treatment used. In a great majority of the cases (86.7 per cent.) a steel sole plate was advised, usually at initiation of treatment, sometimes after failure of other means, or in course of treatment. These plates were made as follows: a plaster impression was taken in each case, the patient sitting upright and allowing the partially corrected foot (or feet) to rest on the bottom of the pan of plaster; the cast, made by filling this impression, would then be gouged out, shaved, and marked for a plate of the shape and size needed by the particular foot. The plates were usually of No. 18 gauge steel, spring-tempered, covered with leather on both sides. The prevailing type of plate, chiefly for what has been described as the commonest type of deformity, was the square plate, supporting nearly the whole width of the sole from just anterior to the weight-bearing surface of the heel to the sesamoid bones of the great toe. A posterior outside flange, to keep the foot from slipping off and a small posterior inside flange were used, but neither side as a whole was rolled up, and the scaphoid and the base of the fifth metatarsal were not inclosed. For broken anterior arches, the plate was extended and raised under the heads of the middle metatarsals. Much abduction would be opposed by an anterior outside flange. High heel flanges and various modifications were used in needful cases. Flannel bandaging and supporting adhesive strapping were employed where indicated.

Local and general tonic treatment, foot exercises, right shoeing, and correct muscular standing and walking were often recommended. Rigid valgus was treated by adhesive strapping in as much correction as possible, followed by plate when the foot became sufficiently flexible; intractable cases were forcibly corrected by manipulation under ether, and retained overcorrected by plaster cast, followed by plate and usually Thomas sole. Thomas heels, or heel and soles, were occasionally used in promising cases in substitution for plates. Temporary felt pads and leather felt pads were among the measures employed. The treatment thus outlined represents only the routine, and does not give account of the adjustment of the routine to the individual.

ALTERATION OF PLATES.

Of the 1,000 cases, 513 did not return for continued treatment; of these, at the prevailing proportion of 86 per cent., 451 must have been cases in which plates were advised; this leaves of the total 847 plate cases, 396 to form the basis of the following table. If these 396 had all diligently continued to follow treatment, the number of alterations needed and made would doubtless have been increased. It is probable, as will be shown later, that the need for plate changes among the 451 who did not return was no less than among the 396 included in the table.

TABLE 15.—ALTERATION OF PLATES.

Time After Application of Plate.	Under 1 mo.	1 to 2 mos.	2 to 6 mos.	6 mos. to 1 year.	1 to 2 years.	Totals.
Raised	102	29	28	12	2	156
Required—usually broken	7	6	31	34	7	85
Adjusted—because painful	24	9	12	1	0	56
Lowered	3	4	3	2	1	13

Cases in which plates were raised more than once, each case entered only once in table: twice, 28; three

3. Boston Medical and Surgical Journal, Aug. 4, 1898.

times, 6; more than three times, 5. Alterations with time not specified, not entered in table, 7.

Thus, in two-fifths of the plate cases returning for after-treatment, the plates were raised, usually within a month. The need for this raising, due to the patient's becoming accustomed to the plate, to plantar moulding and atrophy, and to elevation of the arch, was conspicuously shown by the relief it gave from returning symptoms. A higher plate at outset would, as a rule, apparently not have been tolerated; indeed, the same plates, which, in a few weeks, unquestionably required raising, the patient at the beginning often could not wear steadily, but on account of the initial height of the plates had to become used to them gradually.

About one-fifth of the plates broke during the first year of use, usually due to continuous moisture and resultant rust. This breakage has recently been prevented apparently satisfactorily by galvanizing the plates with omission of the lower leather.

RESULTS OF TREATMENT.

Five hundred and thirteen cases of all kinds of static foot error did not return for after-treatment, and there are consequently no hospital records of the results of treatment. Of these cases, however, 85 have recently been examined or heard from, after a period since initial treatment (usually plate), average 6 to 7 months, and the results subjoined will perhaps serve as a basis for estimating the results in all the deserters.

"Entire relief" in the following tables means without inconvenience of any kind from feet; "relief," occasional pain in feet, usually after much use; "slight relief," pain in feet less, but present more or less all the time; "no relief," pain as much as ever. Intermediate results are expressed by the one of the above terms nearest in meaning.

TABLE 16.—RESULTS OF INITIAL TREATMENT.

		Per cent.
Entire relief	21	27.6
Relief	33	43.4
Slight relief	4	5.3
No relief	18	23.7
	76	100.0
Treatment rejected	9	

About one-quarter, therefore (if the same proportions hold for all), of the cases that did not return after the initial treatment (usually plate), were entirely relieved, and slightly less than the same number were entirely unrelieved.

TABLE 17.—RESULTS OF PLATE TREATMENT OF STATIC ERROR AFFECTING PRINCIPALLY THE LONGITUDINAL ARCH.

	Under 1 mo.	1 to 6 mos.	6 mos. 1 year.	Over 1 year.	Total.	Per Cent.
Entire relief	5	28	13	21	67	32.7
Relief	8	56	21	7	92	44.9
Slight relief	3	8	3	2	16	7.8
No relief	3	17	2	6	28	13.6
Worse	0	0	1	1	2	1.0
	19	109	40	37	205	100.0

Of the cases involving principally the longitudinal arch, one-third were entirely relieved by plate treatment (of course with the accessory treatment as described in the outline of treatment), with after-treatment, and only one-eighth unrelieved, in contrast to only the one-quarter entirely relieved, and the one-quarter unrelieved of the patients who received, as a rule, the same initial treatment, but deserted without after-treatment. The importance of after-treatment is further manifested by the improvement in results with the increasing duration of treatment; thus, as shown by the table, about three-fifths of the cases under treatment more than one year were entirely unrelieved, while of the cases under treatment less than six months those entirely relieved were only one-quarter.

TABLE 18.—RESULTS OF PLATE TREATMENT OF STATIC ERROR INVOLVING PRINCIPALLY THE ANTERIOR ARCH.

	Under 1 mo.	1 to 6 mos.	6 mos. 1 year.	Over 1 year.	Totals.	Per Cent.
Entire relief	0	2	7	0	9	32.1
Relief	2	8	3	2	15	53.6
Slight relief	0	0	0	0	0	...
No relief	0	0	1	3	4	14.3

Of the 10 cases with sudden, disabling metatarsalgia, 5 did not return after initial treatment, and have not been found. One was entirely relieved by plate for 8 months; then attacks returned; plate needed raising. Two were relieved at end of a month by strapping of anterior arch and plate. Of the two remaining, one continued to have attacks of undiminished severity, but less frequently, and the other was entirely unrelieved, although both had been faithfully under treatment, for ten months and one and a half years respectively.

The results of treatment of cases involving principally the anterior arch were strikingly similar to those in the longitudinal arch cases: one-third entirely relieved, one-twelfth unrelieved, and the rest all relieved considerably. In the cases of sudden, severe metatarsalgia, the results were not so good.

THOMAS SOLES AND PLATE SUBSTITUTES.

The results of treatment by Thomas soles without plates—entire relief, 2; relief, 4; slight relief, 1; no relief, 3—tend to show that this treatment, even in picked cases, was less effective than plate treatment, to which several of these cases had to come. Flannel bandaging and alternate hot and cold showering, or felt pad and strapping were also used, in promising cases of mild static error of the longitudinal arch, to bridge the patient over to physiological recovery, without committing him to the plate-habit. In 16 such cases, only 4 were unrelieved, but later 1 came to Thomas soles and 5 came to plates.

TABLE 19.—ADHESIVE STRAPPING FOR RESTRICTED INVERSION.

	Under 1 mo.	1 to 6 mos.	6 mos. 1 year.	Over 1 year.	Totals.
Entire relief or relief	3	5	1	0	9
Slight or no relief	0	3	0	0	3
Flexible	4	2	1	0	7
Still rigid	0	3	1	2	6

In three-quarters of the cases with restriction of inversion sufficient to require corrective adhesive strapping, the pain was entirely or much relieved, although the flexibility was much improved in only a half of a series of similar cases. The relief of symptoms without restoration of mobility, even with the plate, usually did not continue long after the last strapping.

TABLE 20.—FORCIBLE CORRECTION UNDER ETHER.

	1 to 6 mos.	6 mos. 1 year.	Over 1 year.
Flexibility nearly normal	3	1	0
No record of change of mobility, but symptoms relieved	2	1	0
Rigid again	6	5	1

Thus, in two-thirds of the cases of forcible correction under ether, the valgus and rigidity, in spite of plaster cast, adhesive strapping and plates, returned, although in several cases forcible correction was repeated, and in one case was performed five times with unpreventable return each time of rigid valgus due to peroneal spasm. In these not uncommon cases of spasm of the peroneals, resection of a short musculo-tendinous piece of the two muscles and their common sheath has recently in the clinic been giving apparently satisfactory and permanent results.

REMOVAL OF PLATES. CHANGE OF HABITUAL FOOT POSTURE.

Among the 350 plate cases in which results are known, although a half and more had worn their plates over six months, only 15 removed their plates with relief (6) or entire relief (9). Of these 15, 5 had worn plates less than 6 months; 5, 6 months to a year; and 5, more than one year; the majority of these gave up plates without advice. Six cases, one after three years of plate wearing, are known to have made, without advice, determined attempts to give up their plates, but were forced back to them by returning pain. The unavoidable inconvenience of plates and the natural desire to be rid of them, as illustrated in these six cases, and the common return of symptoms after breakage of plates, make it improbable that any considerably larger number of the 350 plate cases than the fifteen could have discontinued their plates with comfort. The 95.7 per cent. of all the plate cases in which the results are known continued to wear their plates because they could not do without them. After more than six months on the average, they subjectively needed plates as much as ever.

To explain this continued subjective need objectively, the prevailing foot-posture in standing and walking was observed in 125 cases, nearly all of whom had steadily worn plates for averaging six to seven months, and compared with the recorded posture at entrance. These comparisons could not be made accurate, because, as before noted, there was no accurate method of measuring and recording the posture,[4] even if this posture had been uniform during the observation, and not shifting, requiring a composite judgment; but roughly speaking, it seemed unquestionably that in nearly all the cases, painful or painless, plate-wearing or cases in which plates had been successfully discarded, with the exception of the abducted-pronated feet of growing boys and girls, there had been produced by the plate-wearing no practical change in the prevailing posture of the feet when used without plates, although, as indicated by the common need for plate-raising, the sole was molded and hollowed, and the arches were apparently more easily elevated by artificial support. The muscular control, also, as a rule, did not appear improved.

SOME REASONS AND REMEDIES FOR FAILURE TO RELIEVE.

Some of the reasons for failure entirely to relieve or to maintain entire relief that have been made obvious by a review of the series in light of the results may be summarized as follows:

1. Patient's failure to return for after-treatment (raising or adjustment of plate, etc.). The patient regards the plate as a shoe which is to be worn unchanged until worn out.

2. Patient's failure intelligently and resolutely to co-operate in achieving cure. The patient expects that the plate will cure his foot in the sure, quick, lazy way in which the charlatan's specific holds forth to cure consumption.

3. Remaining or returning interference with correct weight-bearing position and normal mobility of the foot (spasmodic or shortened tendons, intertarsal adhesions, bony obstruction).

4. Mistake for a simple static foot trouble of a foot trouble partly static but chiefly symptomatic of some other condition (arthritic or polyarthritic, circulatory, neurological, etc.).[5]

In a comparatively few of the cases, the reason or reasons for failure to relieve are obscure, and in spite of painstaking treatment diligently followed relief was not afforded. In one case, for instance, thorough local and general treatment, including general institutional hydrotherapy, was followed for six months before relief began to come.

These reasons for failure to relieve imply the corresponding remedies too plainly to bear mention. One remedy, however, it is believed, can not easily be overemphasized: the patient's intelligent, resolute co-operation. Such co-operation, though, especially in a hospital clinic, often hindered and sometimes prevented by the character of the patient, depends in all cases on effective instruction and encouragement, varying, of course, with the kind of patient and the kind of foot. The patient should be told and shown how to stand and walk to the best mechanical advantage, by the voluntary correction of pronation and the muscular use of foot and toes. Special exercise, correct shoes and foot wear, home manipulation for restriction of mobility, tonic bathing, local or general, and increase of physical vigor should, in needful cases, be explained and advised. These means of self-help, intelligently and resolutely used, with, or even without, a plate substitute temporarily, would, in a considerable number of cases, it is believed, be sufficient, thus avoiding the plate habit. The engaging, suggestive effect of a plate, however, more than of any plate substitute or of any other measures, is, in treatment of many cases, a factor of real importance. If a plate is used, it should be explained to the patient that the plate will probably need raising or alteration, and in most cases that it is to be regarded only as a temporary crutch, in addition to the rest of the treatment, which is to be discontinued, under advice, as soon as possible. For painlessness through plate wearing, although in some cases the best possibility, is never perfect cure.

4. An effort to measure pronation by the angle between the intermalleolar diameter and the long axis of the foot proved, as in the experience of Drs. Lovett and Cotton, unprofitable, because the relation of the amount of abduction, i. e., increase of the angle, to the amount of pronation is not constant.

5. No static foot trouble is without a cause, and strictly is always symptomatic; but by simple static foot trouble is meant foot trouble due more to the weight bearing error than to the greater or less complex of causes from which the weight-bearing error springs. It is only the former cases of which, as before stated, the present series was intended to be composed.

PRACTICAL NOTES ON OINTMENTS, THEIR USE AND ABUSE.*

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From time immemorial ointments have been employed in treating diseases of the skin, and the numerous references to them in the Bible show how highly they were esteemed. One reference, namely, "Dead flies cause the ointment of the apothecary to send forth a stinking flavor," refers to an important point to be considered, that is, the freshness or rancidity of ointments.

While it might seem a simple and easy matter to prescribe an ointment for a diseased condition, any one who has dealt much with diseases of the skin not only often recognizes the difficulties connected therewith, but sees continually the uselessness or harm of many that have been previously prescribed for patients by others.

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

A practical study of the subject, therefore, may aid some in avoiding certain of the errors which continually occur in this line of therapeusis. The subject is a larger one than can properly be treated of in a single paper, and many important matters must be very briefly considered.

PATENT OINTMENTS.

In regard to the innumerable patent ointments which have appeared in succession for years as cures for many or "all diseases of the skin," and some of which of late years have been so ingeniously thrust on the profession, some may have value, if rightly used in suitable cases, but their very number and variety show their relative uselessness. They may serve to relieve the physician of the effort necessary to prescribe a suitably compounded ointment, but experience proves their value to be extremely limited; indeed, they are often found injurious. Their uncertain composition, which is found to vary considerably at different times, and the doubtful testimonies of their efficacy, generally from unknown and inexperienced persons, quite excludes them from our serious consideration.

The United States Dispensatory contains formulæ for over fifty ointments for various purposes, many of which are well known and are of value, as recommended, but some are too weak and many of them are far too strong for ordinary use, unless diluted. It is, therefore, hardly safe to always rely on the directions there given in regard to the use of ointments in diseases of the skin.

There are so many items to consider in connection with this subject that it will be well to take them up in regular order under the following heads: 1, bases for ointments; 2, ingredients; 3, methods of compounding; 4, strength; 5, mode of application and removal; 6, indications and contraindications for ointments. No attempt will be made to fully cover all these topics, but practical suggestions are offered as to matters which experience has shown to be of importance.

BASES FOR OINTMENTS

The first requisite for a good ointment for the skin is that its base shall be non-irritating and of a proper consistency, and the tendency of many ointments to become rancid should never be forgotten by the physician. This will sometimes happen through the carelessness of the druggist, more often by that of patients in keeping them too long. Not infrequently an old ointment will prove irritating when one freshly and properly prepared, with the same ingredients, will prove serviceable.

Lard is a common base of very many of the ointments of the dispensatory, and to prevent its rancidity it is commonly treated with about 2 per cent. of benzoin, or originally the tincture of benzoin was added. This latter may prove irritating to the skin, and sometimes the lard is imperfectly benzoinated and will not keep.

Wax and oils also often enter as ingredients, which may likewise tend to rancidity. The petroleum products, paraffin, vaselin, albolene, etc., are also used considerably as bases, but it must be remembered that vaselin is not acceptable to every skin. Not at all infrequently an ointment made up with it will prove irritating, when the same ingredients with another base will be satisfactory.

Vaselin and albolene are often of value when it is desired to have only a lubricant, or a soft ointment to penetrate, as in the hairy scalp, but as a protective ointment it does not answer, unless materially stiffened with powder, as in the Lassar paste, or with wax, paraffin or lanolin.

Lanolin is rarely suitable as a base alone. At one time it was thought that it would be valuable as promoting absorption, when this was desired, but experiments have shown that it is far inferior to vaselin in this direction. Glycerite of starch often serves excellently as an excipient in irritable conditions, and also for general inunction after bathing, in dry conditions of the skin, but the susceptibility of some skins to glycerin must always be borne in mind, for to some it proves an irritant. Mutton tallow melted and thoroughly incorporated with enough oil, makes an excellent inunction for dry, harsh skin. Goose grease has been highly praised as an excipient, especially for parasiticides in the vegetable parasitic diseases. The newer proprietary bases, vasogen and endermol, serve good purposes and appear to be bland and unirritating.

Perhaps the most serviceable base for most ointments is cold cream, or the unguentum aquæ rosæ of the Pharmacopeia, but care must be exercised that it is well made, and that it is fresh, as it is liable to become rancid, and the water in it to evaporate. A little carbolic acid, 1 to 2 per cent., will preserve it for a considerable length of time.

A word in regard to diachylon ointment, so commonly associated with the name of Professor Hebra of Vienna. As directed now to be made, by melting together equal parts of lead plaster and olive oil, it is not as serviceable as that made after Hebra's original formula, for the oil is not decomposed in the process. Hebra advised that the ointment be made direct from the litharge, olive oil and water, the two latter in very much larger quantities, and the water double that of the oil. The water and oil are boiled, with constant stirring, and the litharge sifted in and the whole stirred until a good soft ointment is made.

INGREDIENTS OF OINTMENTS.

While many of the standard ointments, as those of zinc, mercury, sulphur, etc., are of more or less value, used alone, undoubtedly much gain can be had by a proper and judicious combining of various ingredients to suit individual cases; although sometimes prescriptions are seen exhibiting a marvelous polypharmacy, useless if not harmful. The addition of carbolic acid, 1 or 2 per cent., is a most valuable adjuvant to many ointments, and ichthyol, 6 to 12 per cent., is also of great value as an antipruritic, as is also oil of cade. Salicylic acid is also serviceable as a promoter of the growth of healthy epithelium, and may be added to various ointments in a strength of from 3 to 6 per cent.

Many illustrations could be given of the advantage of combinations of ingredients in ointments. Perhaps the most striking is in regard to what is often known as Wilkinson's ointment for scabies, which may be further improved by the addition of tar ointment and liquid storax. It must be remembered that the ingredients of ointments must often be changed to suit individual cases, and it is not always safe to take prescriptions, of ever so high an authority, without considering well the ingredients and their suitability to the diseased condition and the particular skin under treatment.

COMPOUNDING OF OINTMENTS.

The Dispensatory is very clear in its general and special directions in regard to compounding ointments, but, unfortunately, these are not always strictly followed, and one occasionally meets with ointments very poorly prepared. It is well, therefore, for the physician to inspect them from time to time, to be sure that they are fresh

and perfectly prepared. The most common error is in having gritty particles, which are often most irritating to the surface. I have seen an ointment of red oxid of mercury, ordered for use on the eyelids, in which there were hard, solid particles, suggesting red pepper, stirred into the base.

I have also frequently met with ointments in which there was much gritty substance, easily felt in rubbing them between the fingers. All mineral ingredients should be very thoroughly triturated in a mortar, with a few drops of oil, so as to make a fine paste, which is then thoroughly incorporated with the base. The more I see of practice the more I am convinced that a certain proportion of the want of success often occurring in connection with the treatment of diseases of the skin is owing to the faulty pharmaceutical prescriptions.

STRENGTH OF OINTMENTS.

Both in health and disease individual skins differ very greatly in their reaction to external irritants, and one should always be cautious in making a first application to a skin with which there has been no previous personal experience. Irritation and harm is continually done to eruptions by too strong ointments, and it is always well to begin with a mild application, increasing the strength as indications occur. Undoubtedly the reputation which oxid of zinc ointment has acquired, and also possibly some of the patented and advertised ointments, lies in their bland, non-irritating character, which may be all that is required in any particular case.

One will make very little headway in treating most diseases of the skin who knows only oxid of zinc ointment, although with it alone he will probably do more good and less harm than with any other single ointment.

PROPERTIES OF OINTMENTS.

The strength and composition of ointments must naturally vary very greatly with the purpose for which they are employed, and this should always be kept distinctly in mind in the treatment of any cutaneous condition. Ointments may be required for several very different purposes, and, according to their composition, their action may be: lubricating, protective, soothing, astringent, absorbent, stimulating, or antiparasitic. All of them may prove healing according to the nature of the complaint and the condition of the skin. These actions may be briefly considered.

Lubricants.—In many instances only a lubricant is wanted, and no mineral or other ingredients are required other than perhaps 1 or 2 per cent. of carbolic acid. Vaselin or albolene answers often very well, but a very valuable combination for general use is made as follows:

R.	Lanolin	℥i	30|
	Boro-glycerin	ʒss	15|
	Unguenti aquæ rosæ	℥iii	90|
M.			

An ointment of mutton tallow and olive or cod-liver oil, which can be cheaply made at home, is very serviceable in ichthyosis and in conditions where large quantities are long to be used. Glycerite of starch is also very acceptable to many skins.

Protective.—The protective feature of an ointment is often a very important one, which will be spoken of more fully shortly, when considering the mode of application of ointments.

Soothing Properties.—In very many diseased conditions of the skin the soothing character of an ointment is that which is most required, and here it is that the ingenuity of the physician is often most severely taxed. Especially is this true when the element of itching is prominent, and when one remedy after another in ointment form will fail to give relief. In many of these instances some other application, in the form of a lotion or powder, will be more suitable.

In attempting to give relief from itching great care will often be necessary to avoid remedies which overstimulate the skin, for continually it will be seen that stronger and stronger applications are used with only irritating effect when a mild, soothing ointment will accomplish better results, especially if rightly applied. Such ointments as the following will often give relief after much more powerful remedies have failed:

R.	Acidi carbolici	gr. v	|33
	Pulv. calamini prep.	ʒi	1|33
	Zinci oxidi	ʒss	2|
	Ung. aquæ rosæ	℥i	30|
M.			
R.	Ung. picis	ʒii	8|
	Zinci oxidi	ʒss	2|
	Ung. aquæ rosæ	ʒvi	24|

In increasing the strength of ointments great care should be exercised and the effect carefully noted.

Astringents.—In certain cases more of an astringent action is required, and tannin, ergot, lead and bismuth may be added to meet different requirements.

Absorbents.—Again an absorbent effect is often desired in an ointment, and the preparations of iodin and mercury prove most valuable, as also tar and its various congenors.

Stimulants.—Stimulating ointments are also often called for, especially in more chronic conditions, and there are a large number of these which, however, must be used with caution and with a definite end in view.

Many of the ointments found in current literature may be thus classed, and while in skilled hands and applied just rightly, they can be used with safety and often with advantage; in a large share of ordinary cases they will often irritate the skin unnecessarily and be worse than useless.

Parasiticides.—Lastly, antiparasitic ointments often present considerable difficulty to those not greatly accustomed to their use, and frequently to the experienced it is a difficult matter to secure an effective ointment which is not too stimulating. Especially to the scalps of children the ointments often suggested are either too weak or too irritating. Chrysophanic acid, although a fairly efficient parasiticide, is being less and less used, owing to its objectionable staining of the skin, hair and clothes. The iodin preparations and soluble mercurial ointments, such as the oleate and diluted citrine ointment, together with salicylic ointments, afford the best results.

MODE OF APPLICATION.

The mode of application and removal of ointments are often very important matters, about which far too little thought is given, for these have much to do with their good or bad effect. It is rare to find that specific directions have been given to patients, and yet, as it is often their first experience in this procedure, it is hardly to be expected that they will understand exactly the way to apply them in order to get the best results. The usual direction is simply to apply some of the ointment morning and night; and very commonly patients will diligently wash off one application before the next one is made, and not infrequently their faulty method of treating the skin will do much to counteract the benefit from the ointment used.

The mode of application of an ointment must vary greatly, according to the purpose for which it is used. Thus, when an ointment is used for lubricating, as in ichthyosis, xeroderma, or in a slight general eczematous state, the soft ointment should be taken on the palms and the body freely anointed, with friction, morning and night, until much of the ointment has been absorbed. Also in the treatment of scabies the appropriate ointment should be rubbed in, with the palms, over all the affected parts, and even for half an hour, until it has well penetrated the furrows made by the insect, and a considerable quantity should be left on, so that the underclothing becomes pretty well saturated with it.

On the other hand, however, on a more or less raw, eczematous surface such a procedure would be anything but beneficial, and the ointment should be thickly spread on the woolly side of lint and firmly bound on the part with as light a gauze bandage as possible. The same is true when it is applied to such a lesion as pemphigus or an ulcerating surface. In this latter case, however, it is often well to spread the ointment on very thin layers of absorbent cotton, held on the hand, which may be made to fit an uneven surface, and on removal they will come off easier, without tearing the newly formed granulations. This method is also peculiarly satisfactory in eczema about the anus, and in hemorrhoids, as it can be well tucked in and keeps its position.

Between these two extremes there are varying degrees of active application of ointments, and patients must be instructed just how to use them or much of the benefit will be lost. Thus, in parasitic diseases of the scalp, after clipping the hair very short, it is often well to apply the ointment with a stiff stencil brush, with considerable friction, working it well into the follicles, and the same mode of application is valuable in hard patches of psoriasis on all parts of the body.

Again, in old patches of eczema there is often much benefit from a greater or less friction with the finger, or often with a bit of flannel with the ointment, after which the patch is covered with the same spread on the woolly side of lint and bound firmly in place. In many cases of eczema or psoriasis about the hands it is almost impossible to make any progress unless the proper ointment is kept bound on the affected part all the time, night and day, for a while.

In itching conditions it may be necessary to renew the applications of ointment many times daily, and in eczema of small children the direction should be to replace it as often as it is rubbed off or the dressing becomes at all deranged.

In general itchy conditions, as pruritus and urticaria, it may be necessary to make applications of an antipruritic ointment many times day and night.

Often one sees very poor results in the using of ointments, resulting from the coverings or dressings which are placed over them. It is not at all uncommon to see a diseased surface to which ointment has been applied, covered with old linen or surgical gauze, which readily absorbs the greasy portion of the ointment very shortly, and leaves the affected portion dry, perhaps coated only with the mineral or other ingredient. This is not at all conducive to the healing of the part.

As has been already mentioned, the best results are obtained when the proper ointment has been spread thickly on the woolly side of surgical lint, or spread on very thin layers of absorbent cotton, and bound firmly on the part.

Many errors continually occur unless careful and explicit directions are given by the physician in regard to the removal of ointments and the subsequent treatment of the diseased surface. It seems to be the universal idea that such should be frequently washed, and one continually finds healing prevented by the application of soap and water, daily or oftener, when with proper use of the same ointment good results followed.

Rarely, is it advisable to wash surfaces which are at all raw, and all the cleansing necessary may be accomplished by the gentlest wiping with absorbent cotton. Much harm is also often done by a rough removal of ointments and dressings. When the latter adhere too closely it is generally because there has been too little ointment used or an improper covering made. If on removal of a dressing there is much ointment on the skin which it is desirable to remove, this can often be best accomplished by means of a dull knife, if gentle wiping with absorbent cotton is not effective.

INDICATIONS AND CONTRAINDICATIONS FOR THE USE OF OINTMENTS.

It is not always an easy matter to know just the exact indications for the employment of this or that kind or strength of ointment, or, for any ointment, in preference to some other kind of dressing, and disappointment will occasionally follow the best directed efforts. In some acute inflammatory conditions of the skin lotions and powders suit far better than ointments of any kind, while in the more chronic conditions, with dry, rough skins, ointments are, of course, called for.

The exact kind and strength of ointment can be determined only after a careful study of the skin, lesions present, and their acute or chronic state or condition, and also after a full appreciation of the character of the skin of the individual under treatment.

In general, a thin, delicate skin, especially in one with a light complexion and hair, will bear and require much milder applications than a thick, tough skin, especially in a brunette.

The single or localized patch of chronic eruption will, of course, bear and require much stronger applications than an acute or generalized eruption. While the sensations of the patient will commonly determine the continuance or disuse of an ointment, and great harm is not often done by too strong applications, our efforts should undoubtedly be directed to securing an application which will be effective and accomplish the end desired, if that be at all possible.

Every point in a case should, therefore, be carefully weighed and the indications and contraindications looked for and appreciated, before determination is made as to the proper ointment to apply. The almost universal use of zinc ointment is largely explained by its relative harmlessness, on the principle of the Irishman's holy water, who explained that, "if it does you no good it will do you no harm." This, however, is a poor principle to go on in the treatment of diseases of the skin, which often require very active measures for their removal; and, as before remarked, he is very poorly equipped for their treatment who knows only zinc ointment.

In concluding these brief practical notes on the use and abuse of ointments, for the general physician, I must utter the caution that we have been considering only one side of the great subject of the treatment of diseases of the skin, and one which is often the least important. All local measures are constantly found to be ineffective unless proper and adequate internal and general treatment is adopted and earnestly and faithfully carried out.

COVER-GLASS CULTURES AND THEIR POSSIBILITIES IN STUDYING EPIDERMIC FUNGI.*

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PHILADELPHIA.

The popular methods for studying the macroscopic and microscopic appearances of the epidermic fungi have been limited to the tube and plate cultures and their modifications on various culture media, and the hanging drop of bouillon ably demonstrates the structural formation of the growth.

By the plate culture Sabouraud, Colcott, Fox and others have suggested a classification of the tinea by their clinical appearances and their behavior on solid media. Although they have distinguished certain of the parasitic growths, yet their differentiation from some of the common molds which form cultures not unlike the growth of the trichophyton, can only be corroborated by the microscope.

Smears from cultures and cover-glass impressions only suggest stages of a growth and forms of fructification, without a complete history of vegetation.

The method which I have entitled cover-glass cultures consists in culturing the parasite on a cover-glass, using any nutrient media desired, placed in a moist chamber and incubated at the room temperature.

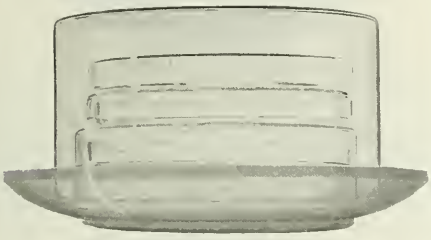

Fig. 1.—Moist chamber for cover-glass cultures.

The advantage of this method over the hanging drop consists in the facility for observing the development long after the possibilities afforded by the latter, and by providing a method of registering various stages by staining and mounting.

These specimens exhibit the beautiful arrangement of the formation of mycelia from spores, the growth of the colony above and below the media and the character of the fruit-bearing bodies or conidia, without disturbing the picture as it occurs in life.

The scheme consists in placing a drop or two of culture medium on a cover glass which has been passed through a flame. If solid medium is used, it must be liquefied by gently heating and then dropped on the cover glass with a platinum loop. The hair or scale is then embedded while the medium is soft. I generally prepare from four to eight cover glasses for each subject. These are cultured in specially prepared moist chambers, which consist of a shallow glass dish furnished with a circular barrier of glass, one-half inch in height, separating it into two distinct compartments and affording a shoulder over which is fitted a thin glass dish three inches in height. In the inner compartment are placed Petri dishes holding the prepared cover glasses (Fig. 1). Moisture is produced by keeping lime water in the bottom vessel outside the hooded barrier. This excludes the air and prevents evaporation of the medium. The dishes must be replenished with water frequently.

Fig. 2.—Hair from small spored fungus, demonstrating the process of budding.

Lime water is preferred, as it precludes the possibility of contamination. This is further prevented by packing a rope of cotton in the water around the cover, a precaution invaluable if the water should become vaporized. This has not infrequently happened in my experience.

Fig. 3.—Same hair as Fig. 2, but at later stage.

I have sometimes found it necessary to prevent drying of the medium by placing the cover glasses on moist circles of blotting paper in each Petri dish.

Room temperature is sufficient for the growth of the epidermic fungi and less favorable for contaminations that flourish above that point. The average period of

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

incubation is three days, but the microscopic study may commence after the first twenty-four hours.

A cover glass is held to a slide by a drop of water and the commencement of the growth observed. If sufficient progress of the culture is evident, it may be photographed before staining and mounting. Daily inspection should thus be made, and if further development occurs, a record of the same may thus be preserved.

This process permits the observer to study the growth

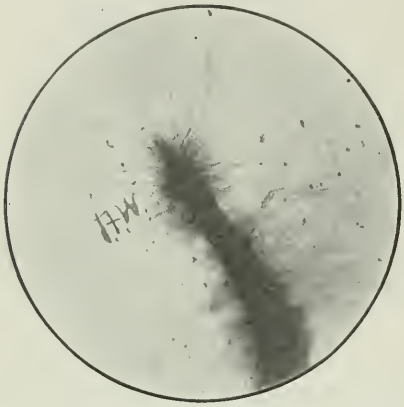

Fig. 4.—Hair from small-spored fungus, five days' growth, under high power.

of the living culture through all stages, from the formation of mycelium in and above the medium to the full development of a perfect colony, thus exhibiting the form and character of the fruit bearers and the manner of reproduction.

The removal of the culture by the platinum loop, known as the "smear," will not convey to the mind of

Fig. 5.—A cultured hair from the small-spored fungus.

the observer the process that he has wantonly destroyed. This difficulty Dr. Unna endeavored to overcome by a process which enabled him to study the growth of the living fungi, and which he published in 1888 in a paper entitled "Cultivation of Epidermic Fungi."

The plot consists in sealing a perforation in a slide with a cover glass smeared with vaselin. This cell is filled with some nutrient medium, a mixture of peptone gelatin and peptone agar being preferred. This he placed in a glass plate kept cool with ice. When solid, the cover glass was removed and half the jelly taken away by means of a platinum wire, forming a half moon. The slide was then placed in a perpendicular position, the free border thus formed then inoculated, permitting the aerial portion to grow upward in the empty half of the hole. About twenty of these slides were thus prepared and held upright in a glass vessel with grooved corks; the bottom of the vessel was covered with blotting paper saturated with a solution of sublimate. The method of Unna has the advantage that the growth can be viewed from the side, but it can not be preserved by staining and mounting, nor can the first stages of the development of a colony be studied.

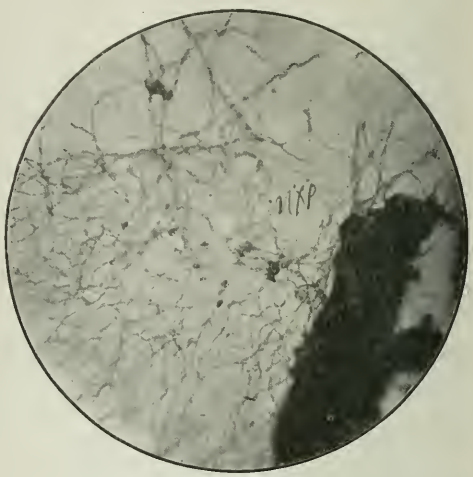

Fig. 6.—A hair of class 2, after five days' growth.

The value of cover-glass cultures will be more fully

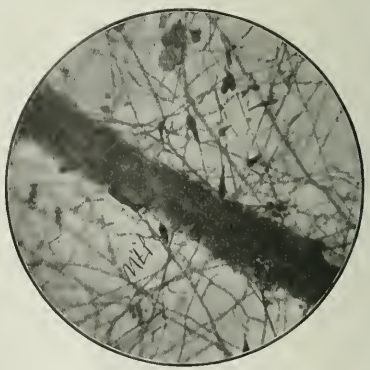

Fig. 7.—Cultured hair; multiple kerion class.

appreciated if we study the progress of living cultures, prepared slides and microphotographs. My work in this field has been purely experimental as yet, and I have made no attempts to classify the epidermic fungi; but I hope by the early publication of this paper to interest others and by their assistance to eventually establish a class for these parasites and discover the relation they bear to the common molds.

These results can be accomplished by combining the clinical picture and the microscopic findings with the cover-glass and plate cultures. In studying the trichophytons the three classes, according to the doctrine of Sabouraud, should be observed.

The microphotographs represent a few of the variations in the growth of the microsporon and the megalosporon, and the two forms of the common molds which not infrequently contaminate our cultures.

Fig. 8.—Hair illustrating an unusual form of kerion.

Figures 2 and 3 illustrate the development of the fungus from a hair which clinically and microscopically belonged to the first of the three classes of Sabouraud. Figure 2 represents a budding occurring on the shaft and the root after the first twenty-four hours' growth.

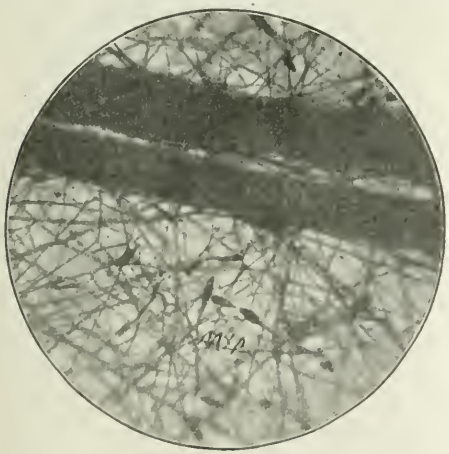

Fig. 9.—Another hair, illustrating kerion.

Figure 3 exhibits a sprouting of the bud later, showing a number of sprouts tapering from the hair to the margin of the culture, there expanding into numerous filaments; also a dense network of straight mycelial threads are seen radiating from the hair to the margin.

Figure 4 shows a hair after five days' incubation, taken from class 1. Figure 5 represents a cultured hair, also from the small-spored variety, after forty-eight hours' growth, with straight mycelium. Figure 6 shows a hair after five days' growth and corresponding to class 2.

Figures 7, 8 and 9 belong to class 3, and illustrate an unusual form of kerion, the lesions consisting of numerous small abscesses invading the greater portion of the scalp. In some instances they were not unlike favus, and a few were clinically diagnosed as such. The patches are conspicuous by the complete loss of hair and an apparent depressed scar. All cases have recovered in less than a year, with a complete restoration of the hair.

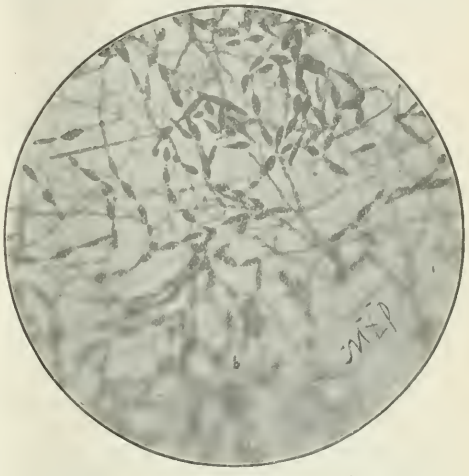

Fig. 10.—Ribbons of conidia after culture.

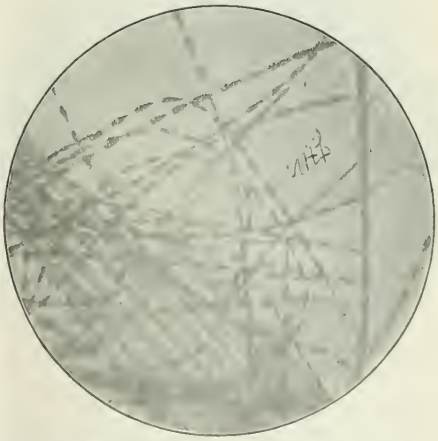

Fig. 11.—Ribbons of conidia in an uncultured hair

Out of seven cases observed, five were girls; the eldest were 16 and 17 years of age. The history and description of these cases will be the subject of a paper which will be published later.

Figures 10 and 11 illustrate ribbons of conidia or chlamydospores, frequently seen in cover-glass culture. Figure 9 is a microphotograph of a culture, and is the

same process found in an uncultured hair after digestion in a solution of caroid and stained.

Figures 12 and 13 represent two molds. Figure 11 is a living unstained culture of pencillium photographed from above, and Figure 12 a variety of aspergillus. All specimens are from stained preparations, except Figure 12.

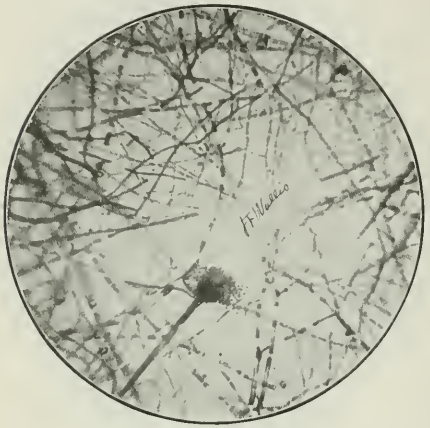

Fig. 12. Unstained cover-glass culture of aspergillus.

DISCUSSION.

DR. JAY F. SCHAMBERG, Philadelphia—I have seen some of the cover-glass preparations made by Dr. Wallis in this ingenious manner; the method appears to facilitate the study of the various pathogenic fungi, particularly those that develop in hairs. The photomicrographs illustrate the manner in

Fig. 13.—Stained specimen of aspergillus.

which the mycelial threads grow out through the hair shafts into the surrounding culture medium.

DR. W. S. GOTTHEIL, New York City—I had occasion to study contagious fungoid scalp disease when I was consultant to a large orphan asylum in New York some time ago. The trouble had been prevalent for some time before my attention was called to it; and 460 cases were found among the 900 inmates. Some idea of the importance of an outbreak of this usually trivial disease under these conditions is shown by the fact that it nearly led to the permanent closure of the institution; that it took eighteen months to eradicate; and that it cost $30,000 for the hire of and fitting up of buildings, physicians, nurses, etc. We did a good deal of culture work, and finally came to the conclusion that parasites indistinguishable from the trichophyton could be obtained from the scalps of all the children, even those who were apparently unaffected. Whether the fungus in these latter cases was attenuated or not I do not know, but we finally abandoned the culture test as entirely unreliable.

DR. L. DUNCAN BULKLEY, New York City—It is interesting to see, after many years, the same plan gone back to which many of us used before culture methods were known. Many years ago, twenty or thirty, I used the only way we knew of then, growing the culture on a plate and regulating the temperature of the room by the heater, and I have watched the growth of the parasite exactly as in the pictures presented by Dr. Wallis. I think this brings up a very practical matter and is a desirable statement. When a man doing scientific work shows the general practitioner who is not up on bacteriology in general how he may begin in a certain way with an ordinary slide and cover-glass and learn about vegetable parasites, this Section is doing what it is intended it should do, namely, helping the general practitioner to understand these things.

DR. J. F. WALLIS—I am interested in hearing that others have been before me in this work, especially Dr. Bulkley. I thought I was entirely original in this line of work until I read Dr. Unna's paper, published in 1888, and I still believe my process differs from others, as it enables one to preserve the various stages of the growth as well as to study the living colony. Dr. Gottheil's experience in finding cultures from normal hairs proves that growths from other methods are not reliable. It was this difficulty that suggested cover-glass cultures which enables one to observe the spores within the diseased hair develop into mycelial threads and this, I think, without doubt demonstrates the cause of the disease. To make the experiment more perfect I think it prudent to cleanse the diseased area of the scalp with cotton and alcohol, and this is an excellent scheme to collect the hair stubs, as they can be readily found on the cotton when they can not be seen on the scalp or epilated with forceps. This I also depend on as a test, and in my experience it is diagnostic. I depend on this test as a means of studying the progress of treatment.

NEOPLASM (EPITHELIOMA) OF THE PULP.*

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The great importance of this subject from a clinical as well as a purely pathologic point of view must be my excuse for presenting this rather incomplete study. It is with diffidence that I put the case on record, for in looking through the literature at my command I have so far been unable to locate any other like condition. If we exclude the hypertrophies which have been described under the heading of "Polypus of the Pulp or Tooth," then I am led to the supposition that this may be the first case recorded of an exceedingly rare condition. In reviewing the literature, Ziegler[1] speaks of "tumors of dental tissue formed in later life, and described by dental pathologists as odontinoids."[2] Accordingly as they consist of enamel, dentin, cement, or a combination of

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. E. A. Bogue, Alice M. Steeves and M. L. Rhein.

1. Ziegler: Special Pathological Anatomy, section ix, p. 593, 1897.

2. Ullrich: Ueber feste Neubildungen in der Zahnhohle. 1852.

these, they are classified as enameloid, enamelodentinoid, dentinoid, dentino-osteoid, or osteoid.[3] They are all small, often to be recognized only by the aid of the magnifying lens. They are flat, round, pear-shaped or warty in appearance. The first three-named varieties grow from odontoblasts and arise from the pulp of the crown and from that of the root, generally in connection with

Fig. 1.—T. S. premolar pulp. ×143. Taken from a central area. Pulp stone, fibrous tissue, with cells showing cloudy swelling, fat.

caries, under metallic fillings, or as a result of periostitis, mechanical injuries, abnormal retention of teeth or senile degeneration. The osteoid form grows from the pulp and from the periosteum, and is developed from osteoblasts. "Sarcoma, fibroma and myxoma are in rare

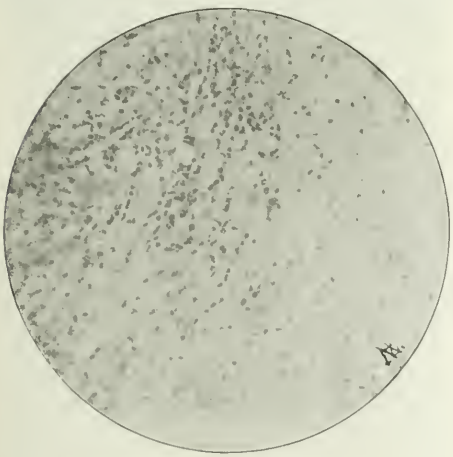

Fig. 2.—T. S. pulp. ×148. Showing polynuclear leucocytes. Early fibrous tissue with connective tissue corpuscles.

cases developed from the pulp as the tooth is being formed. Such growths, and particularly the sarcomata and fibromata, are, however, much more commonly derived from the periosteum of the dental socket or alveolar process, from the bone marrow or from the gum itself" (Ziegler).

Falkson[4] has described cases of cystadenoma arising from the rudimentary tooth papillæ and taking the form of a multilocular cyst, produced by cystic degener-

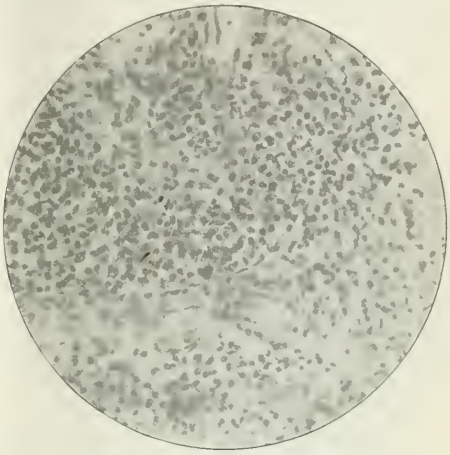

Fig. 3.—T. S. pulp. ×250. Showing cell infiltration, proliferation of blood vessels—fibrous tissue—more advanced than Figure 2.

ation of the dental follicles. The growth encloses newly-formed gland-like tubules and acini.

P. Bruns[5] and others have recorded certain rare instances of dental carcinoma, in which some of the epithelial cells of the tumor take on the appearance of enamel

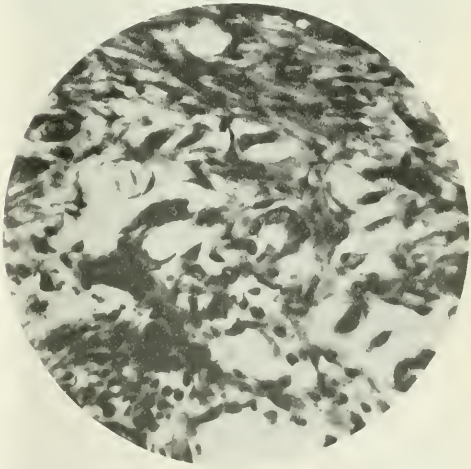

Fig. 4.—Pulp. ·400. Connective tissue. Spindle cells. Thickening of inner coats of vessel.

germs and produce enamel.[6] Unfortunately, the term "sarcoma" has been used when a simple hypertrophy or

3. Schlenker: Zahn und Mundpflege. St. Gallen, 1883. Untersch. über das Wesen der Zahn-verderbniss. St. Gallen, 1882. Pulpen Odontinoide. Hdbuch d. Zahnheilkunde. Verknöcherung, der Zahnnerven, 1885. Vierteljahrsschrift f. 3. Wien, 1892.

4. Falkson: Development of Rudimentary Teeth and Cysts of the Jaw, V. A. 76, 1879.

5. Bruns, P., and Chibert: Adamantine Epithelioma. A. de méd. exp., 1894, with references.

6. Mallassez. Epithelial Détritus Round the Roots of Teeth in Adults. A. de Physiologie v. 1885. Massin: Congenital Epithelioma Originating from the Enamel, V. A. 136, 1894.

polypus of the pulp has been meant, and this has been passed down from Wedl[7] and Salter[8] to Black.[9]

Boedecker[10] states that the only known tumor of the pulp is malignant myeloma, as first described by C. Wedl. Boedecker adds one other example, but unfortunately nothing was known concerning the history of the pulps affected.

In both cases, as seen by microscopic examination,

Fig. 5.—T. S. cuspid pulp from another area of periphery. Showing inflammatory cells, arteries and the margin free from odontoblasts. ×50.

they were the so-called round sarcoma, or, as Boedecker prefers to call them, lymphomyeloma. The term myeloma is used synonomously with sarcoma, some authorities objecting to sarcoma on account of its derivation from the word "sarkos" (Greek, flesh), whereas myeloma means what these tumors in reality are, medullary tu-

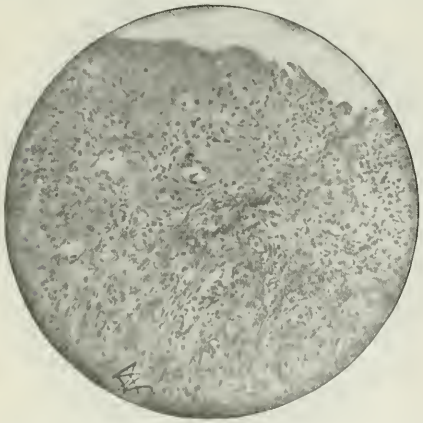

Fig. 6.—T. S. cuspid pulp. ×143. Showing horny or hyaline areas, here and there large cells and early masses with fibrous tissue resembling a scirrhus growth.

mors. When combined with epithelial as well as connective tissues, we must not forget that they are termed "medullary carcinoma," and in some cases may lead to a wrong diagnosis.

7. Wedl: Pathologie der Zähne, 1870. Transl.
8. Salter: Dental Surgery and Pathology, 1874.
9. Black: American System of Dentistry, p. 915.
10. Boedecker: Anatomy and Pathology of the Teeth, 1894.

Dr. Juan M. Alberdi,[11] Madrid, says, under affections of the dental pulp: "The organic affections consist in tumors, which reside in this organ. The tumors are hypertrophied productions, brought about by the simple hypergenesis of the normal elements of the tissue." The tumors are always the consequence of some lesion, espe-

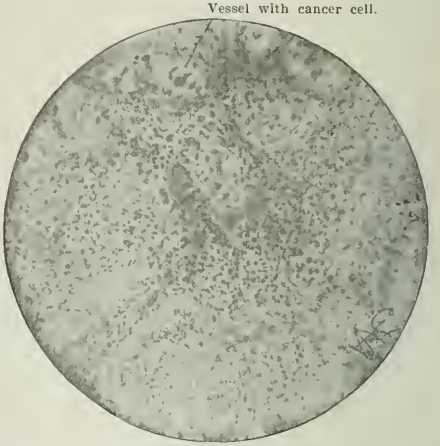

Fig. 7.—T. S. peripheral surface of pulp. ×143. Showing early whorls of cells, large and small. A bi-nucleated cell to the left, on the outer edge a vessel with a carcinoma cell in the wall.

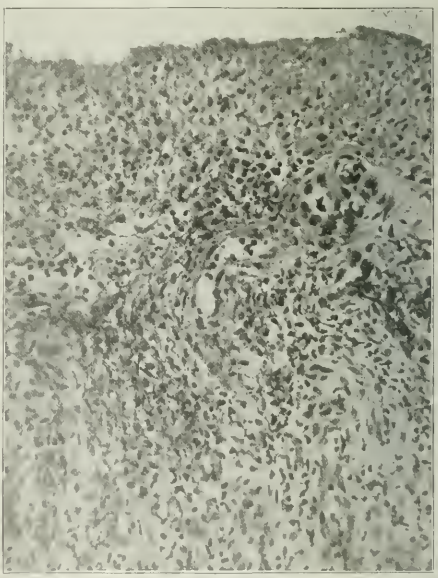

Fig. 8.—Pulp. ×240. Note the large cells in places of the inflammatory tissue around vascular areas.

cially penetrating caries, with exposure of the pulp. They are smooth, of a grayish color, and sometimes of considerable size, covered by a pellicle, which is only a thickening of that which covers the normal pulp. The treatment consists in removal of the pulp

11. Alberdi: Dental Cosmos, p. 916, 1902, Third International Dental Congress.

Dr. A. Pont[12] (de Lyon) mentions a case of tumor of the dental pulp without caries, which is not a tumor, pathologically speaking, but a polypus, or primary hypertrophied pulp with secondary inflammation, without power to form secondary dentin, but which has absorbed the ivory dentin, which properly belongs to the tumor division as seen so often in the osteosarcomata, and might incline one to place it in this group. "To what it was due is not clear, as it could not have been a chronic or hypertrophic pulpitis, there being no history of pain or caries. It might have been an aneurism of the pulp, but absence of hemorrhage excludes that, hence we will call it a hypertrophy of pulp with total absorption of the dentin without caries."

When we review the histology and gross anatomy of the pulp and note its close relation with the connective tissue origin, we easily see its liability to almost every known disease. Its peculiar formation enables it to supply the nutritive needs of the tooth with the vascular and nervous endowments, in which it is particularly rich.

The study of pulp diseases is best made by obtaining

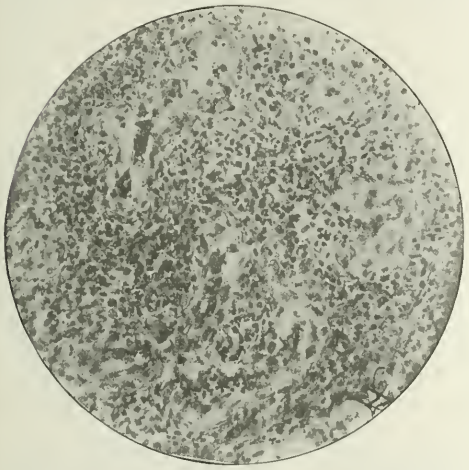

Fig. 9.—T. S. pulp nearer to the center. ·225. Showing the inflammatory condition and the scattered cancer cells.

the affected teeth immediately after they are extracted. Great care is necessary that an observer be not led by his preconceptions. Just opinions are arrived at only after a thorough examination, and by comparison with many other similar cases. Diseased conditions of the pulp are to be studied in the pathologic associations of inflammation, trauma and new formations.

Albrecht, in his monograph on "Diseases of the Pulp," follows these divisions: (a) disease of nerve; (b) disease of blood vessels; (c) disease of secretion. To-day this will avail nothing, as it is founded on no anatomic pathologic observation, and only confuses by the intermixture of terms which is bound to exist.

When we consider the position occupied by the teeth at the entrance of the alimentary tract, the change of temperature, varieties of food, continual changes in blood pressure as a peripheral area, and (in my mind one of the most important conditions to explain pathologic changes in their structure) liability to faulty development, fissures, cracks through acidity, abrasion, erosion, caries and the almost sure entrance of bacteria, as well as the relation and condition of surrounding structures as gingivitis, and the close effect of constitutional and systemic conditions of health, is it any wonder we have hyperemia, which may readily be followed by more or less pulpitis, the quick follower of any irritation? Not always does it happen, however, that pain does follow pulp exposure of the peripheral tubuli; even when the inner aspect of the tubes is seen in a hyperemic state, the pulp is often found in a fair state of resistance. The conductors of irritation, the odontoblasts, are common in their relationship to tubules and central organs; the filling up of these tubes and shrinkage of these cells break up the line of conduction, and this constitutes self-protection; then secondary deposits occur, and less pain usually follows. If the condition progresses, we may have a pulp exposure, with all the signs and symptoms of pulpitis. Pain is not necessarily an associate of the inflammation.

When a pulpitis has been of long continuance the pain seldom is found restricted to the tooth, but is apt to dif-

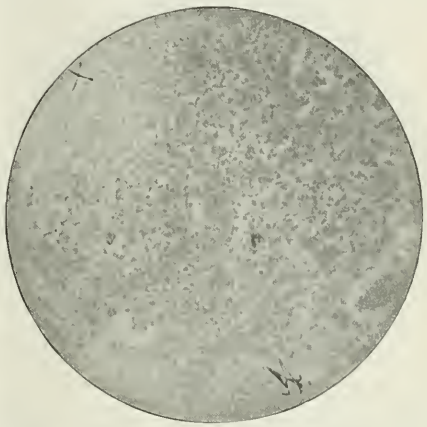

Fig. 10. T. S. pulp following Figures 7 and 9 ·143. Showing medullary type of growth. Multinucleated cells.

fuse over all the trigeminal tract. Sympathetic neuralgias are not the sequences alone of pulpitis, one of the commonest causes being erosion just under the gingival margin.

Baume[13] considers pulpitis is rare in children, and only occurs when caries has attacked the organs before absorption begins.

There are many sequelæ of inflammation which bear on the etiology of neoplasms: 1. Chronic pulpitis, which may even be the primary condition. 2. Suppuration. 3. Hypertrophy. 4. Gangrene. 5. Periodontitis. 6. New formations. In chronic pulpitis we have little to distinguish between such as are inflamed or not, death of the pulp following very rapidly in some cases. There is no vital resistance, but an unresisting, decomposing, greasy mass, which easily explains the loss of pain during death of the pulp.

Suppuration.—This is indicated by a sense of fullness, uneasiness and weight, and sometimes pulsation or

12. Pont, A.: L'Odontologie, Sept. 15, 1902. Dental Cosmos, Nov., 1902. Transl. Ash's Quarterly Circular, Dec., 1902. Second report, with microscopic findings, in L'Odontologie, May 30, 1903.

13. Dr. R. Baume: Lehrbuch der Zahnheilkunde.

boring pain, which may be of slight degree in some cases, but may be accompanied by edema in and about the face in others. This is one of the commonest forms of termination of chronic pulpitis. Scanty watery pus, or pus of an acrid nature, is often met with where we have some constitutional disease, or where disease of the overlying parts has preceded or caused suppuration. When pus is sealed in a cavity for any length of time, without external agencies, we find it very much thicker, pasty, and with a vile odor of putrescense; microscopically it is very rich in fat.

Gangrene may rapidly follow suppuration, the nutritional cells becoming pus. The conditions due to congestion have been followed, and gangrene succeeds the high tension point of hyperemia, the breaking up of the cell walls, passage and transformation of the cells, the coloring the tooth, and the tissues melting down surely, if slowly, until all are destroyed; fat drops running in all directions, and even covering all the nerves and vessels, and ending in a dark colored, greasy, putrid mass—sphacelus, or tooth discoloration. Dry gangrene is meant when evaporation of the circulatory secretions of the tooth has occurred.

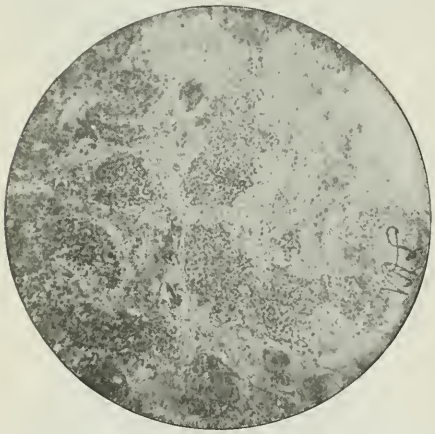

Fig. 11.—T. S. pulp continued from Section 10. Medullary masses all through with a typical epithelial arrangement in the lower area. Fragmentation. ×137.

Hypertrophy.—Inflammation may also cause a numerical increase in its constituents (hyperplasia), as well as hypertrophy, and form an enlarged mass so often and erroneously called a tumor. True, the increase in the new growth is allied to the histologic structure in its cell elements and becomes a polypus resembling gum tissue, only projecting from the *interior* of the pulp chamber. Microscopically, we see connective tissue, the vascularity being a characteristic feature. The nerve element being wanting, sensibility is often lacking—*unempfindlich*. Growth is rapid and often recurring readily, resembling malignant growths.

Salter speaks of a "sensitive sprouting of the pulp," differing very little from the above, except that it is clearer and softer and its vitality implies a more abundant nerve supply. It is often relieved only by extraction of the tooth.

Römer[14] has reported an examination of thirty patients with polypus, and gives three layers of granulation tissue. 1. Outer layer of pus cells. 2. Wider zone of endothelial cells, and of capillaries with the appearance of gland strata. 3. Strong tissue, with enlarged blood vessels and containing many round cells.

When the teeth are extracted they are placed in 10 per cent. formalin and decalcified in 33 1/3 per cent. solution of formic acid. They are cut in half with a razor and the part wanted embedded in celloidin and stained by any dye, as alum-hematoxylin, and picrofuchsin (Van Giessen), or by Weigert's method.

In the head of the polyp no nerve fibers were seen, but in pulp chambers and root canals were nerve bundles, varying according to the degeneration found, which consisted usually of fibroid elements seen best in teeth whose pulps have been exposed by fracturing the tooth in faulty extraction. In the case under consideration there was little to note as being unusual.

The patient, an elderly woman, aged 56, stout build, neurotic type, with signs of bronchial irritation and asthma (two sisters having died of cancer), called to see me regarding a partial plate. After examination, I advised that the few remaining teeth be extracted, as she gave a history of continued neuralgia around the face and head. The teeth were scattered in the mouth, and only the right upper first premolar and cuspid seemed peculiar, the former having a queer reddish color, no carious spots or other evidences of decay. The mouth was very cleanly kept; slight irritation of the gingivæ around the teeth and a feeling of uneasiness about the premolar. On percussing, I found that the nerve was not dead, but evidently congested. On extraction, hemorrhage was free and the tooth seemed to give way reluctantly, with a feeling of pulling from the apical attachment (hyperplasia cementum). I dropped it at once in warm saline solution, and then extracted the cuspid, which was an oddly-shaped tooth, of a queer greenish-white tinge, so noticeable that the patient many times said people asked what was the matter with it. The cuspid was exceedingly difficult to remove, and on its coming out a dram of yellowish clear fluid oozed from the alveolus. The apex of the root was covered with a thickened layer of peridental tissue, and I wondered if it was an abscess sac that had ruptured; the foramen showed a whitish thread hanging as the pulp, and I saw no evidences of suppuration, but some hypercementosis. So I preserved it in salt solution. The socket I carefully cleansed with peroxid of hydrogen; there

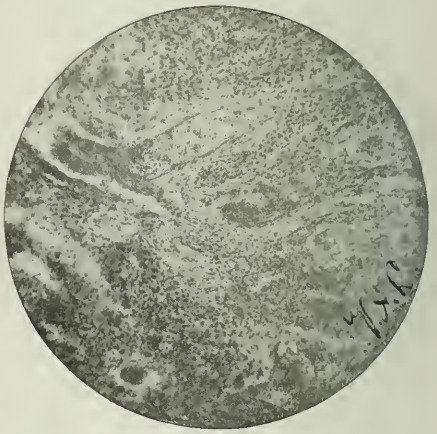

Fig. 12.—T. S. pulp. ×137. Showing the change from the closely-massed areas to the epitheliomatous cell nests and the pressure points surrounded by fibrous tissue—détritus.

14. Römer: Ueber Pulpa Polypen der Zahne. Corresp. Blatt. f. Zahnarzte C. Ash. Berlin, Jan., 1892.

was no effervescence to speak of, except when bleeding. Then I probed the cavity, and finally curetted it as thoroughly as I could, applied tincture iodin, and then 95 per cent. carbolic acid, and plugged with gauze and wool. This I did for nearly a week, and then allowed the cavity to close. It healed steadily on the slow and gradual withdrawal day by day of the gauze tampon. The patient so far (after three years) has had no recurrence nor trouble, and seems much more comfortable, using no upper plate yet, as she prefers to wait.

The teeth were removed from the saline solution and carefully opened, one longitudinally, and the cuspid transversely about half way, and the root longitudinally under normal fluid, till appearances were noted, and then it was changed to Zenker's solution. The cuspid had a fairly solid pulp, whitish-green. It looked like a fibroid, and was springy to the touch like a myxoma. I made microsections, and reproduce some photomicrographs from them. Taking the pulp at different levels, we find it complex and offering an unusual appearance.

Several points are worthy of note (Figs. 1-2): 1. Evidence of granulation tissue and pulpitis. 2. Slight sclerosis or fibrosis. 3. Slight hyaline degeneration in this area. 4. Small vessels surrounded by fibrous thickening. 5. Many polynuclear leucocytes were scattered through-

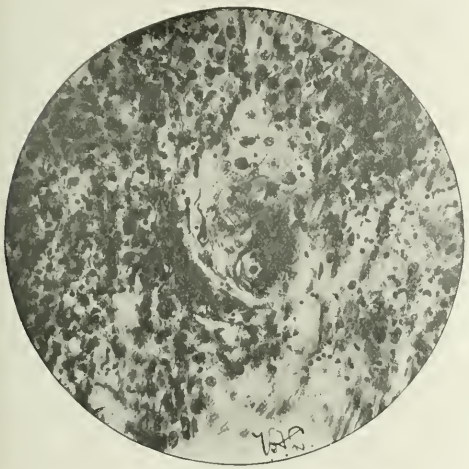

Fig. 13.—T. S. pulp. ×225. Same as Figure 12, only a higher magnification to show the epithelioma, with layers of cells. Nucleated characters plainly seen. Yeast infection.

out, in some places massing together like a round-celled infiltration and mixed in with bands of fibrous trabeculæ. (Figs. 2, 3 and 4.) 6. Near the outer edge were more deeply stained cells and better formed fibrous tissue, which gave a more homogeneous appearance to the cells, and at one side was a dark bluish irregular body, a calcospherite or pulp stone, longer than it was wide, and with a poorly stained area around it. (Fig. 1.) At one edge of the specimen was an almost glistening hyaline mass of cells, inflammatory, and with some cells, much larger than others and multinucleated, lining the fibrous stroma spaces, almost like scirrhus cancer. (Figs. 5 and 6.) Some of these cells were massed in cluster-nests, showing signs of considerable pressure; some cells staining a pale hyaline pinkish color, with the nuclei taking a darker stain, like cartilaginous cells, others appearing horny and taking no stain. A number of dyes were used, prominently hematoxylin and eosin, Van Giessen, and Ranvier's picrocarmine and logwood, picrofuchsin and nigrosin, safranin, Unna's polychrome-methyl blue.

A method that will be found very useful for gum tissue, polypi and epithelial structures is one modified and suggested by W. R. Smith, M.B.: Stain the section on the slide with hematoxylin and alum carmine, wash with water and put on the slide; dehydrate with absolute alcohol, stain a few seconds with a saturated solution of saffranin in anilin oil water, of which most is removed with blotting paper, run over the section absolute alcohol for a few seconds, and immediately drop on clove oil; mount in Canada balsam in xylol or chloroform. Great care is required in the washing out; it must only be partial. Too little alcohol in the washing leaves the stain in the normal tissues, and does not differentiate the cell nests from these or from other epithelial structures. Too much alcohol removes the whole of the stain from all pathologic and normal tissues. If sections are cut fresh, it is much harder to stain with hematoxylin and to dehydrate. For fresh sections, soak a few minutes in 4 per cent. formalin or methyl alcohol and then use alum carmin and wash thoroughly in water, and dehydrate. The carmine stains faster if gently warmed. In studying these specimens we must clearly note:

1. Whether normal non-pathologic growths of epithelium in the form of processes are growing inward from an epithelial surface, e. g., gum, epidermis, mucous membrane, pulp or glandular organ which can resemble an epithelial pearl when cut in some ways.

2. Pathologic processes, papillary prominences, epithelial columns of homogeneous masses of epithelial cells with ovoid nuclei (papillary prominences of Lebert), which may be found in the surrounding tissue, and simulate cell nests. Neither of these correspond with Billroth's classical description of cell nests. What distinguishes these masses in their earliest known form? (Figs. 7 and 8.)

They appear at first sight like spherical or oval cysts from 1/100 to 1/500 of an inch in diameter, walled in by irregular fibrous tissue, and containing granular matter, nuclei or cells within them. They may be in cluster or cylindrical; their nuclei are shriveled or not visible; contents often granular.

The termination in horny material is an extreme form of specialization, and such is not the destiny of all cell nests. Indeed, the study of these extreme forms is much desired, for observers have thus been misled as to the true nature of the structure and mode of growth of cell nests in general.[15] (Fig. 13.) In all probability epithelial cell nests start from one cell, by division and subdivision, except in such a disease with large pearls, as seen by Hamilton.[16]

In Figures 7 and 8 we find a single cell with two nuclei standing out; around it various sized cells are massed, forming an early cluster, and surrounded by one outer layer of cells; in places, only a single cell and small cohorts of a few cells each. In some places we find here and there a thickened capillary or arteriole, showing well-marked cells lining the endothelium (Fig. 7); here and there a large cell and nucleus, or an alveolus filled with a cluster of cells, almost forming an island. (Fig. 10.)

We find masses like those just described mixed in with the small-celled infiltration of Virchow, indicating active proliferation and irritation, with the intermediate areas breaking down or staining only poorly, but with here and there well-marked nucleated cells. Lying near these masses we see some typical cell nests with granular

15. Woodhead's Pathology, second edition, 1885, p. 481; third edition, 1892, p. 174.

16. Text-book of Pathology, 1889, part 1, p. 406.

détritus among them, singly and in groups. How these cell nests grow is yet to be understood. Paget[17] is in favor of the theory of the growth being from one central cell, and Snow,[18] who, with others, gives us a theory of surrounding pressure, says "a small area of cells always appears as the original point of the globe, never a single cell." (Figs. 9, 10, 12.)

That this specimen is a carcinoma, epithelioma, is very evident. It certainly can not be classed, like Wedl's and Boedecker's cases, as a lympho-myeloma or round-celled sarcoma, for it certainly possesses epithelial nests, fibrous trabeculæ, and stroma, lined with large cells; granulation cells of the polynuclear type, degeneration and a reaction to dyes that marks the carcinoma group. (Figs. 6, 7, 11, 12, 13.)

In polypus of the pulp the parenchymatous connective tissue is the seat of the proliferation described as sarcoma of the pulp, in which the parenchyma is gradually destroyed, and indicated by the absence of nerves and the altered character of the blood vessels. As the sarcoma is located on the outside of the remains of the pulp, it serves in a measure to protect the latter."[19]

The study of the odontoblasts is a very vexatious one, as on account of their close relation to the dentin it is difficult to procure good sections without decalcifying the hard tissues, or preparing a tooth by the Koch-Weil process, which loses much valuable material; and the disarrangement of the pulp, unless this is done, renders it valueless.

In removing the pulp from its chamber the layer of odontoblasts clings tenaciously to the dentinal walls, either partly or as a whole, and hence we can easily understand how little progress has been made in this study. Black[9] states that this layer of cells seems to remain unchanged in acute inflammation until combined with suppuration. This seems, judging from my own work, to be hardly the case, for the cells are seen in every state of disease, and many times are not present, showing plainly the odontoblast cells act very similarly to the ciliated cells in bronchitis, and the falling off before the pulp is very much affected shows how easily any irritant affects the deep pulpal ends of the cells, and so causes atrophy and degeneration (Figs. 4 and 5.) Hopewell Smith also shows illustrations which correspond to my own slides of inflamed odontoblasts, showing in some a numerical hyperplasia. It would be an interesting study to make careful sections of pulps *in situ* and extracted from teeth excised in cases of neoplasms of the jaw, as myeloid sarcoma, epithelial growths, fibroma, epulis, etc., and so note if the pulp shows any metastatic deposits or any other pathologic conditions. I have a few specimens so made which exhibit many problems for elucidation, and especially as regards their origin.

In the specimen here presented it may be asked how and from what did this growth originate. The teeth were, to all appearance, sound; even with an aplanatic lens nothing could be seen but the change in color, which gave me the idea of a dead tooth, and the percussion note was negative. The sensitiveness and neuralgic pain pointed out pulp and peridental irritation. Stanley Colyer[20] shows a "burrowing epithelioma from the peridontal membrane" which illustrates my section of neoplasm of the pulp very well, but he found the pulp dead and suppurating. His theory as to origin would certainly be questioned by many of the workers in carcinoma to-day. (Figs. 11 and 13.)

If we accept the theory that "like cells produce like," then how did odontoblasts produce epithelial cells, if the former originate from the stomodeal mesoblast, i. e., from the periphery of the dentinal or pulp organ? If odontoblasts could be proved as arising from the epiblast or hypoblast, many difficulties would be removed. Their nerve endings and their close relationship to the cells at the terminations of the optic and auditory or sensory nerves, not only as regards the physiology, but the morphology and pathology, their functions being allied somewhat to the glandular organs as in the stomach and intestine, namely, secretion, excretion and manufacture of chemical problems for metabolism, and the situation and better development of odontoblasts at the coronal cervical part show that we have here a close relationship of epiblast and hypoblast structures. This points to the nerve impressions passing through the tubules, and shows a closer relationship to the nervous system than is usually given.

In looking over the question of treatment we must note the use of the cautery, escharotics and iodin. In this instance, the best and only treatment was extraction, and if it had not been for the usual plan of study by breaking open the teeth and making sections, the great danger the patient ran would never have been recognized, and the chance of continual watching afterward, as well as the curetting which was done, would have been lost. It is well known that arsenic has been accredited with causing epithelioma, and J. Hutchinson[21] considers that many of the cases of multiple cutaneous sarcomata may be fairly attributed to the use of iodin and its salts. When we note the frequency with which iodin is used in dentistry, externally and internally, that many patent medicines contain it, and consider its use in the arts, photography especially, and in the preparation of the antiseptic gauzes, we can find another point for study. The frequent stimulation used by dentists for pericemental and periodontal irritation should cause an increase in hypertrophy, gingivitis and the papilloma and epulis forms of growth, to say nothing of the epitheliomata; but I think it can be shown we have less neoplasms in the oral cavity now than formerly, due, possibly, to better hygiene and methods of operating.

CONCLUSIONS.

The points of interest are:

1. The freedom from urgent symptoms beyond neuralgia.
2. The great rarity of neoplasms of the pulp.
3. Lack of literature and careful pathologic and histologic study.
4. The want of further and more complete examination of the tooth structures, in relation to the pathology of neoplasms of the jaw.
5. The question of metastases in the pulp from perio-dontal tumors.
6. The value of microscopic study should be urged in dental schools, as an aid to differential diagnosis and treatment.
7. The changes which may attend the killing of pulps by irritants and care to thoroughly cleanse the pulp canals.
8. To emphasize the better treatment and value of closing up fistulous openings in the gingivæ for fear of

17. Paget: Lectures on Surgical Pathology, third edition, 1870, p. 720.
18. Snow: Cancer and Cancer Processes, London, p. 65.
19. A. Hopewell Smith: The Histology and Pathological Histology of the Teeth, 1903.
20. Stanley Colyer: Trans. Odont. Soc., Great Britain, June, 1901, pp. 231, 242.
21. Archives of Surgery.

further infection, and irritation of the peridental membrane, which may cause the growth of neoplasms.

9. That all dead teeth should be discovered as early as possible and treated thoroughly with the best of surgical skill.

10. The frequency with which hypercementosis is found at the radical point of the dead tooth.

11. The embryonic origin of the various structures of the pulp.

12. That great care should be used when examining the dental structures in elderly people, and all causes of irritation removed.

13. From what did this epithelioma originate, since it is a primary growth, enamel or odontoblasts—most probably the nerve elements?[22]

808 Morse Avenue, Rogers Park.

DISCUSSION

ON PAPERS BY DRS. ANDREWS, TALBOT AND LATHAM.

Dr. M. L. Rhein, New York City—The deductions which Dr. Andrews has made I do not think are logical or warranted by what he has presented to our Section in the last few years. I have never taken the position attributed to me of believing that pulps were merely for formative purpose, and that in adult life they would be better out than in. I do radically disagree with the argument laid down by Professor Andrews that we are too prone to remove diseased pulps, and I believe Dr. Latham's conclusions show the error of conservative treatment of diseased pulps. One of the unfortunate things that meets the practicing dentist is the impossibility of making microscopic examination of pulps in a pathologic condition. We can only draw inferences and conclusions. There has come into practice in my locality in the last few years a pulp capping imported from Germany, known as "iodoformagan." I have a large collection of radiographs taken from one to three years after this medium has been used, and in every instance macroscopic examination has shown an apparent degeneration of pulp tissue. It has been impossible to make microscopic examinations. In some cases the entire contents of the pulp canal have apparently been consolidated, so that, so far as a circulating medium, or pulp proper, it has disappeared up to within a close border of the end of the root. It is for this purpose that I have been for years a strong advocate of the aseptic removal of every portion of the contents, not only of the pulp chamber, but the canals where this is liable to occur, or where it is feared. The criticism made by Professor Andrews in his paper as to the results of removing the pulp and the subsequent deterioration of the cementum and pericementum tissue is one that I naturally disagree with, and the basis of that disagreement is the observation of following this practice for over twenty years. I do say that there is a vast difference in the manner and methods of removing pulp tissue and of taking care of those tissues afterward. The trouble is that the majority of the profession are not willing to give the time required to thoroughly remove every portion of the contents of the pulp. There is another procedure necessary after every portion of the pulp contents has been removed surgically; the introduction of proper therapeutic agents will remove so much of those fibrils that enter the canaliculer portion of the dentin as to leave that tooth absolutely free from any danger of breaking down and infection. These agents should be followed by scientific sterilization of the canals. Finally, the hermetical sealing of those canals is one of the means which will keep the roots in healthy condition. Where this healthy condition does not continue it is, in the majority of cases, due to faulty operation. There is no excuse for a darkened tooth substance after the removal of tooth tissue.

Dr. E. A. Bogue, New York—Dr. Rhein has called attention to my misunderstanding of his position. I am glad to have him set right the question of removing a living pulp. He has just acknowledged what I wished to have him—that a living pulp can not always be removed instrumentally. This morning he said that he had been misinterpreted and made to say that he considered the pulp of no value after adult life had been reached, and it might better be removed than not. That was not my understanding, but I understand him to publish this statement, that after adult life is reached he regards the pulp, being a formative organ of the tooth, as of little further value. I agree with him in regard to preserving a pulp exposed by decay. I have never seen any capping or treatment of any kind effectual in restoring health, or a condition that would lead to restored health in these pulps, once exposed. Dr. Rhein told me on one occasion that he had removed a living pulp from a right lower molar. I have that tooth in my possession to-day. It was extracted five months after he thought he had removed the pulp. When brought to me, it had considerable of the pulp in it, showing that his skill was not sufficient to get it out; nor could any one else have done it.

Dr. E. C. Briggs, Boston—I take the ground which I have taken before, which is that after adult life the pulp is more often a menace to the tooth than a help. That does not mean that every tooth should have the pulp killed. I think that after the able papers by Drs. Latham and Talbot we are appalled at the ills the flesh is heir to, and it makes one more convinced than ever that the pulp had better be out of the way. The surgical removal of the pulp is the thing that these men do not seem to consider. We know Dr. Andrews' ability and power of research, which I bow to with great respect; yet his deductions are not necessarily correct, and I do not agree with them. I surely do not mean to remove the pulp with acids and arsenic and such things that will destroy the tooth, but if the pulp is removed surgically it does not destroy the tooth any more than removing the appendix destroys the whole alimentary canal; so that I indorse what Dr. Rhein says in respect to removing the pulp with rather more emphasis than perhaps he puts on it.

Dr. N. S. Hoff, Ann Arbor—Would you have removed this pulp that Dr. Latham reports, simply because of the symptoms?

Dr. Briggs—I think I would. It is one of my preliminary treatments in interstitial gingivitis or pyorrhea alveolaris. I knew enough of the evils which are the result of this condition of the pulp before Dr. Latham and Dr. Talbot referred to the subject. I knew of the exostosis and the reverse action of the odontoblasts in removing calcareous matter from the root, and I knew of the pulp stones, and now all these other conditions only emphasize, to my mind, the importance of the surgical removal of pulp when there is any irritation.

Dr. M. L. Rhein—Dr. Briggs has stated my position, and I stand exactly on what I have published. Dr. Bogue has misunderstood what I have published. All that has ever been brought before this Section has shown us how difficult it is to find the pulps in adult life in a normal physiologic condition. As I understand Dr. Bogue, he advocates in the multiple rooted teeth the use of arsenic in preference to removal under anesthesia by cocain. I differ entirely with him. I think he has held up the case which he cites a number of times, and very erroneously. The posterior root of this lower molar had coalesced with the anterior canals, and there was a slight amount of this deposit between the two roots. This is the description of the tooth given me by Dr. Taggart of Burlington, Vt. After the pulp was surgically removed from the posterior canal and both anterior canals of these teeth were in such a condition that it was impossible to find a trace of any pulp tissue, the canals were subjected to a most vigorous treatment by sodium and potassium, which practically destroyed any vitality that remained in this coalescent site. The subsequent history of this case proves absolutely the correctness of my position. It does not follow that arsenic would have acted any better. On the contrary, I have histories of cases in which arsenic has failed to do its work, and where cocain enabled me to remove surgically the pulp from the canals of multiple rooted teeth where it was impossible to proceed after numerous arsenical applications had been made. Where arsenic would have been of any further value in a case of coalescence of these two roots I fail to see.

Dr. A. W. Harlan, New York City—It seems to me the sum-

ming up of Dr. Andrews' paper is the desirability of retaining the pulp in a tooth for other than formative purposes. Dr. Andrews' position on the retention of the vitality of the pulp when not diseased is probably correct. When a pulp becomes exposed there are certain changes that take place within a certain period which render that pulp as a normal organ valueless, and it might just as well be destroyed. Referring to the paper of Dr. Latham, I think perhaps the extraction of that tooth was correct, but I challenge the statement that there is no method of knowing whether the pulp has died, because we have ample means at present, although somewhat imperfect, of determining whether the pulp is alive.

Dr. V. A. Latham—I said that our means of diagnosing dead teeth was not as yet very perfect or absolute.

Dr. A. W. Harlan—So far as determining the vitality or non-vitality of the pulp is concerned, I should contend that with heat, cold or electricity we can determine that absolutely. I was interested in Dr. Talbot's statement that abnormalities of the teeth occur from non-use. In the publication of Oakley Coles more than 30 years ago, there are shown a number of abnormalities of the pulp. It is absolutely certain that when a tooth is not in use it deteriorates either by elongation or by the growths on the external surface or the root, or that it gets out of position and the tissues around the root become so inflamed and irritated that it becomes a useless member. It is further absolutely determined that in the rapid eruption of the teeth, certain changes of the pulp take place. The chewing of tobacco and the holding of pipes in place also cause changes in the pulp. When the pulp is diseased we have a formation which may be in the shape of a cyst, and within that cyst we may have a deposit of calcareous matter which is a pseudo-form of tartar. There are growths around the ends of the teeth after the pulps die that may cause serious disturbance of the general system, so great as to result fatally. I would, therefore, conclude that when the pulp becomes exposed it should be destroyed, no matter whether it is surgically removed, or poisoned, destroy it so that you will get every vestige of it out. The root of the tooth should be filled and there should be a sufficient amount of contact with the opposing jaw to keep the tooth in use.

Dr. J. L. Williams, Boston—Pulps that are nearly exposed and not diseased I have proved in years of practice can be saved and means taken to protect them; but, after a pulp has become inflamed I have learned not to expect its total recovery. It may be kept comfortable, but I suppose its nutritive quality is lost, and I often question whether it is worth while to tamper with it. Some years ago I saw a case in which the pulp was exposed, but not wounded. I tried a process of treatment, which I was the first to introduce and systematize. I made the softest possible antiseptic covering for it; I looked at it at the end of a month and again treated it. At the end of about a year I opened it. It looked perfectly clear, and in passing my instrument over the transparent secondary dentin there was no sensation. It was then filled. In two years the tooth decayed on the other side. There was some sensation on excavating the new cavity, showing that we should discriminate between an exposed pulp and a diseased pulp. I do not believe that when a pulp has its growth it does not contribute to the continued welfare of the tooth. When it can be made healthy it should be saved for the benefit of the tooth.

Dr. E. C. Briggs—We should bring out clearly that the idea brought forward is not that one is to go around slaughtering pulps of teeth, but that, if things are in any way wrong concerning the teeth, the chances are that there is more menace from the presence of the pulp than without it. In answer to Dr. Bogue, I do not like to have the principle destroyed by his questioning one's ability to remove the pulp. I do not pretend that I can do these things, but I think the chances are that I or some other one will find a perfect way of doing this work. We are doing now a great many things that could not be done ten years ago. The underlying principle is not affected.

Dr. E. A. Bogue—Dr. Dawbarn, in a paper on malignant growths, speaks of an operation of his own devising, viz., excision of a portion of both external carotids; after ligation and in speaking of that he has two or three times wondered why we as dentists did not more often observe the incipient beginnings of cancer. He says that sarcoma and carcinoma are acted on quite differently by his operation. In sarcoma he has had no instance up to the present in which he has felt that his operation has been a failure. In carcinoma he regards the operation as helpful only for a short time. That brought to mind Dr. Latham's case, which would show that it was through the circulation that carcinoma took its way, while sarcoma may more particularly be called a local condition. I hope we may have a further report concerning Dr. Latham's case.

Dr. Talbot—There has been for several years a symposium on the dental pulp, and the results have been more than satisfactory. Dr. Andrews' paper is far-reaching, and I fear the importance of the paper is not understood. It has been discussed from the degeneration standpoint, but the fact has been lost sight of that the pulp at any period of life has its influence on tooth structure. The paper is most valuable, because it leads to the point of the necessity of the vitality of the tooth. If it be necessary, as Dr. Andrews shows, it must follow that diseases of the human body have a great influence on tooth structure. It must be admitted that there is a difference between supposition that certain conditions of the pulp exist, or that they have been found and actually demonstrated. Supposing a condition exists in the human body; to state it is one thing, to demonstrate it another. I wish all these papers on the pulp could be published in book form. It would be a most remarkable collection of papers.

Dr. Latham—I came before this Section asking for a diagnosis, for advice, and also for bibliography. My main object was to bring my contribution before the Section for discussion as to the origin of the growth. I have held this case in hand for some three years, and only recently thought of publishing it. I have had experts in Germany and in England looking up bibliography for me, with no success. The papers are not published in a way easy to be found, especially since the *Dental Cosmos* stopped its bibliography, and I would suggest greater care in choosing titles. I ask from what tissue did this epithelioma arise, if the pulp is a mesoblastic structure?

ASCARIS TEXANA.

A NOTE ON A HITHERTO UNDESCRIBED ASCARIS PARASITIC IN THE HUMAN INTESTINE.*

ALLEN J. SMITH, M.D.
PHILADELPHIA,
AND
RICHARD A. GOETH,
SAN ANTONIO, TEXAS.

The following note is based on two female specimens of an ascaris, submitted to Dr. Smith by Dr. Goeth, who had obtained them from Dr. Ferdinand Herff of San Antonio, Texas. Together with a number of other examples supposed to be of the same kind, they were passed in the intestinal discharge from an adult white man in care of the latter physician, the patient stating that for several years he had passed similar parasites from his bowel (some of which were slightly larger than the two samples given his physician, but apparently of the same type), and complaining of his inability to rid himself of the pests, which, however, gave him no particular physical inconvenience. Efforts to obtain other specimens since last year when these were passed have thus far been without success, and the absence of a male example renders the establishment of the full specific description impossible for the present. Moreover, the two specimens,

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when sent by Dr. Goeth, had been mounted, unstained, in balsam on glass slides; and, from the influence of the reagents used in the balsam-mounting medium, as well as from compression and division of each specimen into three lengths for convenience of mounting, were not in favorable state for detection and clear recognition of many of the finer details needed in the study. Sufficient data may, however, be determined from the material in hand to surely differentiate the worm from the known ascarides of the human intestine, and to make the idea of its identification with other known members of the genus improbable. Attempts to stain one of the samples for better definition of the

Fig. 1. A. Low amplification of female *Ascaris texana*: a, esophagus; b, intestine; c, longitudinal cuticular band; d, poison glands; e, vulvar orifice; f, uterus containing ova; g, ovary; h, anus. B. Ovum.

minute structure have not been attended with any success.

We hesitate to insist on the absolute correctness of the view of the novelty of the species until the description following may be verified by study of fresh material and male specimens; but we feel that from the data in hand the specimens presented may at least be tentatively accepted as constituting a new species, and would suggest that it be known as *Ascaris texana*.

The two specimens closely agree grossly and minutely. They measure, respectively, 58 and 60 mm. in length, and at the thickest part 1 and 1.5 mm. in thickness (taking no account of modification from shrinkage from the preserving and mounting reagents employed and the widening consequent on compression of the specimens). One should recall in this connection the patient's statement that other samples discharged ranged slightly larger than the ones described.

The specimens when fresh were practically colorless or slightly yellowish, cylindrical or subcylindrical, tapering through a long anterior half to the head, rapidly tapering from close to the anus to a slightly dorsally curved and mucronate tail, the thickest part of the worm being in the region of its posterior third. The cuticle is finely striated transversely, and in the compressed specimens one lateral longitudinal band may be clearly made out. No alæ as in *Ascaris mystax* are recognized anteriorly or posteriorly. The three lips of the genus *Ascaris* are well developed, broadly conical interlabia being present, reaching close to the level of the oral membrane between the lips. The lips are of a rudely hexagonal shape, the base forming the sixth side and

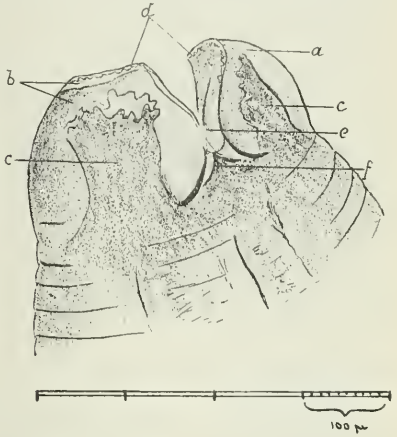

Fig. 2.—Lips of *Ascaris texana* (camera lucida drawing from compressed specimen): a, superior lip; b, inferior lips, the left overlying the right; c, pulpa; d, denticulate anterior margin of superior and right inferior lips; e, keel of superior lip on inner surface; f, interlabium.

the lateral and basal angles being rounded. The anterior border is slightly concave and the anterolateral more distinctly so, the posterolateral convex; the anterior and posterior the smallest. On the internal margin of the anterior border of the lips are a number of small tooth-like papillæ, the remainder of the free borders being entire and smooth. The superior lip is slightly larger than the inferior ones, although the difference is apparently but little. The pulp of this lip rises from the esophageal musculature, passing forward close to the anterior border of the lip, where it is subdivided by a depression, the "saddle," into two paired lobes, each of which bears four or five lobules of papillary appearance, which extend anteriorly or anterolaterally. An unpaired lobe projects on the inner surface of the lip in somewhat of a keel shape toward the base of the lip, giving the usual triangular shape of a transverse section of the lip at this level. Each of the inferior lips is provided with a pulpa symmetrical with its fellow, the pulpa of the superior lip being bisymmetrical, i. e., its lobes are symmetrical or paired with

each other. The oral cavity opens directly into the muscular esophagus, of long, slender flask shape, terminating 31 mm. back of the base of the lips; this opens apparently by a valve arrangement into an intestine, which runs a nearly straight, slightly sinuous course to the posterior end of the worm, terminating at the anus, close to the tail on the ventral side. Along the esophagus and anterior end of the intestine for a distance of 12 mm. from the base of the lips, apparently in two

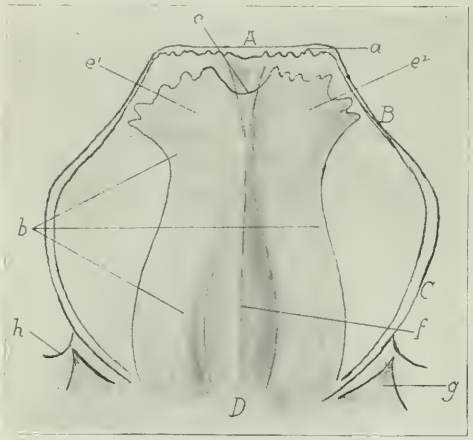

Fig. 3.—Inner aspect of superior lip (constructed): A, B, C, D, anterior, anterolateral, posterolateral and posterior sides of same; a, denticulate anterior internal border; b, pulpa; c, saddle; e^1 and e^2, paired lobes with lobules; f, unpaired lobe forming keel of lip; g, interlabium; h, border of interlabial oral membrane.

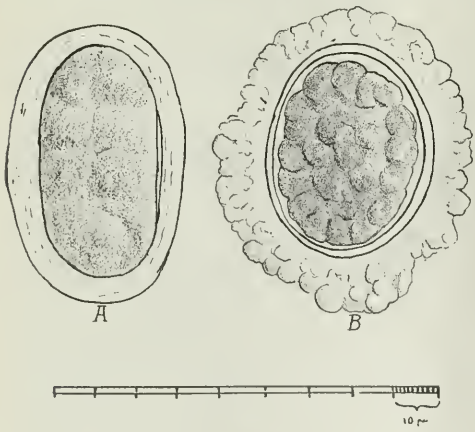

Fig. 4.—A, Ovum of *Ascaris texana* drawn from specimen in uterus. B, Ovum of *Ascaris lumbricoides* drawn for comparison from examples taken from uterus of formaldehyd specimen.

masses, may be traced a finely granular material which probably represents the so-called "poison glands" of the ascarides; and for some distance along the intestine a fine granular exterior probably represents the remnants of digestive cells. The anal opening is a transverse slit, 1.150 mm. from the tip of the tail. The number and arrangement of pre-anal and post-anal papillæ are doubtful from the specimens in hand; two well-marked post-anal ones are clear, 0.5 mm. back of the anal orifice.

The sexual orifice is not certainly determined because of the condition of the material; but what is regarded as such, because of the prominence of the lips and the appearance of sphincter-like folds in the cuticle about it, is situated 2 cm. back of the base of the lips, just anterior to the level of the uterine canal. In neither of the specimens studied could the vaginal tube be traced. There are two ovaries, anterior and posterior, plicated along the intestine and uterine canal. Within the latter in both specimens are large numbers of ripe and often well-segmented ova, colorless, provided with a thick wall, without visible external marking or envelope as are met in the eggs of certain of the ascarides. They measure 60x40 microns, with variations of 4 to 5 microns in different ova measured. The interior is granular, no nuclei being appreciable in the specimens at hand.

Whatever other features may later from fresh material be learned of this worm, it may be without doubt placed in the series of ascarides, with toothed anterior labial border and with interlabia, a feature which, aside from other gross and minute features, excludes all ascarides at present known to be parasitic in the human intestine (which with others of the genus are unprovided with either), and which, likewise, separates it from a considerable group which, with auricles and interlabia in the labial structure, fails to present such denticulate margins. From other examples of ascarides which, like it, present six-sided lips with denticulated free borders and interlabia, it is distinguished by the fact that it has the denticulation present only on the anterior concave border, by the shape of the lip and the arrangement of the pulpa of the superior lip. From its general appearance it is most closely allied to ascarides known to be parasitic in certain birds and reptiles.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART I. A HISTORICAL SKETCH.

(*Continued from Page 462.*)

(D) DR. WYMAN'S ADMINISTRATION (1891 TO THE PRESENT).

Surgeon-General Walter Wyman had done much for the sailor and for the service before he became surgeon general. He had frequently called attention to the physical conditions affecting seamen of the merchant marine, and after he became surgeon general was instrumental in having laws passed for their benefit, notably one for the relief of the deckhands on western river boats, who, by reason of inadequate quarters, were unprotected from the inclemencies of the weather. When in command of the Marine Hospital at Baltimore, he exposed the cruelties to which crews of oyster boats in Chesapeake Bay were subjected, and succeeded in causing amelioration of their condition. As surgeon in command of the Marine Hospital at New York, he recommended and established, with the consent of Surgeon-General Hamilton, a laboratory for the study of bacteriology and pathology, which was later moved to Washington, and which, under his fostering care as sur-

EDITOR'S NOTE.—This article began July 30. The Army Medical Department was discussed May 7, 14, 21, 28 and June 4.

geon general, developed into the splendid institution now known as the Hygienic Laboratory of the Public Health and Marine-Hospital Service.

As surgeon general his intense interest in the physical welfare of the sailor in no wise lessened, and he originated and carried to consummation the idea of a sanatorium for consumptive sailors at Fort Stanton, New Mexico.

Owing to the lack of a strong federal quarantine law, the United States in 1892-3 faced one of the most dramatic crises in its history. The dreaded specter of Asiatic cholera emerged from the filth of its oriental home, and appeared in the seaports of western Europe. The history of past appearances of cholera in European seaports showed that an epidemic in America invariably followed, and the prophecy was made everywhere that history would repeat itself. The outbreak of an epidemic of cholera in our seaports at this time would have resulted in the utter failure of the great Chicago Exposition of 1893, and the failure of this exposition would have carried financial ruin to thousands, and caused commercial paralysis throughout the entire country. To meet this emergency the quarantine law of 1878 was lamentably weak. The chief danger existed in immigration, and the weak spot in our quarantine law was the lack of federal authority to enforce uniform requirements in regard to inspection and disinfection of ships and baggage.

The power of the National Government, as expressed in that law, was restricted to aiding state and municipal quarantine authorities in the exercise of their functions. The power to frame regulations under this act of 1878, it is true, rested in the Secretary of the Treasury, but such regulations must neither conflict with nor override any state law or regulation existing or which might be enacted. The proper uniform disinfection of immigrants' baggage being impracticable, it became evident that the only other effective safeguard would be to temporarily suspend immigration. In this crisis Surgeon-General Wyman searched the quarantine laws of the various states for some uniform requirement which would accomplish the desired result. He found that in every seaboard state a law existed providing for the detention of suspected vessels for periods of twenty or more days. Therefore a government circular demanding the detention of immigrant vessels from cholera-infected seaports for a period of twenty days would not be inconsistent with state laws, but, on the contrary, would be aiding state quarantine laws already in force. Accordingly, the surgeon general prepared a circular providing for detention of immigrant ships from infected ports for a period of twenty days. This circular was promulgated by President Harrison, and while it seemed like a reversion to the obsolete practice of Venetian quarantine, it was in reality expected to temporarily suspend immigration. It was rightly surmised that the immense expense attendant on twenty days' detention of immigrant vessels would so minimize the steamship companies' profits that they would be compelled to suspend the traffic for the present. The effect was pronounced and startling. Immigration was practically suspended, and the menace of a great cholera epidemic was removed.

The absolute stoppage of immigration from any country, even temporarily, was then, as now, deemed inadvisable for obvious reasons, yet this circular effected the same result without giving ground for valid international complaint. To supplement the system of detention, or virtually exclusion of immigrants at our seaports resulting from the circular and prevent evasion of the law, it was necessary to establish a quarantine inspection service along the Canadian border. By the courtesy of the Canadian government, officers of the Marine-Hospital Service at Quebec examined immigrants destined for the United States, and supervised the disinfection of their suspicious effects. The inspection on the Canadian border extended from Maine to Dakota at all points of railroad crossing. This rather drastic remedy was only intended to protect the country until Congress should meet and have an opportunity to devise an adequate system of protection under federal authority involving less restriction on commerce.

Congress recognized, when that body reassembled in December, 1892, the grave national danger from cholera which had been temporarily averted by the President's circular, and as a consequence passed a law, approved Feb. 15, 1893, entitled "An act granting additional quarantine powers and imposing additional duties on the Marine-Hospital Service."

This act of Feb. 15, 1893, placed all matters pertaining to national quarantine in the hands of the service, and provided for the formulation of uniform regulations to be observed by all state and local quarantine authorities in preventing the introduction of epidemic diseases from foreign countries, and the spread of such diseases from one state or territory to another.

The regulations were promulgated by the Secretary of the Treasury, and the Surgeon-General of the Marine-Hospital Service was charged, under the direction of the secretary, with the performance of all the duties in respect to quarantine and quarantine regulations, which were provided for by the act. The law further provides that if the states or municipalities should fail or refuse to execute the quarantine regulations, the President should appoint a proper person to execute them.

Under the provisions of Sections 2, 3 and 4 of this act, medical officers of the Marine-Hospital Service have been detailed to serve, and are now on duty, in connection with the consulates at various foreign ports, and from them all necessary information is received relative to the sanitary condition of vessels, cargoes, crews and passengers about to depart for the United States.

By this means the ordinary consular bill of health is made to be a certificate of actual observation by a responsible officer whose sole duty is to aid in the prevention of the introduction of contagious diseases into the United States.

Under these new laws and regulations, Surgeon-General Wyman instituted an inspection of all state and local quarantines, requiring them to conform to the standard of the Treasury Department. Many of these state and local quarantines have since been transferred to the service, and the remainder have, under federal supervision, enforced regulations, affording adequate protection to the country.

During the administration of Surgeon-General Wyman, the public-health work of the service has increased rapidly, not only in the duties of national quarantine, but in other directions.

By the immigration act passed in 1891, and also by the subsequent immigration acts of 1893 and 1903, all incoming aliens must be examined physically by medical officers of the United States Public Health and Marine-Hospital Service. The importance of this duty from the standpoint of public health can scarcely be overestimated. It is essentially a public-health function, and, properly performed, excludes a class of aliens which, if admitted, would be not only detrimental, but dangerous.

On March 12, 1896, the chairman of the Committee on the Merchant Marine and Fisheries forwarded to the Secretary of the Treasury a letter, inclosing schedules of provisions for seamen, in bills then pending, and requested that they be referred to the Surgeon-General of the Marine-Hospital Service for his opinion and suggestions for their amendment.

In accordance with this request, the surgeon general convened a board to prepare a proper schedule or scale of provisions to be allowed and served out to crews of merchant vessels during the voyage. With a few minor changes, Congress accepted the schedule, and it was enacted into law. The measure protects the merchant sailor while on long voyages by compelling masters to furnish him with proper and sufficient food.

The act further requires that "the foregoing scale of provisions shall be inserted in every article of agreement, and shall not be reduced by any contract, except as above, and a copy of the same shall be posted in a conspicuous place in the galley and in the forecastle of each vessel," and provides for a survey by three persons, one of whom, if possible, shall be a medical officer of the Marine-Hospital Service, to pass on the provisions furnished, when complaint is made, as provided for by the act.

Surgeon-General Wyman, early in his administration, pointed out the perennial peril to which the United States was subjected because of the continued prevalence of yellow fever in Habana, due to remediable causes. He suggested, in his annual report for 1896, that an effort be made through diplomatic channels to induce the Spanish government to cleanse Habana. The suggestion was acted on by the Department of State, and Secretary Olney, in his letter to the Spanish minister at Washington, plainly set forth the insanitary condition of Habana and the anxiety it caused the United States. The Spanish authorities did little or nothing, however, and the sanitary regeneration of Habana was not accomplished until American occupation of the island several years later. The surgeon general did not confine his efforts to Habana alone, but maintained that all nations possessed certain international obligations in preventing the spread of epidemic disease from their seaports to the ports of foreign countries, and this idea of international co-operation in the sanitation of seaport cities he has never relinquished.

In an article published in the *Forum*, February, 1899, Surgeon-General Wyman thus expresses his views on international co-operation for the prevention of epidemic disease:

> There is little doubt that, with American predominance in the island of Cuba, the dreaded scourge of yellow fever will be suppressed and will, in course of time, almost if not entirely, disappear. But a still further advance should be made. That great pestilential center, Havana, even if purified and freed from yellow fever infection, will still be subject to reinfection from other ports in Central and South America, which are in almost as bad a condition. It is, therefore, worth serious consideration whether anything less than the total elimination of yellow fever from the American continents should be attempted; and it should be remembered that this disease is practically limited to the western hemisphere.
>
> It is not pure optimism to suppose that an international sentiment may be awakened which will cause yellow fever in a given port, and the faulty sanitation which it implies, to be an opprobrium on the government in possession of the offending port. Every nation should be held responsible for conditions within its borders or dependencies, tending to propagate epidemic diseases and to threaten other nations with which it expects to maintain a friendly commerce. As soon as the cities of our own dependencies are freed from fever by sanitation, it would be appropriate for this government to invite in convention representatives of each of the other American republics; the convention to be composed of public sanitarians, civil engineers and financiers, whose duty it should be to prepare a treaty providing for the examination of the chief yellow fever ports by a commission representing the republics concerned. Each country should obligate itself to put into effect the measures recommended by this commission, or measures of its own which would meet with the commission's approval.

In accordance with his views, Surgeon-General Wyman, in 1901, submitted to the International Conference of American States, held in Mexico, a provisional plan for international sanitation of cities.

This plan had for its object the elimination of yellow fever from seaport cities or towns which are or have been endemic habitats of yellow fever, or which are liable to become foci by reason of geographical situation, commercial relations or bad sanitary conditions. The remedial measures suggested involved the subjects of sanitary improvement of harbors, sewerage, soil drainage, paving and elimination of infection from buildings.

The plan also recommended the formation of an international sanitary commission, to consist of five members, no two of whom should be residents or citizens of the same republic. They were to be appointed by the Bureau of American Republics and serve one year, when they might be reappointed or new members selected to succeed them.

The conference foresaw that by uniform application of modern sanitary methods to the seaport cities of this continent, as suggested in the surgeon general's plan, quarantine restrictions could be reduced to a minimum or totally abolished.

The resolutions, as finally adopted by the Conference of the American States, while they did not embody the surgeon general's plan in its entirety, were largely based thereon, and went far enough toward the ideal set forth to greatly encourage sanitary improvement in seaports which are a menace to the health of other countries.

The conference provided for the assembling of a convention of representatives from the health authorities of the various republics, as well as for the creation of an International Sanitary Bureau, with permanent headquarters at Washington, to encourage and carry out the measures of the general convention.

The result of the First International Sanitary Convention, which was held in Washington in December, 1902, was to secure co-operation between the various republics of the Western Hemisphere in the work of cleansing seaports and concerted effort toward the eradication of epidemic diseases. The convention recognized the interest and initiative displayed by Surgeon-General Wyman by electing him president, which carried with it the chairmanship of the International Sanitary Bureau which was organized at the same meeting.

This bureau promises to become a potent factor in the maritime sanitation of the future, and Congress, at its last session, appropriated a sum of money to cover the United States' quota of the fund for its maintenance.

As indicated in the foregoing historic sketch, the Marine-Hospital Service had for years exercised the powers, performed the duties, and carried successfully the responsibilities of a public-health service. It had suppressed epidemics, rigidly carried out the physical requirements of the inspection of immigrants, maintained an efficient system of national quarantine at all points of danger, enforced quarantine regulations in do-

mestic, insular and foreign ports, published weekly sanitary reports and statistics from all parts of the world, and conducted scientific investigations of epidemic diseases. In 1902 Congress determined to make the service in name what it had been in reality for years—the Public Health Service of the United States—and accordingly enacted (into law) a bill "To increase the efficiency and change the name of the United States Marine-Hospital Service."

This act of 1902 was the first legislation directed toward securing harmonious co-operation between the national and state health authorities. The necessity of such co-operation had long been recognized and desired, but was difficult of achievement by reason of our republican form of government. It had been difficult for the National Government to extend its operations within the borders of a state without appearing to infringe on the prerogatives of that state, and it had been equally difficult for the states, individually or collectively, to seek aid from the Federal Government without appearing to surrender authority reserved to them by the National Constitution. During the century of development in which the Marine-Hospital Service became in reality the Public Health Service of the United States, the state health organizations had also developed and improved, and a sentiment of respect, one for the other, had been established, replacing the old feeling of distrust and opposition.

The law of 1902 not only confirmed the Marine-Hospital Service as the National Public Health Service, but also provided a plan for the utilization of both national and state health authorities in effective co-operation.

Section 1 provides that in future the service shall be known as the Public Health and Marine-Hospital Service of the United States. Section 3 provides that medical officers in charge of the bureau divisions of marine hospitals and relief, domestic quarantine, foreign and insular quarantine, personnel and accounts, sanitary reports and statistics, and scientific research, shall be, while thus serving, assistant surgeons-general.

Section 4 authorizes the President "to utilize the Public Health and Marine-Hospital Service in times of threatened or actual war to such extent and in such manner as shall in his judgment promote the public interest without, however, in any wise impairing the efficiency of the service for the purposes for which the same was created and is maintained."

Section 5 provides that, "There shall be an advisory board for the Hygienic Laboratory provided by the act of Congress approved March 3, 1901, for consultation with the Surgeon General of the Public Health and Marine-Hospital Service relative to the investigations to be inaugurated, and the methods of conducting the same, in said laboratory. Said board shall consist of three competent experts, to be detailed from the Army, the Navy and the Bureau of Animal Industry, by the Surgeon General of the Army, the Surgeon General of the Navy and the Secretary of Agriculture respectively, which experts, with the director of said laboratory, shall be ex officio members of the board, and serve without additional compensation. Five other members of said board shall be appointed by the Surgeon General of the Public Health and Marine-Hospital Service, with the approval of the Secretary of the Treasury, who shall be skilled in laboratory work in its relation to the public health, and not in the regular employment of the government.

Section 7 provides that, "When, in the opinion of the Surgeon General of the Public Health and Marine-Hospital Service of the United States, the interests of the public health would be promoted by a conference of said service with state or territorial boards of health, quarantine authorities, or state health officers, the District of Columbia included, he may invite as many of said health and quarantine authorities as he deems necessary or proper to send delegates, not more than one from each state or territory and District of Columbia, to said conference: *Provided*, That an annual conference of the health authorities of all the states and territories and the District of Columbia shall be called, each of said states, territories and the District of Columbia, to be entitled to one delegate; *And provided further*, That it shall be the duty of the said Surgeon General to call a conference on the application of not less than five state or territorial boards of health, quarantine authorities, or state health officers, each of said states and territories joining in such request to be represented by one delegate."

This act authorized the surgeon general to prepare and distribute suitable and necessary forms for the collection and compilation of mortality, morbidity and vital statistics. It also authorized the President to prescribe rules for the conduct of the service, and regulations respecting its internal administration, discipline, and uniform officers and employes.

The conferences called for by this act are very valuable in preventing the spread of epidemic diseases by insuring co-operation of state authorities with the Public Health and Marine-Hospital Service. Matters of sanitary interest, ventilation, housing, disposal of garbage, etc., and matters relating to prevention of epidemic diseases are considered by special committees appointed by the surgeon general for that purpose.

The state health authorities are thus brought into close relationship with the Public Health and Marine-Hospital Service. The municipal health officers, through their dealings with the state boards of health, form a part of the system. The result is an interchange of views and mutual understanding between all health authorities, and the closer relations thus established will be of great benefit in the public-health work of the future.

An act to regulate the sale of viruses, serums, toxins, and analogous products, and interstate traffic in such products, approved July 1, 1902, imposed additional public-health duties on the service. The regulations formulated and promulgated by authority of this act provide for the inspection of all establishments engaged in the manufacture of serums, vaccines, etc., by officers of the Public Health and Marine-Hospital Service. The inspectors are required to visit, unannounced, the various establishments, and make a report on the methods employed and conditions existing in these concerns. Licenses are granted or refused, according to the recommendations of the inspectors.

The administration of Surgeon-General Wyman, aside from the great expansion of the public-health work of the service, has been characterized by marked improvement in methods of bureau administration and station inspection. This result has been effected by revised regulations, by reorganization of the bureau, and by more systematic inspections and reports of all classes of stations. These inspections extend to the fifty vessels employed in quarantine work—steamers, barges and launches.

(To be continued.)

TRAVEL NOTES.

V.

ITALY AND THE GREAT ANTIMALARIAL CAMPAIGN.

LEWELLYS F. BARKER, M.D.
CHICAGO.

BERLIN, June 25, 1904.

In Italy and Sicily as in Spain, the medical traveler is prone to pay more attention to, and profit more from, the history and art of the land than its medicine. And this with right; the key to the history of Europe is to be sought in Rome, and who would know Rome must study Sicily. And yet the physician

traveling in Italy, who gave himself over entirely to the satisfaction of his historical and esthetic inclinations, would miss much, for Italy has recently been making great strides forward commercially, socially and scientifically. Especially is this true of northern Italy, which presents a marked contrast to the southern regions where poverty depresses, begging still annoys and dishonesty yet exasperates the American traveler. That the country is everywhere and in almost all particulars making a swing upward is obvious. The national credit is much improved, as the traveler finds, almost to his sorrow, when he compares the number of lire he now receives in exchange for a pound with the larger amount dealt out to him a few years ago.

The aquarium at Naples is visited by everyone who goes to the city, and the traveling physician, above all, should not miss seeing it. This mother of marine laboratories, superbly situated in the middle of the Villa Nazionale, is still presided over by its generous founder, Dr. Dohrn, and the work on the morphology and physiology of the animals of the Mediterranean is being more actively prosecuted than ever. Tables are supported by Prussia, Saxony, Bavaria, Würtemberg, Baden, Hessen, Hamburg, Italy, Austria-Hungary, Russia, Holland, Belgium, Switzerland, the Universities of Oxford and Cambridge, the British Association for the Advancement of Science, the Smithsonian Institution and the Carnegie Institution in Washington. Many American biologists have profited by the magnificent facilities afforded there, and the Zoological Station at Naples has undoubtedly had a great influence on the development of our excellent seaside laboratories in America. The well-known conservator of the institution, Lobianco, makes exquisite preparations which are sent to zoologic museums in all parts of the world. The station has its own steam yacht, a steam launch, and many sailing boats and rowboats for the collection of material. Many of the fishermen have long been associated with scientific collectors. As we went through the laboratory Dr. Dohrn pointed out to us one elderly Neapolitan who formerly collected for Johannes Müller.

The example set by Dr. Dohrn as an organizer and leader of a laboratory must interest everyone engaged in executive work. It is a part of his policy to permit the greatest possible freedom of investigation and publication to those who study there. He is ever ready to give advice and to assist where he can, and in some instances perhaps to lead; but he never attempts to drive, nor does he make an effort to direct the work too much along the lines of his own interests in research. Two men may publish from the laboratory results quite contradictory to one another if they wish to do so; the director exercises no censorship which would prevent this, for time, he thinks, will best decide the merits in any given case. And it might be better, in the long run, if this policy were always followed by the heads of research institutions. A new physiologic department of the Zoologic station is being built; it is hinted that great attention is to be paid in the near future to physiologic-chemical researches in this department.

At the head of the Royal University of Naples this year is the distinguished psychiatrist, Leonardo Bianchi, well known to American neurologists on account of his views regarding the functions of the frontal lobes. The university is visited by more than 5,000 students yearly, has all four faculties, of which the medical faculty is by far the largest. Of the medical teachers besides Professor Bianchi may be mentioned Pianese, Rho, Pasquale and Biondi as those whose names are best known to us in America.

I must confess to having been much surprised at the number and size of the universities in Sicily. The Royal University in Palermo has 1,400 students, the University of Catania 1,060, and the University of Messina 645. Among the professors and instructors are a number of men well known to readers of anatomic and pathologic literature, e. g., Sanfelice (hygiene) and Fusari (histology) in Messina, Petrone (pathologic anatomy), Ughetti (general pathology), d'Abundo (psychiatry) and Staderini (anatomy) in Catania, and Marcacci (physiology), Trambusti (general pathology), Acquisto (histology) and Mirto (psychiatry) in Palermo.

One of the interesting sights to the medical man in Palermo is the remarkable osteologic collection presented by the catacombs of the Convento de' Cappuccini. In the subterranean passages beneath the convent the mummified bodies of the wealthier inhabitants of Palermo were stored for decades until a few years ago, when the government put a stop to this method of disposal of the dead. A curious custom was, in the later years, associated with the practice; the photograph of the living individual was placed in the catacombs beside the remains. This juxtaposition tempts to comparison; indeed, I can see no other reason for placing the photographs there. Sometimes the photograph impressed us most; sometimes, a gentleman with us thought he rather preferred the appearance of the skeleton! The only recent interment in the catacombs is that of the body of Signôr Crispi, and for this special permission had to be obtained. His widow, I was told, repairs at regular intervals to the sub-conventual regions to remourn her dead.

In Rome one's medical interest naturally centers in those Italian investigators who have done so much to clear up the clinical history, pathology and epidemiology of malaria, Marchiafava, Celli, Bignami and Bastianelli. These men are all members of the Medico-Chirurgical faculty of the Regia Università degli Studi, Marchiafava being professor of pathologic anatomy, Celli professor of hygiene, Bignami professor of general pathology, while Bastianelli is in clinical work. It must be admitted, I think, that the credit for the greatest Italian work on malaria belongs, not to a Roman, but to the Pavian, Camillo Golgi, but, in spite of this, the Romans have made and are still making contributions of high importance to the subject. The advances due to the Italians have been so thoroughly presented to American readers by American investigators of the malarial diseases that it would be superfluous to refer to them here.

One feature, perhaps, may be mentioned, namely, the foundation and activity of a special society for the study of malaria. This society dates from 1898 and is due to the initiative of Fortunato, Franchetti and Celli. The date of foundation was propitious; Ross had just made his important observations on the relation of mosquitoes to malaria in India; Ficalbi had studied the species of mosquitoes and their habits in Italy; Golgi in Pavia, and Marchiafava in Rome, had perfected the clinical study of the blood in the various forms of human malaria, and Grassi had observed the species of mosquitoes most prevalent in malarial districts and had regarded the *Anopheles* as the most suspicious variety. In the following autumn Bastianelli, Bignami and Grassi brought the direct proof of the propagation of human malaria by the mosquito and confirmed Ross' work regarding the *Anopheles*. The Society for the Study of Malaria undertook to draw important conclusions from this well-confirmed theory of malarial transmission and to apply these in the best possible hygienic manner. The work began in a modest way on a farm, now famous, known as *la Cervelletta;* Celli in 1899 established there the first station for the study of malaria in the Roman *Campagna*. Since then more than a dozen stations have been established, under competent direction, in the various parts of Italy where malarial fevers prevail, and though the material resources of the society have been small, the energy, activity and personal sacrifice of the scientists who have been engaged in the investigations have been great and a rich treasure of epidemiological and prophylactic facts has been accumulated.*

On the epidemiologic side the society has made exhaustive studies of the geographical distribution of the various types of malarial fever, of the times of year when each type is most prevalent, of the relation of *recidives* to the outbreak of new epidemics, of the places and times, where the *Anopheles* are abundant and malaria is not epidemic, of the relations of rice-growing to malaria and of a number of other questions.

Still more important and extensive have been the researches on the prophylaxis of malaria. These included attempts to destroy mosquitoes and efforts at seroprophylaxis, but the most practical results in Italy have been obtained first by prophy-

*A report on the work from 1898 to 1903 was made by Celli at the Hygienic Congress in Brussels and published in the Arch. Ital. de Biol., vol. xxxiv, 1903, p. 3.

lactic dosing with quinin and second by mechanical protection against mosquito bites. Of nearly 1,000 people treated daily in 1902 with quinin only 4.5 per cent. were attacked, while from 14 to 85 per cent. of the people untreated in the same districts developed malaria. More than 2,000 people were given a prophylactic dose of 5 grams once every week or ten days; of these some 10 per cent. developed malaria, while 48 to 80 per cent. of those untreated developed the disease. The quotidian prophylactic dose is more protective, therefore, than the weekly single dose. No special harm seemed to follow the daily dosage. Further, the prophylactic use of quinin, even when unsuccessful in preventing an attack of malaria (though this is rare) does not hinder at all, as some have believed, but rather facilitates the therapeutic action of larger doses of the salt. The larger curative doses, far from being less efficacious for individuals who have received prophylactic doses, arrest more quickly the fevers which sometimes develop in spite of the prophylactic measures undertaken. The Italian experiences are strongly in favor, too, of the use of hydrochlorate and bichlorhydrate of quinin as a preventive rather than the more highly vaunted but less effective mixtures if iron, arsenic and quinin.

Much has been done by the society in the way of educating physicians how to use quinin properly. Physicians are urged in dealing with malaria not to be satisfied with giving the small number of doses which cut the attack short in those who have acute manifestations of the disease, but emphasis is laid on the following points:

1. During the months when malaria prevails, and when one can not count on the security of mechanical protection from mosquito bites or other prophylactic methods, the preventive treatment of healthy persons and of those in whom latent infection is possible should be resorted to. The daily or weekly distribution of quinin is not difficult in the form of sugar-coated tablets; the cost of the prophylactic treatment is not great (quinin is sold by the Italian government), two or three francs per head for the whole season of four months. The quantity of quinin necessary for each person in the course of the whole prophylaxis is less than that which is often necessary to use to completely cure a fever once contracted.

2. In those rare instances, where in spite of prophylaxis, malarial fever develops, it is necessary to administer at once large therapeutic doses to cut short the attack and to continue this stronger treatment *for from two to four weeks* before resuming again the smaller prophylactic doses.

3. For individuals in whom recurrent attacks are obstinately repeated, in spite of preventive treatment, an intense therapeutic treatment (gr. 0.50 to 1) should be begun and followed from four to six weeks; if necessary in such cases a reconstructive treatment with iron and arsenic is recommended in association with the quinin therapy.

Nothing is said in the epitome of the report of the society with regard to the simultaneous prevalence of malaria and typhoid fever. In view of our experiences in America, the question might well be asked, "Are not some of the *obstinate* malarial fevers described by the Italians really typhoid?" Typhoid fever is a disease much more poorly understood in Europe than in America. It is conceivable that a systematic study of "resistant" malarias in Italy, with the aid of the Gruber-Widal reaction, might be of value.

Mechanical protection against mosquito bites has yielded marvelous results in the prevention of malarial infection wherever it has been tried. In 1901, on the initiative and with the aid or counsel of the Italian society, 5,165 persons were mechanically protected against malarial fever. In badly malarial localities of 4,363 individuals carefully protected 1.9 per cent. only were attacked with primary malarial fever, while of 802 less well protected an average of 10.9 per cent. became sick. In 1902 of 5,851 mechanically protected there were only 2.8 per cent. of new infections, and only 10.1 per cent. of recidives. In this way a large number of poor families, which for years had suffered from malarial fever were, as Celli puts it, reborn to a new life, thanks to mechanical prophylaxis either alone or, where necessary, associated with the treatment of recidives. Unfortunately this mechanical prophylaxis is relatively expensive and is, therefore, applicable only to a limited class such as railroad employes and the like; it is beyond the means of the Italian peasant, for whom the quinin prophylaxis is alone available.

Italy, thanks largely to the efforts of members of the society, is the first country that has established special anti-malarial legislation. The Italian parliament has passed two laws: According to the first, it is possible to buy pure quinin cheap in every part of Italy, the sale being controlled by the government; according to the second, quinin must be furnished *gratuitously* and *abundantly* by physicians to workmen and to peasants at the expense of their employers. In case a workman contracts malaria while in service through culpable withholding of quinin a suit for damages is well grounded.

The state is setting a good example by giving its own employes on railroads and in custom-houses properly protected dwellings. The revenues from the sale of quinin (it is estimated that it will amount to 30,000 kilograms yearly), though the alkaloid is furnished at a very low price will, it is believed, be considerable; they are to be devoted solely to the service of the national struggle against the secular enemy, malaria. When it is realized that 4,000,000 hectares of Italian soil are uncultivated solely on account of the dangers of malaria, and when it is recalled that 2,000,000 Italians are annually attacked by the disease, and that from 12,000 to 15,000 die each year therefrom, the social and economic importance of the anti-malarial campaign becomes obvious. It is in many ways as Fortunato has emphasized and as Celli repeats in his report, the essential problem for Italy and plays a capital rôle in the urgent and menacing meridional question.

At the ancient hospital of Santo Spirito early one morning I found both Bignami and Bastinelli making morning rounds. The old hospital is most interesting historically, but scarcely suitable for modern work. Founded as long ago as 1198 by Innocent III, it has been added to and remodeled from time to time. It contains an enormous number of beds for medical and surgical patients, and has connected with it a lunatic asylum and a foundling hospital. The physicians in charge lament the antiquity of the arrangements, but are buoyant in the hope that a new hospital, with all modern improvements, is soon to be provided.

Though the Roman hospitals are old, many of the scientific institutes are modern. Thus Bignami has just gotten settled in a new laboratory, which though not large, is well arranged and looks active. Now that the stress of the malarial work is over, Bignami is turning his attention more particularly to the pathology of the central nervous system, and I spent an interesting morning examining some of his newer preparations. Among other specimens he showed me sections of the horn of Ammon from hydrophobia material in which the bodies described and believed by Negri to be the parasite of rabies were exquisitely demonstrated. The bodies are relatively large, situated in the protoplasm of the nerve cell body, and are sharply differentiable by staining methods; it is curious that they went so long overlooked. They occur in the nerve cells in different parts of the central system, e. g., in the anterior horn cells of the spinal cord, in the large cells of the formatio reticularis and in the Purkinje cells of the cerebellum, but they are most abundant in the cells of Ammon's horn. Certainly they look like parasites; they are quite different in appearance from the ordinary cell inclusions and cell degenerations with which pathologic histologists are familiar. The fact that the hydrophobia virus under certain circumstances passes through the Berkefeld filter does not necessarily exclude the Negri bodies from being the causal parasites of hydrophobia, for while the bodies described by Negri are much too large to pass through the filter, it is easily conceivable, as Celli and de Blasi suggest, that in the protozoan cycle forms much smaller than the larger bodies of Negri may occur.

(To be continued.)

Apparent Death for Six Hours After Lightning Stroke.—The *Lancet* of April 9 quotes Sestier to the effect that 7 cases are known in which persons struck by lightning were revived after six hours of apparent death.

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URIC-ACID THEORIES.

An interesting example of the persistence of a theory that for all practical purposes has seen its rise and fall, is furnished by the case of uric acid. No matter how abundantly the results of reliable research are published, nor how carefully the leading clinicians controvert the mistaken ideas of a previous generation, a large proportion of the unprogressive will cling to the most worn-out theory or system for no better reason than that the idea once secured a firm place in their mental armamentarium, and that it would require an effort to dislodge it. A student is told that uric acid accumulates in the blood and leads to all sorts of diseases, and that uric acid in the urine means an excess of uric acid in the blood; if he is of a certain type, for the rest of his life a "brick dust" deposit in a urinal calls for sodium salicylate or some other favorite remedy, and never for a moment will he imagine any room for question of the absolutism of the uric-acid doctrine. Furthermore, as Billings has said, the theory which was accepted at one period by the medical profession becomes at a later period the theory and property of the laity. And thus many manufacturers of patent or proprietary remedies wax rich selling a "solvent" which does not dissolve a substance that does not accumulate in the "system" and does not cause a host of ills.

The widespread acceptance in this country of the supreme importance of uric acid as a cause of most of the diseases that flesh is heir to, is probably due more to the writings of Haig than to any other one cause. Using methods that are known to be unreliable, he secured data that can not be corroborated, and with these as a basis followed out a marvelous train of logic to the ultimate conclusion that practically all disease is due to uric acid, and that a vegetable diet is a guarantee against the sufferings of mortal man. No advance in physiologic chemistry and pathology, no amount of refutation of his claims, seems to have interested or swerved him in the least, for in his newly published "Epitome" on uric acid,[1] he ignores everything but his own cherished beliefs, and calmly follows them as they lead to the conclusion that appendicitis, consumption, and uterine fibroids are all expressions of the pernicious effects of uric acid, and in turn of meat eating. We have been reading this book, and psychologically, it is one of the most interesting things of the kind recently published.

1. Uric Acid. An epitome of the subject, by Alexander Haig.

The fundamental ideas, as Haig gives them, are that uric acid is deposited in the tissues of the body when the solvent power of the blood is reduced, and taken up in the circulation when the solvent power of the blood is increased, whether by diet or drugs. The result in the first case is local inflammation of the fibrous tissues, leading to such conditions as appendicitis, uterine fibroids, catarrh, pneumonia, phthisis, cirrhosis, and even to liver abscess. Bad as this is, the results that follow the dissolving of uric acid and its circulation in the blood are ever so much worse, for Haig says uric acid forms a colloid which blocks up all the capillaries, and naturally as a result the various organs do not get enough nourishment, and the heart has a terrible time trying to push the slimy uric acid through the capillaries. Nothing could be simpler. And all this being true (?), it is easy to see how we have produced headache, epilepsy, insanity, fatigue, paralysis, dilated stomach, diabetes, Bright's disease, boils, aneurism, leukemia, pernicious anemia, exophthalmic goiter and piles. This is no joke—these are only a few from the list that fills over three solid pages of the epitome.

But we wonder how the oculists will look on the statement that migraine is due to the presence of uric acid in the blood. Dr. Haig also has cured hundreds of cases, but without a single lens. And what is the poor lay brother to do about it? Shall he live on excelsior breakfast food and Battle Creek products, or ought he to visit a refractionist and get a new pair of glasses? Possibly the homeopathist will offer the helpful suggestion that right-sided migraine comes from eyestrain and left-sided from uric acid, or *vice versa*. At any rate, the speed and endurance of the hobby horse is demonstrated.

We pay this much attention to Haig's book largely because at one time his name assumed prominence as authority on uric acid as a cause of disease, owing to the fact that at that time our methods of research had not developed sufficiently to afford any accurate knowledge of the facts in the case. Many physicians have Haig's books on their shelves, and have been much influenced by them in their practice. It will be readily granted that the advice as to diet, hygiene and therapy recommended on the basis of this theory, has often been productive of excellent results, and probably seldom if ever harmful, but real progress can not be made on a basis of error, and it is necessary to appreciate the fallacy of much of the talk concerning uric acid.

We have not space to go into the reasons involved in the objections to this theory, but our readers can secure first-hand information from available sources in the English language.[2] Billings has tersely summed up the results of our studies in the following words: "Some of the fallacies of uric acid are, therefore: 1. That uric acid is toxic; 2. that it is a causative factor of any disease

2. J. H. Salisbury: The Chicago Clinic, April and May, 1900. A. E. Taylor: Amer. Jour. Med. Sci., August, 1899. Woods-Hutchinson: Lancet, Jan. 31, 1903. A. C. Croftan: Philadelphia Med. Jour., 1902, April 5, et seq. Walter Baumgarten: THE JOURNAL A. M. A., Feb. 13, 1904, p. 431. Frank Billings: Chicago Medical Recorder, 1901.

except gout; 3, that 'uricacidemia,' meaning acid blood, does exist; 4, that the chemical reaction of the blood may be altered by the medicinal quantities of the alkalies or by diet; 5, that uratic deposits may be dissolved out by the administration of alkalies; 6, that lithia is a uric-acid solvent of unusual potency; 7, that uric acid is an abnormal constituent of the urine; 8, that an excess of uric acid in the urine at any one time, or a deficiency at another time, indicates an abnormal condition in reference to uric acid; 9, that rheumatism is due to uric acid."

SPECIALISM AND SCIENTIFIC SUCCESS.

A very general impression prevails at the present time that success in scientific investigation can only be hoped for from those who are highly specialized students of their branch. All departments of science are popularly considered, at least, to have developed to such an extreme of refinement that only the specialist can hope to make the distinct advances which add to our present knowledge. Every now and then there comes a distinct contradiction of this idea that is worth while noting. After all, it must not be forgotten that after the cause of infectious disease had been for so long a subject of study on the part of physicians, and when presumably only from a physician could the solution of the mystery of disease etiology be looked for, Pasteur, a chemist and biologist, stepped in and the riddle was solved.

At the present moment some of the most interesting work that is being done in progressive medicine is that of Professor Arrhenius, the distinguished scientist to whom we owe the foundation of the science of physical chemistry. The Swedish professor is now engaged in investigating the physical chemistry of serums with the idea of making our knowledge of these complex substances more definite so as to enable us to appreciate the real reasons for their action and the sources of their energy. It seems not unlikely that the ionic theory of the constitution of matter and the electro-chemical factors which have been found so important in solutions may serve to broaden the field of application of serums and even secure the discovery of further curative agents of this kind.

Arrhenius is perhaps the most interesting type of the successful non-specialist scientist now alive. He received the Nobel prize for his successful investigations in physical chemistry before he was 45, yet his scientific work ranges, as a writer in the *Popular Science Monthly* said not long since, "from salt solutions to comets and their perihelion periods to the typhoid bacillus." His record lends little support to the belief that a scientific man must be a narrow specialist if he is to attain eminence. This belief rests on a misapprehension. It is true that scientific men are accumulating facts at a tremendous rate, and that this apparently makes it more and more difficult for any one man to be master of anything more than a small branch of a single science. Along with this accumulation of isolated facts, however, there goes the development of simplifying generalizations or laws which enable men to grasp and remember an enormous number of facts. The smaller mind is apt to be so weighed down by mere accumulation of facts as not to be able to see the great laws which they demonstrate. It is a case of not being able to see the trees because of the leaves.

There would even seem to be in such cases something more than a hint that the modern methods of education which insist to such a degree on cumulative information may prove in many ways to be a mistake. Scholars with possibilities of original work in them become so loaded down with the supposed results of others' observations and with the uncertainties of elaborate technic that they are never brought really face to face with the important problems to be solved. Direct observation is the only method of broadening the field of knowledge that has ever given satisfactory results. Elaborate theories have been popular, but they usually delay the progress of science. For observation, what is needed is the faculty which John Ruskin once declared to be the rarest quality of the human mind, that, namely, of seeing things as they are and telling them simply as they appear. There is always room for the simple observer in medical science, and never more so than at the present moment

POPULAR MUSEUMS OF HYGIENE AND DISEASE.

In all large cities we find various kinds of museums and collections for the instruction and amusement of the people, but there is one form of museum or permanent exhibition still almost without representation on the long list of these useful institutions, namely, popular museums of hygiene and knowledge of disease. The usefulness of museums of this kind in promotion of knowledge in regard to subjects of such importance as health and disease is so self-evident that no special argumentation is required. Medical men especially appreciate the unsurpassed value of the eye for the conveyance in teaching of strong, living and hence lasting impression. This is the era of publicity in medicine; secrecy is only the stamp of charlatanism; successful prevention of many diseases, e. g., tuberculosis, must ever depend in large measure on the knowledge among the masses in regard to such diseases.

There are few diseases that lend themselves so well for illustration by museum methods as tuberculosis, the one disease above all others to be stamped down. The temporary exhibit in Baltimore last winter and the permanent tuberculosis museum in Berlin show well enough how much may be accomplished in a short time and with relatively small expense. The extent, distribution and death rate of the disease may be shown by maps, tables and curves. The bacillus may be demonstrated in drawings, cultures and microscopic preparations, and the effects of tuberculosis on the body of man and of animals by means of anatomic preparations by

the side of which specimens of normal organs would serve for purposes of comparison. Preventive means, such as apparatus for ventilation and disinfection, sputum cups, and the like, would form interesting exhibits when arranged along developmental lines. The construction of tents, of sanatoria, of healthy homes, healthy factories, etc., are other fields for illustration. Portraits and busts of the founders of our knowledge of tuberculosis and a collection of the classical literature of tuberculosis would most fittingly be found in this museum, all arranged in the attractive manner that curators so well understand. Fancy the interest, the reverence with which the father and mother would study such a collection when it became known that some one of their children were showing signs of early tuberculosis! We unhesitatingly recommend to our associations against tuberculosis this plan, which no longer is a new idea, of permanent, popular museums of tuberculosis. No doubt much good would come from co-operation in various ways.

Practically all communicable diseases are susceptible of similar treatment. In their last report to the House of Delegates, the Committee on Venereal Diseases state that the next step in their prevention is publicity and education. Wisely managed, much valuable information in regard to these infections could be conveyed by museum methods.

There is consequently a large field for popular museums of the kind indicated, which becomes still more extensive if such museums attempt to cover also general hygiene, a subject that in this country as yet is almost wholly without museum representation even for more purely technical and educational purposes. Taking it all in all, we must conclude that the time has come when endowments and appropriations are needed for museums of hygiene and disease, just as well as for archeology, anthropology, zoology, art, and the like.

THE CAUSES OF THE CACHEXIA ACCOMPANYING MALIGNANT TUMORS.

The underlying causes of the anemia and malnutrition which accompany the development of malignant new growths, and which we speak of as cachexia, have been, to some extent, obscure. It is easy to understand why a patient with a large extensively ulcerated growth, infected as this is bound to be, should suffer from anemia and malnutrition, the absorption of septic material sufficing to explain this. It is a well-recognized fact that small non-ulcerated neoplasms can also give rise to well-marked cachexia, even when there are no signs of sepsis The cachexia in these cases has been explained as due to the absorption of toxic substances secreted by the tumor cells, but so far no one has attempted to explain the nature of the toxins. Recently, Kullmann[1] has made some interesting experiments which seem to clear the matter up. He finds that carcinoma cells contain a substance which has a strong solvent effect on blood corpuscles. When added to blood outside of the body, or when introduced into the bodies of animals, this substance produces a prompt and active dissolution of the red blood corpuscles. The substance could be distinguished from the hemolytic substance normally found in all tissues, and was much more powerful than this. Kullmann cites other authors to show that a similar substance has lately been isolated from sarcoma cells. The theory seems very plausible.

1 Zeitschrift für klin. Med., vol. lIII. 1904.

THE ACTION OF SALICYLATES ON THE URINARY TRACT.

The salicylates have been so widely employed and have proved of such distinct utility in the treatment of a large number of disorders, that the fact should not be ignored that they may give rise to irritation of the urinary tract, particularly the kidneys. Some observers have even reported the occurrence of nephritis and desquamative catarrh of the urinary passages from this cause. In order to convince themselves of the accuracy or otherwise of statements of this character, Dr. Carl Klieneberger and Dr. Richard Oxenius[1] made a careful study of the urine from a large number of practically normal persons and from individuals suffering from rheumatic disorders, particularly polyarthritis, to whom later salicylates were administered. As a result of their observations they found that the administration of even small doses of salicylates gave rise to the urinary, but not to other clinical phenomena of nephritis and also of desquamative catarrh of the entire urinary tract, but that these disappeared with the continued administration of the medicament. Habituation to the drug did not appear to develop, as similar symptoms reappeared when the administration was resumed after an interval of a few days' omission. It appeared that a toxic or febrile nephritis is present in the majority of cases of febrile rheumatic disease, and that this subsides under the use of salicylates. On the other hand, the salicylates themselves give rise to a characteristic form of nephritis, from which recovery takes place as a result of their continued administration.

THE ETIOLOGY OF SCURVY.

Although the symptomatology of scurvy differs somewhat as the disease occurs in adults and in children, prevention and cure can be effected in both apparently by the observance of certain dietetic regulations. While this fact has long been appreciated, the factors on which the disorder actually depends have never been clearly made out. The common belief is that the deterioration of the tissues that is the most conspicuous feature of the affection is due to the absence from the food of certain chemical principles contained especially in fresh vegetables, but the identity of these has not been established. It has also been suggested that the disease is of infectious origin, but here again the hypothetical causative micro-organism has not yet been isolated. In support of this latter view, Mr. Myer Coplans[2] presents certain interesting evidence, obtained in the Transvaal toward the close of the Boer war and subsequently. In general, this is to the effect that the disease occurred

1. Deutsches Archiv f. klin. Medicin, vol. lxxx, Nos. 3 4, p. 225
2. Lancet, June 18, 1904, p. 1714.

not in those deprived of any particular article of food, but among those provided with the same diet whose surroundings, however, were of a character conducive to infection. Further, the best therapeutic results were obtained in those cases in which attention was directed to disinfection of the mouth in addition to constitutional treatment. The disease began as an inflammation of the mouth, the general symptoms following at varying intervals. Improvement or the reverse took place in direct relation to the improvement or aggravation in the condition of the gums. The treatment consisted of rest in the open air and isolation from previous surroundings, together with rigorous and frequent antisepsis of the mouth.

HEALED MILIARY TUBERCULOSIS OF THE LUNGS.

The possibility of healing tuberculous lesions is well established. Instances of healed or healing local pulmonary, glandular, osseous and synovial tuberculosis are very common. The frequency with which healed tuberculous areas are encountered at postmortem examination is generally known. But even more extensive tuberculous outbreaks, such as tuberculous peritonitis, pleuritis, and even leptomeningitis, may heal completely. Instances of healed miliary tuberculosis, however, must be very rare. Spengler[1] reports recently a case of healed miliary tuberculosis of the lungs in a man who first came under observation in 1889, when both apices showed evidences of involvement. In the following year there were signs of extensive invasion of the rest of the lungs. He was treated with tuberculin on several occasions until in 1894, when bacilli disappeared from the sputum, the temperature remained normal, and the physical signs indicated retrogression of the pulmonary lesions. A laryngeal tuberculous ulcer, which had appeared in 1893, also healed. Death occurred in December, 1894, after an illness of four weeks, marked by cerebral symptoms. Unfortunately, the autopsy was limited to the lungs, which showed apical adhesions, and numerous prominent, hard, small nodules of pure scar tissue scattered throughout all parts of their substance. Microscopically, these nodules showed no bacilli, no giant cells, no epithelioid cells; here and there were a few small necrotic foci, some fibroblasts and young vessels, but otherwise only scar tissue. The case is cited by Spengler as an instance of the beneficial action of tuberculin, which should be given repeatedly at intervals of not longer than six months. We believe that the case may be accepted as one of healed miliary tuberculosis of the lungs, but that the actual influence of tuberculin in a single case like this can not be determined, especially in view of the fact that the cerebral lesion in the case remains unknown, for the latter might have been of tuberculous nature.

1. Zeitschr. f. Hyg. u. Infektionskr., 1904, xlvii, 133.

THE VALUE OF THE LEUCOCYTE COUNT IN APPENDICITIS.

The significance of the changes in the white corpuscles which occur in appendicitis has of recent years been the source of a great deal of discussion, and a perusal of the proceedings of the various medical societies shows that on the one hand there are those who consider the leucocyte count of little or no value, and on the other those who perhaps pin too much faith on it. The differences of opinion are so great that it seems hard to explain them. Several factors are doubtless at work to cause the disagreement. Among the more important of these must be mentioned the basing of opinion on an insufficient number of cases, too infrequent blood examinations, and the tendency to regard the blood examination as a specific diagnostic point rather than to consider it as a link in the diagnostic chain. The ground has recently been worked over by a number of observers, among whom must be mentioned Cazin and Gros,[1] Rehn[2] and French.[3] The attitude which has generally been taken with regard to the significance of a leucocytosis in appendicitis is that the degree of leucocytosis is an indication of the presence or absence of pus or of peritoneal involvement. Attempts have been made by various authors to fix a boundary line so that we could say that if the leucocytes were below this arbitrary limit pus was not present; if above it, pus was present. The studies above mentioned show that no such arbitrary division can be made. It is true that cases with a very high leucocytosis, over thirty-five thousand white cells per cubic millimeter, for example, nearly always showed pus, but even this was not invariably the case. Cazin and Gros in their work lay a good deal of stress on the importance of making frequent counts in a given case and observing whether the number of leucocytes tends to increase or decrease. According to these observers, and French corroborates them in the main, the occurrence of a gradually increasing leucocyte count is of much greater significance as regards pus formation than the mere number of the leucocytes. In his series of cases French noted, on the other hand, that where the cases were tending to recovery the number of leucocytes gradually fell. As regards the leucocytes in cases with general peritonitis, the remarks referring to the question of pus formation are applicable. French found that 50 per cent. of the cases with general peritonitis showed no leucocytosis. Rehn also reports that two out of six cases with diffuse peritonitis showed a lack of leucocytosis. Here, again, experience shows the insufficience of single or scattered counts and the value of daily observations, either a very sudden rise or less frequently a very sudden drop indicating peritoneal involvement. The view which French takes of the matter, after studying the literature and his own cases, is that a good deal of work remains to be done to place the significance of the leucocyte count in appendicitis on a firm basis. He suggests that the differential count of the leucocytes in these cases should be worked up much more fully, as the few instances in which this has been done indicate that it may be of value. The general impression gained from the papers cited is that the changes in the leucocytes may certainly be of both diagnostic and prognostic import, but that these changes must be considered in connection with the clinical aspects of the case, and that the best results will be obtained by daily and systematic examinations.

1. Semaine Médicale, May 6, 1903.
2. Münchener med. Woch., No. 50, 1903.
3. The Practitioner, June, 1904.

Medical News.

CALIFORNIA.

Hospitals.—The Fresno County Hospital has been recently completed at a cost of $100,000, and has accommodation for 150 patients.——Mr. and Mrs. James H. Hough have agreed to erect a receiving hospital for Stockton at a cost of $10,000, provided the city binds itself to maintain the institution.

Personal.—Dr. Ray L. Wilbur, assistant professor of physiology in Stanford University, has resigned and will take up private practice.——Dr. Edward P. Rockhill, U. S. Army, Presidio of San Francisco, who was operated on for appendicitis, has resumed his duties at the General Hospital.——Dr. C. Van Zwalenburg, Riverside, has resigned as physician of Riverside County.

Accidents.—Dr. Winifred S. Foster, Oakland, was severely injured in a collision between her buggy and a street-car near Lorin.——Dr. James D. Hill, San Francisco, was thrown to the ground from his automobile, July 27, and narrowly escaped serious injury.——Dr. William J. Hosford, Alameda, sustained severe injuries to his leg in a bicycle accident, a few days ago. ——Dr. James M. Shannon, Oakland, was thrown from his buggy in a collision, his nose broken, and his knees badly cut. ——Dr. Guido E. Caglieri, San Francisco, was recently thrown from his horse, fracturing his femur.

To and From Europe.—Dr. William E. Hibbard, Pasadena, sailed for Germany July 23.——Dr. and Mrs. W. J. Chambers, Corona, are spending two months in Europe.——Dr. Vida Redington, Oakland, is making a leisurely tour of the Eastern States and Europe.——Dr. and Mrs. Hirschfelder, San Francisco, have returned from Europe.——Dr. Harry M. Sherman, San Francisco, has returned from abroad.——Dr. and Mrs. Arthur H. Mays, Sausalito, have gone to Europe.——Dr. William A. Martin, San Francisco, has returned after a stay of a year and a half in Europe.——Dr. Ray L. Wilbur, Stanford University, has returned from Europe.

Appointments.—Dr. Charles M. Tinsman, Bieber, has been appointed assistant physician of Lassen County, vice Dr. Arthur F. Bradshaw, resigned.——Dr. Henry J. B. Wright has been appointed to fill the unexpired term of Dr. William D. McDougall on the San Jose Board of Health.——Dr. Lewis A. Perce, Long Beach, has been elected president of the State Board of Medical Examiners.——Dr. Stephen H. Rantz has been elected president of the newly-organized Placerville Board of Health.——Dr. Fred C. Gerlach has been made secretary of the San Jose Board of Health, and health officer.——Dr. Dennis D. Crowley, Oakland, has been appointed district surgeon of the Santa Fe system.

DISTRICT OF COLUMBIA.

School Inspection.—The commissioners have approved the recommendations of Dr. William C. Woodward, health officer, and the Board of Education, that amendments be made to the regulations governing the medical inspection of public schools in the District, consisting of changes in the wording of the various sections, the addition of more specific rules relating to diseases and various other details calculated to make more effective the operation of the regulations.

ILLINOIS.

Personal.—Dr. William Jayne, Springfield, has been reappointed a member of the State Board of Public Charities.

Smallpox in Zion.—It is said that there are 16 cases of smallpox in Zion City, and neighboring towns are taking precautions to prevent the spread of the disease.

Expensive Spitting in Seneca.—A new ordinance was passed by the Seneca City Council imposing a fine of not less than three nor more than twenty-five dollars for any person caught spitting on the sidewalks.

Physician Insane.—On the application of his wife, Dr. Howard R. Weber, Highland, was taken before a court at Edwardsville, July 25, declared insane, and committed to the Illinois Southern Hospital for the Insane, Anna.

McAllister Hospital Completed.—The new McAllister Hospital, erected at Waukegan, by the generosity of the late Mrs. Jane McAllister, at a cost of $21,000, was opened for public inspection August 5. The building contains 45 rooms.

Hospital Addition Open.—The new $140,000 ward addition to the Illinois Western Hospital for the Insane, Watertown, was informally dedicated August 2, and 300 new patients from Lee, Ogle and Stephenson Counties were installed. The new structure increases the capacity of the institution to 1,200 patients.

Illinois Not Responsible.—In the final report of the investigations made regarding the complaint of St. Louis, that its water supply was contaminated from Illinois sources, the State Board of Health draws the following conclusions:

1. The water supply of St. Louis is taken almost entirely from the Missouri river.
2. The water of the Illinois river is so much purer than that of the Missouri that, if the city of St. Louis took large quantities from the Illinois river, the water supply would be better than it is, coming from the Missouri.
3. The increased flow of Lake Michigan water, in addition to the sewage coming through the drainage canal, has improved the quality of the water of the Des Plaines and Illinois rivers.
4. The contamination of the Illinois river through the farm and village and city drainage and sewage from commercial enterprises is probably greater than from the drainage canal under present conditions.

Chicago.

Fined for Selling Cocain.—Dr. Adolph Brendecke was fined $100 by Justice Caverly for selling cocain to minors.

The Week's Deaths.—Acute intestinal diseases again heads the list of deaths, with 111; violence caused 62 deaths; consumption, 56; heart diseases, 41; Bright's disease, 29; cancer, 22, and pneumonia, 20. The total deaths were 496, equivalent to an annual death-rate of 13.41 per 1,000.

Smallpox.—During last week eight cases of smallpox were sent to the Isolation Hospital. Two of these were colored men and one was a woman 60 years old who claimed to have been vaccinated in childhood and had an imperfect scar as proof. She had, however, never been revaccinated and none of the others had ever been vaccinated at all.

Low Mortality Among Children.—The department of health makes the following comments on the lessened mortality among young children this season:

One of the most remarkable features of the present most remarkable season, as to the public health, is the unprecedentedly low mortality from the contagious diseases of childhood and, as a consequence, an unprecedentedly low general death rate for the city. Only one death each from diphtheria and measles, three from scarlet fever and four from whooping cough were reported during the week.

Since the first of the year there have been 212 deaths from diphtheria; during the corresponding period of 1903 there were 328 diphtheria deaths—decrease this year more than one-third (35.3 per cent.).

Deaths from scarlet fever show a decrease of 52.2 per cent.—241 last year, 115 this year.

In the whooping cough mortality, the decrease is 80 per cent.—241 deaths in 1903, 48 in 1904.

Against the 23 deaths from measles since Jan. 1, 1904, there were 258 in the corresponding period of last year—a decrease of 91 per cent.

The gross mortality of the four principal contagious diseases of childhood thus far in 1904 is not much more than one-third (37.3 per cent.) that of the corresponding period of 1903.

INDIANA.

Smallpox.—Goshen has six cases of a severe type of smallpox, with one death. The disease was as usual diagnosed as chicken-pox, and no precautions were taken.

On the Sick List.—Dr. Henry C. Dixon, Tunnelton, is dangerously ill, following a cerebral hemorrhage.——Dr. Andrew J. Chittick, Burlington, has been seriously ill with septicemia from a scratch wound.

Personal.—Dr. Robert B. Short, Union Mills, had a rib broken in a collision between two trains near Chicago August 9. ——Dr. Edward A. Willis, formerly demonstrator of ophthalmic and aural surgery, rhinology and laryngology in the department of medicine of the University of Michigan, has located in Indianapolis.

July Disease and Death. The July Bulletin of the State Board of Health says: The health of the State in July was not so good as in July, 1903. Diarrheal diseases led in prevalence, and typhoid fever, which in last year was sixth in prevalence, stood fourth this month. The typhoid fever epidemic in Indianapolis in June abated somewhat in July. Tuberculosis showed an increase. The total number of deaths was 2,772, an annual rate of 12.3 per 1,000. In the preceding month the rate was 10.1 per 1,000, and in July, 1903, 12.9 per 1,000. Pulmonary tuberculosis caused 346 deaths; exceeding the same month of last year by 31; typhoid fever, 68; diphtheria, 10; scarlet fever, 5; measles, 4; whooping-cough, 6; pneumonia, 85; diarrheal diseases, 296; cerebrospinal meningitis, 29; puerperal fever, 10; cancer, 116; violence, 189; smallpox, 5. The cities also show a higher death rate than the country in typhoid, diphtheria, pneumonia, diarrheal diseases, cerebrospinal meningitis, puerperal fever, cancer and violence.

MARYLAND.

The Medical and Chirurgical Faculty of Maryland will hold its semi-annual fall meeting at Ocean City, September 9 and 10.

Resignation.—Dr. B. Curtiss Miller, for eight years resident physician in charge of the Western Maryland Hospital, Cumberland, has resigned.

Urges Sanatoria.—City Commissioner Bosley of Baltimore, in his annual report, urges that the state and city jointly establish sanatoria for the treatment of consumption, in the Blue Ridge Mountains.

Kills Algae But Not Bacteria.—Dr. Stokes, city bacteriologist of Baltimore, reports that the copper sulphate, used to purify the drinking water, while destroying algæ, has no effect on bacteria.

Cornerstone Laid.—The cornerstone of the addition to the Frederick City Hospital, to cost $10,000, and donated by Mrs. Margaret M. Hood of Frederick, was laid, July 8, with impressive ceremonies.

Gone to Investigate Typhoid Epidemic.—Dr. Marshall L. Price of the State Board of Health, has gone to Mount Savage to investigate the typhoid fever epidemic there. Up to August 10 there had been 93 cases and two deaths. The outbreak is traced to a man who came to the town, July 4, with the disease. The deaths from the disease in Maryland average about 325 per annum.

MICHIGAN.

Appendectomies.—Dr. Levi J. Lennox, Detroit, was operated on for appendicitis August 2.——Dr. Raymond A. Clifford, Ypsilanti, who was operated on for appendicitis in Detroit, July 17, is progressing favorably toward recovery.

Sentenced for Abortion.—Dr. Scott Fraser Hodge, Detroit, convicted of manslaughter in connection with the death of Anna Lehmann, was sentenced on August 2, to imprisonment for not less than six, nor more than nine years in the state reformatory at Ionia.

Personal. Dr. Oscar C. Breitenbach has been appointed health officer of Escanaba.——Dr. Flemming Carrow has resigned the chair of ophthalmology and otology in the University of Michigan, Ann Arbor, and will locate in Detroit.——Dr. S. Edwin Cruse, Iron Mountain, has been commissioned major and surgeon and assigned to the Third Infantry, M. N. G.

Comparative Morbidity.—For July, compared with the average for July in the last ten years, smallpox, diphtheria and puerperal fever were more than usually prevalent, and cholera morbus, cholera infantum, measles, typhoid fever, intermittent fever, remittent fever, dysentery, scarlet fever, erysipelas, whooping cough and pneumonia were less than usually prevalent. During July the diseases which are usually most prevalent during the summer months in the ten preceding years were less prevalent. This lessened prevalence was probably due, in great part, to the lower than average temperature during the month.

The Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan during July, 1904, at 8 places; whooping cough at 14 places; pneumonia at 20 places; diphtheria at 57 places; scarlet fever at 70 places; typhoid fever at 73 places; measles at 73 places; smallpox at 116 places, and consumption at 288 places. Meningitis was reported at 1 place less; whooping cough at 6 places less; pneumonia at 54 places less; diphtheria at 4 places less; scarlet fever at 26 places less; typhoid fever at 2 places less; measles at 95 places less; smallpox at 62 places less, and consumption at 6 places more in July, 1904, than in June

MINNESOTA.

Personal. Dr. Andrew Henderson, Merriam Park, St. Paul, has gone to Scanlon, Minn., to take charge of the sanitarium there.——Dr. Frank H. H. Allen has been elected health officer of Staples.

Smallpox on the Wane.—The number of new smallpox cases in the state for the week ended August 1, was only 6, the smallest number since the outbreak of the epidemic in the winter of 1898.

St. Paul's Health.—During July 284 births and 134 deaths were reported, the latter being equivalent to an annual death-rate of 8.68 per 1,000. Only 22 cases of communicable disease were reported during the month.

Graduates in Medicine.—Hamline Medical School, at its twenty-first commencement exercises, conferred degrees on a class of 15.——The College of Medicine and Surgery of the University of Minnesota, Minneapolis, graduated a class of 82.

State Society.—The Minnesota State Medical Society, at its thirty-sixth annual meeting, held in St. Paul, elected the following officers: President, Dr. John W. Bell, Minneapolis; vice-presidents, George S. Wattam, Warren, Drs. John Williams, Lake Crystal, and James H. Haines, Stillwater; secretary, Dr. Thomas McDavitt, St. Paul, and treasurer, Dr. Richard J. Hill, Minneapolis.

Tents for Isolation Hospitals.—At a recent meeting of the Minnesota State Board of Health, it was decided to advise every township that does not have a special isolation hospital to buy at least one double tent for use as a portable hospital. By the use of such tents, the spread of contagious diseases throughout entire families, so common in the country districts, can be largely avoided. The double tent is much more easily disinfected than a house and by erecting it in the yard the family of the quarantined person need not be inconvenienced.

NEBRASKA.

Personal.—Dr. Clinton E. Sapp, city physician of South Omaha, has resigned and has been succeeded by Dr. John Koutsky. Dr. William S. White, South Omaha, has been reappointed assistant physician of Douglas County.

Many Graduate.—John A. Creighton Medical College, Omaha, conferred diplomas on a class of 28.——At the second annual commencement of the University of Nebraska Medical College, Omaha, a class of 30 received diplomas.

New Officers.—At the thirty-sixth annual session of the Nebraska State Medical Society in Omaha, the following officers were elected: President, Dr. Robert C. McDonald, Fremont; vice-presidents, Drs. John M. Mayhew, Lincoln, and Charles L. Mullins, Broken Bow; secretary, Dr. A. D. Wilkinson, Lincoln; corresponding secretary, Dr. H. Winnett Orr, Lincoln, and treasurer, Dr. James L. Greene, Asylum.

Electro-Medical Institute Loses.—The "State Electro-Medical Institute" of Omaha, which sued a patient and was defeated on the ground that it was not authorized to practice medicine, has had proceedings instituted against it by the State Board of Health, alleging that the "Institute" was a corporation, and that it assumed to practice medicine, asking that it be enjoined and prohibited from practicing medicine or doing any business in the state. The suit was decided in favor of the board and the injunction issued. The "Institute" has appealed to the Supreme Court.

NEW MEXICO.

Hospital News.—The Sisters of the Sorrowful Mother are about to erect a hospital in Roswell.——The Silver City Hospital Association has been merged into the Santa Fe-Pacific Hospital Association.

State Medical Society.—The twenty-third annual session of the New Mexico Medical Society, held at Albuquerque, closed with the election of the following officers: Dr. Edwin B. Shaw, Las Vegas, president; Dr. J. Frank McConnell, Las Cruces. Thomas B. Hart, Raton, and Percy G. Cornish, Albuquerque, vice-presidents; Dr. Guy H. Fitzgerald, Albuquerque, secretary, and Dr. Harry M. Smith, Las Vegas, treasurer.

Sanatoria.—A tent city sanatorium, to cost $30,000, will be erected three miles north of Albuquerque, and will be in charge of Dr. James E. Miller.——Dr. Robert E. McBride has purchased a tract of land near Las Cruces on which he will conduct a sanatorium.——The Las Vegas Hot Springs Sanatorium Company has been incorporated by Dr. William T. Brown, Lancaster, Wis., and others, with a capital stock of $400,000. The company proposes to reopen the Montezuma Hotel as a sanatorium for wealthy consumptives and also to operate in connection a tent city where persons of limited means will be treated at actual cost.

NEW YORK.

Penitentiary Quarantined.—The Albany County Penitentiary has been quarantined because of smallpox.

Diphtheria is Epidemic.—Elmira is undergoing a mild epidemic of diphtheria. In July 41 cases were reported, with one death.

Buffalo Personals. Dr. Charles G. Stockton is in Europe. Dr. Charles von Bergen has taken an automobile trip through New England.

Village in Quarantine.—The entire village of Dresden has been placed in quarantine on account of an epidemic of small-

pox. The Board of Health of Geneva has recommended general vaccination.

Reception Hospital Incorporated.—The reception hospital, which is to receive and care for consumptives at Saranac Lake, was incorporated, August 10, by Drs. Edward R. Baldwin, Edward L. Trudeau and others.

Vienna Visitor.—The Roswell Park Medical Club, Buffalo, listened to an address by Dr. Bernard Panzer of Vienna, on "Diseases of the Accessory Sinuses of the Nose in Children." While in Buffalo Dr. Panzer was the guest of Dr. George F. Cott.

July Deaths in Buffalo.—The monthly report of the Department of Health for July shows an annual death rate of 17.08 per 1,000. The principal causes of death were as follows: Consumption, 44; cerebrospinal meningitis, 3; cholera infantum, 63; diphtheria, 7; typhoid fever, 12; debility, 32; cancer, 20; apoplexy, 23, meningitis, 12; valvular disease of the heart, 24; pneumonia, 28; appendicitis, 7; diarrhea, 11; gastritis, 6; gastroenteritis, 19; ileocolitis, 10; diabetes, 9; nephritis, 15, and violence, 34. The total deaths for July were 541, as compared to 513 deaths for July, 1903.

New York City.

Sir Felix Semon, D.V.O., physician extraordinary to the king of England, who is to deliver the address on laryngology at the St. Louis Congress of Arts and Sciences, will arrive in New York early next month, where he will be entertained by Drs. George M. Lefferts and Emil Mayer.

Death Rate Increases.—For the first quarter of the year there were reported to the health department 12,590 deaths, or 22.58 per 1,000, an increase of 1.60 points on the average for the last five years. This increase was due to the prevalence of measles, influenza, accidents, and a very severe winter.

Personal.—Dr. William T. Jenkins, formerly health officer of the Port of New York, has been appointed sanitary engineer in the health department.——Dr. Patrick J. Murray, assistant sanitary superintendent for Brooklyn, has been removed from office. His successor has not been appointed.

Cancer Hospital Appeals.—Mother Alphonsa Lathrop, a daughter of Nathaniel Hawthorne, has appealed for public assistance in maintaining the St. Rose's Free Home and hospitals for the destitute cancer patients. The work of caring for thirty or more of these patients is at a standstill.

Contagious Diseases.—There have been reported to the sanitary Bureau for the week ended August 6, 366 cases of tuberculosis, with 146 deaths; 232 cases of diphtheria, with 33 deaths; 133 cases of measles, with 6 deaths; 68 cases of scarlet fever, with 2 deaths; 67 cases of typhoid fever, with 13 deaths; 3 cases of smallpox, and 11 cases of varicella.

Typhoid Fever Epidemic.—The Board of Health has made a house to house canvass of the neighborhood of the Jerome Park reservoir, where a colony of Italians are at work, and this has resulted in finding twenty-five cases. This reservoir is not being used now, and, therefore, the city of New York is not endangered. Numerous springs are to be found which bubble up from the floor of the big basin, and the board is inclined to believe that here may be found the source. Each of these suspected holes has been labeled "poison" in English and Italian. The water has not yet been examined for the germs of the disease.

PENNSYLVANIA.

Much Typhoid in Pittsburg.—On August 9, 33 new cases of typhoid fever were reported to the Pittsburg Bureau of Health.

Typhoid at West Chester.—Thirty cases of typhoid fever have been reported to the board of health within a short time. Efforts are being instituted by the board to discover the cause of the outbreak, as the town has always been remarkably free from the disease. The present rate is only 3 to each 1,000 population, but this is extremely high, as compared with the record of former years.

Philadelphia.

New Superintendent for Blockley.—Mayor Weaver has appointed William F. Defrates superintendent of the Philadelphia Hospital, to succeed the late Robert M. Smith.

New Medical Inspectors. Dr. J. Frank Wallis was recently appointed district medical examiner in place of Dr. Andrew J. Maher, resigned.——Drs. Howard G. Fretz and Harlan Shoemaker have been appointed assistant medical inspectors in the bureau of health, vice Drs. Harold B. Ward and William P. Hearn.

Bequests. By the will of the late Benjamin F. Teller, who died July 15, the Jewish Hospital Association receives $35,000, for the establishment of free beds.——The will of the late Cornelia Thompson devises $10,000 to the Presbyterian Hospital for the endowment of two free beds and $5,000 for a free bed in the Children's Hospital.

Health Report. The increase in typhoid fever during the past three weeks was particularly noticeable in the reports for the last seven days. One hundred new cases and 11 deaths were recorded for the week ending July 13, as compared with 84 cases and 5 deaths for the preceding seven days. There were in all 191 cases of contagious disease reported, as follows: Diphtheria, 40; scarlet fever, 51; typhoid fever, 100. The city still remains totally free from smallpox, no cases being reported since July 9. The general death rate is higher, the total deaths numbering 441. This is an increase of 13 over those of last week and 15 more than for the corresponding period of last year. Seventy-five of the deaths occurred in infants under two years of age.

SOUTH CAROLINA.

Personal.—Dr. Fred L. Potts, Spartanburg, has returned from Philadelphia after having undergone an operation for appendicitis.——Drs. H. W. Shaw and Walter D. Wright have been made members of the board of health of Langley.

To Transfer Hospital to Society.—The Medical Society of South Carolina, trustees under the will of Thomas Roper, proposes that the present Charleston City Hospital be conveyed to it for a nominal sum, and that the entire management of the institution be entrusted to the society. The society agrees to expend about $100,000 in the improvement of the hospital buildings, which practically involves their reconstruction and adaptation to conform to modern scientific ideas.

VIRGINIA.

Smallpox.—It is reported that there are more than a hundred cases of smallpox in Buchanan County, 25 or 30 of which are in Grundy, the county seat. The circuit judge, on this account, has decided not to hold the regular session of court.

Mortality of 1903 in Richmond.—During 1903, 884 white persons and 1,051 colored died in Richmond; a rate of 19.35 per 1,000 for the former, and 27.84 per 1,000 for the latter. In May occurred the greatest mortality, 201, and in August the least, 123.

College Incorporated.—The University College of Medicine, Richmond, has been granted a charter by the corporation commission. The incorporators were Drs. J. Allison Hodges, Stuart McGuire, Paulus A. Irving and Landon B. Edwards, all of Richmond.

Personal.—Dr. Elisha Barksdale of Halifax County has succeeded Dr. A. D. Louthan as resident physician at Memorial Hospital, Richmond.——Dr. O. C. Bronk has succeeded Dr. Hugh C. Henry as first assistant physician at the Central State Hospital, Petersburg.——Dr. Herbert M. Nash, Norfolk, has succeeded Dr. Frank A. Walke, deceased, as surgeon of the Pickett-Buchanan Camp of Confederate Veterans.

GENERAL.

Osler to Go to Oxford University.—Dr. William Osler has accepted the regius professorship of medicine at Oxford University in succession to Sir John Burton Sanderson. He will assume the duties of the new position next spring, after completing the school year of 1904-5 at Johns Hopkins. The appointment has been approved by King Edward. Dr. Osler reached New York, August 14, on the White Star liner *Cedric* and is now with his family at Murray Bay, below Quebec, Canada. Dr. Osler has been considering this position for some time and has felt the need of a change from the extraordinary pressure of work now on him. His new position will give him opportunity for more literary work in connection with the mass of clinical data that he has accummulated in his work in this country.

FOREIGN.

Medical Study Trips.—The German medical study trip to the spas of Germany, September 7-17, will be diversified by addresses by Brieger, chief of the Berlin Hydrotherapeutic Institute, Flügge of sputum droplet fame, Goldscheider, Ott, chief of the unique maternity at St. Petersburg, Rosin, Stern and von Strümpel. Dr. W. H. Gilbert of Baden-Baden has the matter in charge, as mentioned on page 1619 of the last volume. The French study trip is in charge of Landouzy, and will start

from Lamotte, September 3, and disband September 15, after visiting Vichy and other spas in Auvergne. These study trips are becoming more and more popular every year, and attract hundreds of physicians for an inexpensive outing with congenial enthusiasts.

Bacteriologic Institutes in the French Colonies.—France has organized institutes in her colonies, modeled after the Paris Pasteur Institute. Madagascar, Algiers, Tunis, New Caledonia, Senegal, each has one or more, and French Indo-China has three. It was in one of these Cochin China laboratories that the idea occurred to Calmette to utilize the buffalo for vaccine production, and here also he discovered the ferments utilized now in the production of alcohol. Here also he commenced his studies on snake poison, which resulted in the discovery of his antivenom serum. Yersin's work in one of these laboratories resulted in the production of his anti-plague serum. A "Colonial Congress" has recently been held at Paris, which outlined new tasks for the future, but also showed that more had already been accomplished in the way of hygiene and education than had been realized.

Pulmonal Infusion.—Jacob's published communication was reviewed in The Journal of July 30, page 361, and also on page 434, August 6. In the concluding portion he relates his clinical experience with 5 patients treated by direct infusion of tuberculin into a lower bronchus. The communication was first presented at a meeting of the Berlin Medical Society, and Westenhoeffer created a sensation by stating his impression that the infusion had hastened the fatal termination in one of the patients. He cited the "office register" of the hospital—the Charité—in confirmation of these statements, but Jacob declared that this register was not kept strictly accurate, the main reliance being on the official clinical record kept in each ward. This contention between the physicians led to a spirited debate and Jacob sent a letter to a Berlin daily on the subject. As the "office register" is accepted as testimony in the courts, this official announcement as to its unreliability attracted public attention. Jacob stated that the patient in question was almost moribund, and that the tracheotomy and infusion were done as a possible last resource. The denunciations of his conduct were so bitter, Lazarus and Kohn sustaining Westenhoeffer's assertions, that the appointment of a committee to investigate the matter was considered, but no official steps were taken. He was accused of suppressing certain circumstances and cases in his report, and of performing tracheotomy on subjects presenting no indications for such a measure. His contract with the hospital expires in October, and no steps have been taken by the authorities to renew it.

Queries and Minor Notes.

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

CHARGES BETWEEN NURSES AND PHYSICIANS.

R. K., City of Mexico, writes: Is it ethical for a physician to charge a nurse for medical attention? There is a case here in this city which is causing much comment. A nurse was called on a smallpox case and the physician advised her to be vaccinated, and he charged her $1.50; it did not take, and he vaccinated her the second time, charging her the same price. The girl has since had typhoid fever, and now is paying him with what little money she can earn for his services through the fever. He is a graduate of the University of Michigan.

Answer.—In reply to the opening question of our correspondent it may be freely stated that there is no general obligation resting on medical men to give gratuitous professional attention to nurses. We are not aware that nurses have ever served physicians or members of their families—except because of personal reasons—for less than they would have asked laymen for like service. Therefore, of course, they can expect no concession in return. In spite of this fact, however, physicians usually are generous, and render to a nurse for professional service a bill much less than would be asked of a layman. In case the nurse is an unusually capable one with whom the physician has been closely associated in the care of the sick she commonly is not called on for a fee. That, however, is a matter of personal relation, not of established interchange of courtesy. As has before been observed, the relation between physician and nurse has never been clearly defined. It is to be regretted that this was omitted from our new and admirable "Principles of Ethics," for there are many points of contact between the two callings that need elucidation. For instance, regarding the point at issue, the claim is set up for the nurse that attendance on a physician in illness takes all her working time, cutting off entirely her means of support, and that therefore gratuitous service is too much to ask. This contention seems irrefutable, so that all the nurse could offer would be some concession in the weekly wage, but, so far as we are informed, this is not the custom. As before noted, the physician should be entirely governed by the local circumstances. If he attends a nurse in a long, serious illness he should be entitled to some compensation. If the service is small, such as a vaccination, and the nurse is well known to the physician, it certainly is customary to make no charge. Regarding vaccination, we believe it to be usual in this country for the physician, in any case, to make no charge for a revaccination when a recent vaccination has failed to "take." From the above observations our correspondent will gather that such a course toward a nurse as that described by him appears wholly indefensible, but that before final judgment could be pronounced on the ethics of such a particular case it would be necessary to learn the circumstances influencing the physician to adopt this course toward this nurse.

EFFECT OF MORPHIN IN PREGNANCY.

S. K., of Dakota, asks: 1. Does the excessive administration of any drug produce permanent insanity? If so, what drugs? 2. Is it advisable to administer daily large doses of morphia to a pregnant woman for three months prior to her confinement for supposed gastric ulcer? 3. What effect will it have on the child? 4. Is it right to treat a general pruritus occurring in later months of pregnancy with daily hypodermatic injections of morphia? 5. Does continuous administration of morphia produce a general erythematous eruption with general pruritus?

Answer.—1. Temporary. 2. Morphin is given most frequently during pregnancy to prevent labor in cases of threatened labor or abortion. It may be employed to meet other indications, but it should not be used for ulcer of the stomach. The approved method of treating this pathologic condition, during pregnancy as in the non-pregnant state, is to keep a patient in bed and put nothing into the stomach for ten to fourteen days, relying wholly on rectal feeding. Then little by little careful feeding is begun. 3. Morphin as well as other alkaloids and soluble drugs will pass through the placenta into the blood of the child. The fetus is affected by morphin administered to the mother, but to what extent is a matter of dispute. No doubt a dose dangerous to the mother may be dangerous to the fetus. Probably a moderate therapeutic dose will not injure the child. When the mother takes morphin regularly during pregnancy the fetus can acquire the morphin habit and suffer afterwards from its sudden withdrawal. 4 and 5. Genital and vulvar pruritis occurring during pregnancy are symptoms of gravidal intoxication, and should be controlled by eliminants, diet and soothing washes or salves. Morphin is not necessary nor desirable since it interferes with elimination and so tends at times to increase the trouble.

TIME TO TAKE ALKALIES TO MAKE URINE ACID.

Dr. William C. Riley, San Francisco, writes: Regarding inquiry of J. W. B., Virginia, page 275, July 23, 1904, as to proper time to give alkalies to make the urine acid, also concerning answer by J. T. Howard, page 342, July 30, 1904, it is pertinent to enquire, does administration of alkalies *ever* make the urine acid? Clinical and experimental data show the contrary without splitting hairs. I might ask, what is an alkali and what is an alkaline reaction? Sodium bicarbonate ($NaHCO_3$) is usually regarded as an alkali. Is it? Chemically it is an acid salt. Physiologically it acts like an alkali. It acts as an alkali with litmus and with all other indicators used to determine such facts except phenolphthalein; with the latter the pure salt (free from carbonate) acts as an acid, simply because carbonic acid is sufficiently "strong" (to use a common but misleading term) to decompose the weak saline combination of the indicator. Regarding sodium phosphates, there are three well defined salts—the first two, 1, NaH_2PO_4 and 2, Na_2HPO_4 (ordinary phosphate of soda), being chemically acid salts; the third, 3, Na_3PO_4, is chemically a neutral salt. To the taste and to litmus numbers two and three are alkalies. To state that a given chemical is acid or alkaline one must state the indicator used. Thus a solution of sodium phosphate neutral to litmus is alkaline to diamideozobenzole, alizarin (alizarin monosulphonate of sodium), methyl orange and tropeolin, and also to the tongue. It is acid to phenolphthalein (unless boiled). A solution of sodium phosphate, which is acid to litmus and also to taste, is alkaline to all the other indicators save phenolphthalein. A solution of sodium phosphate alkaline to litmus and to taste is alkaline to all other indicators save phenolphthalein, and it reacts red to that when boiled. ($NaHCO_3$ being split up into Na_2CO_3 and CO_2, the latter being driven off). So, all theory aside, how in the world can one obtain an acid salt of phosphoric acid by adding alkalies to a neutral salt, or even to an acid salt of the same base. It is too utterly absurd.

RELATION OF SEX OF CHILD TO THE RELATIVE AGE OF PARENTS.

W. K. L., of Havana, writes: Is there any law in regard to the influence of age of married couples on their offspring? I understand that if the mother is older than the father the children begotten from such parents will be females.

ANSWER.—According to the theory of Hoffacker and Sadler, which was promulgated about seventy-five years ago, the sex of the child is likely to be the same as that of the elder parent when there is disparity in the ages of the parents. This theory has been overthrown by Berner and others. Certain statistics tend to prove the contrary, namely, that the sex of the child is more apt to be that of the younger parent. The problem of the determination of sex is still unsolved, and there are no collections of statistics or other data from which we can deduce rules available for practical application.

INFANT SWALLOWS AND SAFELY EXPELS LARGE WIRE STAPLE.

DR. C. D. STRATTON, Rothville, Mo., writes: About July 18, 1904, I was consulted by a mother in regard to her 9-months-old baby swallowing a common fence staple. She said she felt it as it passed into the gullet sharp points down. The child was limp and pale for a few minutes, when all was as well as usual. I told her that she was probably mistaken, as it was almost impossible for a child to swallow such a thing. The anxious mother continued to watch, however, and at the end of 17 days the staple passed without in any way harming the child. It measured 1¼ x ½ inch and was as sharp as these instruments usually are.

ANSWER.—Although such sharp objects often pass through the canal without doing harm, they sometimes lodge or inflict other injury. If a child is old enough, free administration of slippery elm bark may be tried. Cases are reported in which the fibers have enveloped the sharp object, completely protecting the mucosa.

Marriages.

CLARA L. KEMBAL, M.D., Bloomfield, Iowa, to C. H. Cronk of Tama, Iowa, July 31.

GEORGE A. HARTMAN, M.D., to Miss Agnes Graham, both of Baltimore, August 1.

W. FRANK ASHMORE, M.D., to Miss Lucia Cater, both of Anderson, S. C., August 2.

DAVID L. AXILROD, M.D., to Miss Lillian Aronsohn, both of St. Paul, Minn., August 3.

O. E. SPILLER, M.D., Mauldin, Mo., to Miss Ruby Farley of Memphis, Tenn., August 9.

ALCIMUS H. BASKIN, M.D., to Miss Agnes Hermena Muller, both of Atlanta, Ga., August 3.

RODERICK B. CRISHOLM, M.D., to Miss Belle Hayes, both of La Porte City, Iowa, August 3.

JUSTIN J. LEAVITT, M.D., Molalla, Ore., to Miss Sophia M. Boyles of Portland, Ore., August 2.

CHARLES H. LUDLOW, M.D., Covington, Ind., to Miss Coralie Daniels of Savoy, Ill., in November, 1903.

HARRY A. STALKER, M.D., Pond Creek, Okla., to Miss Maude Webster of Durand, Ill., at Rockford, Ill., August 4.

CHARLES EDWIN FRENCH, M.D., San Francisco, Cal., to Miss Gertrude Twineham of Cincinnati, Ohio, at Princeton, Ohio, August 16.

Deaths.

Orlando Brown, M.D. Yale University Medical Department, New Haven, Conn., 1851, assistant surgeon of the Eighteenth Massachusetts Volunteer Infantry, later inspector of hospitals, and in 1865 made colonel of the Twenty-fourth U. S. Infantry; brevetted brigadier-general for gallant conduct in the service; organizer of the Bureau of Freedmen and Refugees; who resigned his commission in 1869, and resumed practice in Washington, Conn., once president of the Litchfield County Medical Society and president of the Connecticut State Medical Society in 1889, died at his home in Washington, August 4, after an illness of several months, aged 77.

John O'Flaherty, M.D. Albany (N. Y.) Medical College, 1864, a member of the Connecticut State and Hartford County medical societies; president of the Hartford Medical Society; assistant surgeon of the One Hundred and Seventeenth New York Infantry in the Civil War; for several years president of the medical board of St. Francis Hospital, died at his home in Hartford, July 31, from nephritis, after an illness of seven months, aged 62.

Albert Preston Fulkerson, M.D. Jefferson Medical College, Philadelphia, surgeon in the Confederate service during the Civil War, died at the home of his brother in Lexington, Mo., from meningitis, after an illness of three weeks, aged 68.

Romeo F. Chabert, M.D. New York University, New York City, 1856, of Hoboken, N. J., founder and consulting surgeon of St. Mary's Hospital, and consulting physician to Bayonne Hospital, died at his summer home in Asbury Park, N. J., August 1, after an operation for intestinal obstruction, aged 76.

Walter J. Byrne, M.D. Medical Department St. Louis University, 1848, surgeon of the Ninth Kentucky Infantry, C. S. A., during the Civil War; some-time superintendent of Central Kentucky Hospital for the Insane, Lakeland, died at his home in Russellville, Ky., August 1, after a short illness, aged 80.

George W. Menees, M.D. University of Nashville (Tenn.) Medical Department, 1855, a member of the American Medical Association, and one of the oldest and best-known physicians of Robertson County, Tenn., died at his home in Springfield from peritonitis, August 1, after an illness of two days, aged 70.

Frank J. Havlicek, M.D. Medical Department of Adelbert College of the Western Reserve University, Cleveland, Ohio, 1882, a member of the American Medical Association, and a well-known practitioner of Cleveland, died suddenly at his home in that city, August 7, from cerebral hemorrhage, aged 45.

A. Carter Webber, M.D. Harvard University Medical School, Boston, 1849, the dean of the medical profession of Cambridge, Mass., who retired from practice in 1900, died suddenly at the home of his son in Manchester-by-the-Sea, Mass., August 5, from acute bronchitis, aged 78.

Henry M. W. Moore, M.D. Columbus (Ohio) Medical College, 1885, a member of the American Medical Association and a veteran of the Spanish-American War, died at his home in Columbus, August 6, from an overdose of chloral, aged 42.

Felix F. Cassaday, M.D. Jefferson Medical College, Philadelphia, 1867, a member of the American Medical Association and of the Philadelphia County Medical Society, died at his home in Philadelphia, from apoplexy, August 2, aged 62.

Charles Thomas Varnon, M.D. University of the State of Missouri Medical School, Columbia, 1876, coroner of Audrain County, Mo., died at his home in Mexico, Mo., from Bright's disease, July 24, after a long illness, aged 53.

John N. Woodruff, M.D. College of Physicians and Surgeons in the City of New York, state senator in 1897; probate judge for several years, died suddenly from heart disease at his home in Sherman, Conn., July 18, aged 68.

John Leonard Evans, M.D. University of Louisville (Ky.) Medical Department, 1888, of Colorado Springs, Colo., died at Norton Infirmary, Louisville, July 30, from pulmonary abscess, after an illness of four years, aged 38.

Charles Newton Thompson, M.D. Bellevue Hospital Medical College, New York City, 1884, of New York City, for many years surgeon of the Ninth Infantry, N. G., N. Y., died at Nantucket, Mass., August 7, aged 54.

Francis B. Ambler, M.D. Denver College of Medicine, University of Denver, Colo., 1897, of Northville, Mich., died at St. Mary's Hospital, Detroit, August 7, one day after an operation for intestinal obstruction, aged 38.

James Henry Reynolds, M.D. Detroit (Mich.) Medical College, 1871, formerly mayor of Adrian, Mich., died at his home in that city from cerebral hemorrhage, July 30, after an illness of one week, aged 59.

Abial W. K. Newton, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1871, some-time coroner of Suffolk County, Mass., died at his home in Boston, August 1, aged 68.

David Y. Winston, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1888, died at his home in Clarksville, Tenn., August 7, from typhoid fever, after a short illness, aged 42.

Thomas Franklin Thornton, M.D. Detroit (Mich.) Medical College, 1873, of Grand Ledge, Mich., died at St. Mary's Hospital, Detroit, August 3, from diabetic gangrene, after an illness of three weeks.

Evans Prothro, M.D. Memphis Hospital Medical College, 1898, of England, Ark., died at the home of his brother near Little Rock, Ark., from sunstroke, after an illness of only a few hours, aged 32.

Henry S. Kimmel, M.D. Cincinnati College of Medicine and Surgery, 1861, a member of the state and county medical societies, died at his home in Dayton, Ohio, August 6, aged 70.

Gabriel H. Hill, M.D. Louisville (Ky.) Medical College, 1874, of Charlottesville, Va., died at Spartansburg, S. C., July 15, from the effects of a fall received several weeks before, aged 69.

Richard C. Bond, M.D., Miami Medical College, Cincinnati, 1857, of Aurora, Ind., died at the home of his sister in Quiet Dell, W. Va., July 7, from pneumonia, after an illness of five days, aged 83.

Robert Milbank, M.D. New York University, New York City, 1878, of New York City, visiting physician to New York Infant Asylum, died at Byram Shore, N. Y., from apoplexy, August 4, aged 66.

Alfred A. Wall, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1849, of Tuscumbia, Ala., died at the home of his son in Jasper, Ala., July 11, aged about 80.

R. Bliss Kennedy, M.D. Beaumont Hospital Medical College, St. Louis, 1901, died at his home in Burlington Junction, Mo., July 26, from the effects of a self-inflicted gunshot wound of the head.

Joseph Weaver, M.D. Medical College of Ohio, Cincinnati, 1838, who retired from practice in 1870, died at his home in Miamisburg, Ohio, July 19, after an illness of eight days, aged 87.

John McClary Steele, M.D. Laval University Medical Department, Quebec, 1890, while suffering from melancholia, shot and killed himself at his home in Worcester, Mass., August 1, aged 37.

James Hutchinson, M.D. Missouri Medical College, St. Louis, 1876, died at his home in Boling, Kan., from disease of the digestive apparatus, August 3, after an illness of four months, aged 62.

William B. Rehling, M.D. Rush Medical College, Chicago, 1903, of Alhambra, Ill., died at the home of his mother in Waterloo, Ill., from typhoid fever, July 28, after an illness of three weeks, aged 26.

William C. Darnall, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1890, died at his home in Huntsville, Ala., from consumption, July 28, after a lingering illness, aged 35.

Benjamin F. Egleston, M.D. University of Buffalo (N. Y.) Medical Department, 1882, died from apoplexy at his home in Churchville, N. Y., July 25, after an illness of only a few hours, aged 58.

Robert L. Gattis, M.D. University of Maryland School of Medicine, Baltimore, 1888, died at his home in Chapel Hill, N. C., July 29, from typhoid fever, after an illness of six weeks, aged 34.

George A. Thomas, M.D. Louisville Medical College, 1878, a member of the American Medical Association, surgeon to the Indiana Railroad, died at his home in Linton, Ind., August 1.

Thomas Ballard McDow, M.D. Medical College of the State of South Carolina, Charleston, 1879, was found dead in bed at his home in Charleston, July 26, from heart disease, aged 49.

John J. Adderhold, M.D. Atlanta (Ga.) Medical College, 1891, of Worth, Ga., died at the Macon City Hospital, July 30, from pneumonia, a short time after a mastoid operation, aged 38.

Clarence M. Boyd, M.D. Northwestern Medical College of St. Joseph, Mo., 1892, of St. Joseph, died at Ensworth Hospital in that city, July 17, from cerebral hemorrhage, aged 33.

George Ernest Mayhew, M.D. College of Physicians and Surgeons of Chicago, 1897, of Red Bluff, Cal., died at Colyear Springs, Cal., July 19, after a long illness, aged 32.

Henry Venne, M.D. Faculty of Medicine of Queen's University, Kingston, Ont., 1861, died at the Old Folks' Home, Mattoon, Ill., from Bright's disease, July 14, aged 70.

Martin B. Kellar, M.D. Miami Medical College, Cincinnati, 1868, died at his home in Vallejo, Cal., July 8, from heart disease, after an illness of several months, aged 61.

C. A. Stanfield, M.D. Memphis (Tenn.) Medical College, died at his home in Toledo, Ark., August 3, after a lingering illness.

William R. McLaren, M.D. Illinois, 1871, died suddenly at his home in Detroit, Mich., July 28, from angina pectoris, aged 55.

Charles A. Scribner, M.D. Illinois, 1891, died suddenly at his home in Dalton, Mich., June 28, from angina pectoris, aged 44.

John S. Lampman, M.D. Pennsylvania, 1859, died at his home in Wilkesbarre, Pa., August 5, after a short illness, aged 65.

J. T. Stoddard, M.D., of Jonesboro, Ark, died at Orlando, Fla., July 23, from Bright's disease, after an illness of two years.

Helen Gray Da Costa, M.D. Woman's Medical College of Chicago, 1898, died March 13, at Princeton, Ind., aged 29.

David B. Taylor, M.D. Ohio, 1869, died suddenly at his home in Millburn, Ill., August 1, from heart disease, aged 78.

Thomas W. McGaughey, M.D. Chicago Medical College, 1892, died at his home in Pennington Point, Ill., February 28.

Guy W. O. Mitchner, M.D. Barnes Medical College, St. Louis, committed suicide at Guthrie, Okla., March 28, aged 25.

C. C. McKinley, M.D. College of Medicine and Surgery, Cincinnati, 1865, died recently at Champaign, Ill., aged 76.

Mark R. Wright, M.D. Medical College of Alabama, Mobile, 1873, died at his home in Knox, Ind., June 25, aged 68.

Lewis B. Stewart, M.D. Indiana, 1897, died at his home in Marengo, Ind., August 1, from heart disease, aged 83.

Death Abroad.

William Alexander McKeown, M.D., R.U.S. 1869; Fellow of the Royal Academy of Medicine of Ireland; surgeon to the Ulster Eye, Ear and Throat Hospital, Belfast; lecturer in ophthalmology and Otology, Queen's College, Belfast; sometime president of the Ulster Medical Society, and of the North of Ireland Branch, British Medical Association, an ophthalmologist of more than local renown, whose most important advances in his specialty were the use of the magnet for the removal of metallic foreign bodies from the eyeball, and the operative treatment of immature cataract, died at his home in Belfast, July 9, aged 60.

Sir Frederic Bateman, M.D. Aberdeen, 1850; M.R.C.S. Eng., 1849; M.R.C.P. Lond., 1866; F.R.C.P. Lond., 1876; L.S.A., 1850; eminent as a physician, scientist and psychologist, a member of many English and foreign learned societies, laureate of the Academy of Medicine of France, and medical and sociological author of repute; consulting physician to Norfolk and Norwich Hospital; knighted by the Queen in 1892, died at his home in Norwich, England, August 10, aged 80.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Aug. 13, 1904:

Weed, Frank W., asst.-surgeon, ordered to proceed from Fort McHenry to Fort Howard, Md., for temporary duty.

Freeman, Paul L., asst.-surgeon, ordered to proceed from Fort Slocum, N. Y., to Fort Warren, Mass., for temporary duty.

Reilly, John J., asst.-surgeon, leaves Jackson Barracks, La., on thirty days' sick leave.

Hathaway, L. M., asst.-surgeon, relieved from duty at Fort Davis, Alaska, and ordered to Fort Gibbon, Alaska.

Helzmann, Chas. L., asst.-surgeon general, granted fifteen days' leave of absence.

Dale, F. A., asst.-surgeon, granted thirty days' leave of absence about September 1.

Ashburn, P. M., asst.-surgeon, left Fort Missoula, Mont., with troops on practice march.

Gosman, Geo. H. R., asst.-surgeon, assignment to duty with troops at maneuvers, Manassas, Va., is revoked.

Little, Wm. L., asst.-surgeon, ordered to accompany troops from Camp Geo. H. Thomas, Ga., and for duty with same at maneuvers, Manassas, Va., Aug. 28, 1904.

Reno, Wm. W., asst.-surgeon, assignment to duty at Manassas, Va., during maneuvers revoked.

Reno, Wm. W., asst.-surgeon, relieved from duty at Fort Crook, Neb., and ordered to duty with troops at the Louisiana Purchase Exposition, St. Louis.

Church, James R., asst.-surgeon, sick leave of absence extended two months.

Lyster, Theo. C., asst.-surgeon, reported at Ancon, Canal Zone, Isthmus of Panama, left West Point, N. Y., July 7, 1904.

Barney, Chas. N., asst.-surgeon, ordered to accompany detachment hospital corps from Fort Jay, N. Y., to Gainesville, Va., not later than Aug. 18, 1904.

The following-named medical officers will report, Aug. 18, 1904, to the Division surgeon, First Provisional Division, near Manassas, Va.: Capt. W. F. Truby at Fort Preble, Me.; Capt. H. S. Greenleaf, Fort Moultrie, S. C.; First Lieut. Geo. H. Crabtree, Fort Jay, N. Y.; First Lieut. Wilfrid Turnbull, Fort Strong, Mass.; First Lieut. Geo. W. Jean, Fort Wadsworth, N. Y.; First Lieut. Jas. L. Bevans, Fort Barrancas, Fla.

To the Division surgeon, Second Provisional Division, near Thoroughfare, Va.: Capt. P. C. Faunleroy, Madison Barracks, N. Y.; Capt. R. H. Dutcher, Fort Hancock, N. J.; Capt. E. H. Hartnett, Key West Barracks, Fla.; Capt. Clyde S. Ford, Fort H. G. Wright, N. Y.; First Lieut. Wm. L. Little, Camp Geo. H. Thomas, Ga.

To the First Provisional Division near Manassas, Va.: Major Charles Willcox, Fort Totten, N. Y., to accompany troops from Fort Slocum, N. Y.; Major Jos. T. Clarke, Fort Ethan Allen, Vt., to accompany troops from that post; Major Henry A. Shaw, Fort Adams, R. I.; Capt. Jas. S. Wilson, to accompany troops from Fort Myer, Va.; Capt. E. R. Schreiner, Fort McHenry, Md.; First Lieut. Chandler P. Robbins, Fort Terry, N. Y.; First Lieut. Henry S. Kiersted, Fort Myer, Va., to accompany troops from Washington Barracks, D. C.; First Lieut. Frank T. Woodbury, Plattsburg Barracks, N. Y., to accompany troops from that post; First Lieut. Compton Wilson, Fort Howard, Md.; First Lieut. I. W. Patton, Fort Hamilton, N. Y., to accompany troops from that post to

Gainesville, then to proceed to Maneuver Camp No. 1; First Lieut. William Roberts, Fort Caswell, N. C.; First Lieut. Robert M. Thornburgh, Fort Warren, Mass.; First Lieut. C. C. Whitcomb, Fort McKinley, Me.; First Lieut. Park Howell, Fort McPherson, Ga., to accompany troops from that post; First Lieut. Percy L. Jones, Fort Monroe, Va.; First Lieut. Howard H. Baily, Plattsburg Barracks, N. Y., to accompany troops from that post.

To the Second Provisional Division near Thoroughfare, Va.: Major Henry C. Fisher, Camp Geo. H. Thomas, Ga., to accompany troops from that camp. Capt. H. M. Hallock, Fort Porter, N. Y., to accompany troops from that post; Capt. Ira A. Shimer, Fort Niagara, N. Y., to accompany troops from Madison Barracks, N. Y., to which place he will proceed in due time; Capt. Douglas F. Duval, Fort Williams, Me.; First Lieut. Walter Cox, Fort Banks, Mass.; First Lieut. A. W. Williams, Fort Greble, R. I., to accompany troops from Fort Jay, N. Y.; First Lieut. Wm. H. Brooke, Fort Washington; First Lieut. Reuben B. Miller, Fort Screven, Ga.

Stallman, George E., contract dental surgeon, Kuhn, Charles E., and Reddy, Joseph W., contract surgeons, sailed August 1 from San Francisco on the transport *Logan* for Manila, P. I. The first-named has just entered the service; the other two are returning from leaves of absence spent in the United Stats.

Vaughan, Milton, contract surgeon, relieved from further duty in the Philippine Division and directed to proceed at the expiration of his present leave of absence from Little Rock, Ark., to Fort Douglas, Utah, for duty.

Foulkes, Bruce, contract surgeon, returned July 28 to his proper station, Vancouver Barracks, Wash., from temporary duty at American Lake, Wash.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the two weeks ending Aug. 13, 1904:

Grunwell, A. G., surgeon, ordered to the *Dixie*.

McDonnold, P. E., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from July 2, 1904.

McDonnell, W. N., A. A. surgeon, detached from the *Marcellus* and ordered to the Naval Recruiting Rendezvous, Baltimore, Md.

Dabney, V., A. A. surgeon, detached from the Naval Recruiting Party No. 3 and ordered home to wait orders.

Dean, R. C., medical director, detached from duty as a member of the Naval Retiring Board, Washington, D. C., and ordered home.

Duncan, G. F., A. A. surgeon, detached from the Naval Recruiting Party No. 2 and ordered to the *Franklin*.

Janney, W. H., A. A. surgeon, detached from Naval Recruiting Party No. 1 and ordered to the *Marcellus*.

Lung, G. A., surgeon, detached from the *Hancock* and ordered to the *Kentucky*.

Guest, M. S., P. A. surgeon, detached from the *Kentucky* and ordered to Washington, D. C., Sept. 1 for examination for promotion, and then to wait orders.

Asserson, F. A., asst. surgeon, detached from the *Kentucky* and ordered home to wait orders.

Dessez, P. T., asst.-surgeon, detached from the Naval Academy and ordered to the *Kentucky*.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Aug. 4, 1904:

Parviance, Geo., asst.-surgeon general, granted extension of leave of absence from June 20 to June 30, inclusive.

Banks, C. P., surgeon, granted leave of absence for one month and fifteen days from August 12.

Sprague, E. K., P. A. surgeon, to report to Surgeon G. W. Stoner, immigration Depot, New York, for duty.

Greene, J. B., P. A. surgeon, on the return of Asst.-surgeon H. McG. Robertson, relieved from duty at New York (Stapleton) and directed to proceed to Fort Stanton as inspector of unserviceable property. On completion of this duty to remain at Fort Stanton and await further orders.

Lavinder, C. H., P. A. surgeon, relieved from duty at Delaware Breakwater Quarantine and directed to proceed to New York (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Foster, M. H., P. A. surgeon, granted leave of absence for fourteen days.

Trotter, F. E., asst.-surgeon, granted leave of absence for ten days from August 5.

Fahrenbuch, L. P. H., asst.-surgeon, to assume command of service at Delaware Breakwater Quarantine, relieving P. A. Surgeon C. H. Lavinder.

Salmon, T. W., asst.-surgeon, granted leave of absence for seven days from Aug. 2, 1904, under Paragraph 191 of the Regulations.

Porter, J. Y., sanitary inspector, to proceed to Havana, Cuba, for special temporary duty, and to inspect the disinfecting steamer *Senator*.

Brice, J. W., A. A. surgeon, granted leave of absence for thirty days from September 20.

Foster, J. P. C., A. A. surgeon, granted leave of absence for thirty days from August 1.

Stuart, A. F., A. A. surgeon, Department letter of June 22, granting leave of absence for thirty days from July 1, amended to read twenty one days.

Rogers, Edward, pharmacist, granted leave of absence for sixteen days from August 5.

Troxler, R. F., pharmacist, granted leave of absence for thirty days from September 5.

Neves, Geo., pharmacist, granted leave of absence for thirty days from August 27.

BOARD CONVENED.

Board to meet at Port Townsend, Wash., for the physical examination of candidates for second assistant engineer in the Revenue Cutter Service. Detail for the board: P. A. Surgeon J. H. Oakley, chairman; A. A. Surgeon W. E. Patric, recorder.

PROMOTIONS.

Asst. Surgeons T. B. McClintic, Joseph Goldberger and W. A. Korn commissioned (recess) as P. A. surgeons, to rank as such from July 28, July 27 and July 27, 1904, respectively.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Aug. 12, 1904:

SMALLPOX—UNITED STATES

District of Columbia: Washington, July 30-Aug. 6, 1 case.
Illinois: Peoria, July 1-31, 4 cases.
Louisiana: New Orleans, July 31-Aug. 6, 1 case.
Massachusetts: North Adams, July 31-Aug. 6, 2 cases, 1 death.
Michigan: At 72 places, July 23-30, present.
Missouri: St. Louis, July 31-Aug. 6, 2 cases.
New Hampshire: Manchester, July 31-Aug. 6, 1 case.
New York: New York City, July 31-Aug. 6, 3 cases.
Ohio: Zanesville, July 2-30, 3 cases.
Pennsylvania: Johnstown, July 31 Aug. 6, 1 case.
Tennessee: Nashville, July 31 Aug. 6, 1 case.
Wisconsin: Milwaukee, July 31-Aug. 6, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, June 26-July 3, 200 cases, 117 deaths.
Canada: Winnipeg, July 24-30, 1 death.
Colombia: Barranquilla, July 18-24, 1 death.
France: Marseilles, June 1-30, 3 deaths; Paris, July 16-23, 17 cases, 1 death; Rouen, June 1-30, 3 deaths.
Great Britain: Glasgow, July 22-29, 7 cases, 2 deaths; Liverpool, July 16-30, 6 cases; July 9-16, London, 7 cases; Manchester, 2 cases; Newcastle-on-Tyne, 10 cases, 1 death; July 16-23, Nottingham, 2 cases; Sheffield, 1 case.
India: Bombay, June 28 July 12, 24 cases.
Italy: Palermo, July 16-23, 1 death.
Mexico: City of Mexico, July 17-24, 2 cases, 2 deaths.
Russia: Moscow, July 9-16, 5 cases, 5 deaths; Odessa, July 16-23, 1 case; Warsaw, June 25-July 2, 20 deaths.
Turkey: Constantinople, July 17-24, 10 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, June 26-July 3, 3 cases, 1 death.
Mexico: July 24-30, Merida, 1 case, 1 death; Tehuantepec, 4 cases, 1 death; Vera Cruz, 1 case.

CHOLERA.

Persia: Teheran, July 9, severe epidemic.
Straits Settlements: Singapore, June 10-18, 1 death.
Turkey: June 30, Bagdad, 3 cases, 1 death; villages, 404 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Aug. 4, 1 death.

PLAGUE—FOREIGN.

Egypt: July 2-9, 31 cases, 15 deaths.
Formosa: June 25-July 2, 35 cases, 37 deaths.
India: Bombay, June 22-July 12, 73 deaths.
Peru: June 25 July 2, Callao, 2 deaths; Lima, 4 cases, 1 death.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Academy of Ophthalmology and Otolaryngology, Denver, August 24-26.
Medical Society of the Missouri Valley, Council Bluffs, Iowa, August 25.
Oregon State Medical Association, Portland, August 30-31.
Rocky Mountain Interstate Medical Association, Denver, Sept. 6-7.
Wyoming State Medical Society, Rawlins, September 13.
American Electro-Therapeutic Assn., St. Louis, September 13-15.
American Association of Obstetricians and Gynecologists, St. Louis, September 13-16.
Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.

BRITISH MEDICAL ASSOCIATION.

Seventy-Second Annual Meeting, held at Oxford, July 26-30, 1904.

(*Continued from Page 510.*)

The President's Address.

The subject of the address of the president, Dr. William Collier, was "The Growth and Development of the Oxford Medical School." He contrasted the present condition with that in 1878, when a correspondent of the *British Medical Journal* wrote a long letter complaining that the study of medicine was completely overlooked at Oxford, that no teaching was being given in the preliminary medical subjects, and that the medical faculty had practically ceased to exist. Dr. Collier stated that as a result of the controversy following this letter the subject was taken up by the British Medical Association and the present medical school was established.

Dr. Collier spoke of the influence of the university student on other medical students, referring to the time when any outbreak of rowdyism in London was attributed to medical students, and ascribing the change for the better to the influence of university graduates, who are generally older men with a more settled purpose in life and a clearer and better idea of

what constitutes good and bad form. He pointed out that the standard of general culture is distinctly raised by a university education, and correspondingly the status of the medical profession.

Dr. Collier referred to famous men who had been associated with Oxford in the past, notably Linacre, founder of the Linacre professorship of comparative anatomy; Harvey, the discoverer of the circulation of the blood; Willis, famous for his description of the anatomy of the brain, particularly the circle of Willis; Wren, the architect of St. Paul's Cathedral, who made the drawings to illustrate Dr. Willis' work on the anatomy of the brain; Radcliffe, who left the bulk of his estate to the college to build a library which is now known as the Radcliffe Library; Sydenham, and many others.

In conclusion, Dr. Collier spoke of the previous meetings of the association in Oxford, the first of which was in 1835 and was attended by 300 members. The second meeting at Oxford was in 1852, and the third in 1868. He spoke of the influence of the association not only in Great Britain but throughout the empire, the association having branches in India and the colonies. He reminded the association that its power for good was due to the united and unremitting labors of many workers, and that no hasty nor unwise action must be allowed to jeopardize its further development.

Report of Hospital Committee.

The following report of the hospital committee was adopted: 1. Poverty and sickness shall be the conditions for admission of all patients for hospital treatment. 2. No charge for treatment shall be made, though voluntary contributions may be accepted. 3. The production of subscribers' letters shall cease to be compulsory, and that, where possible, the system shall be abolished. 4. Some means of investigation into the circumstances of applicants for relief shall be employed in all medical charities, and where possible a special officer shall be appointed for this work. 5. Except in emergencies, before a patient is admitted into any hospital evidence shall be obtained on two points, (a) that the patient is not in a position to pay for treatment, (b) that the case is, from the hospital point of view, suitable for treatment. 6. All cases of serious accident and severe sudden illness shall be attended on their first application, and, if deemed eligible for further treatment, shall be referred to the appropriate department of the hospital, but if ineligible shall be referred for treatment elsewhere. 7. All cases of trivial accident or illness deemed ineligible for the outpatient department shall, after being attended to, be referred for treatment elsewhere. 8. It is inexpedient that any patient be able to leave the hospital without having been seen by a registered medical practitioner. 9. The number of new cases seen on one day by an honorary medical officer be limited. 10. Special hospitals shall treat only cases strictly within the scope of their work. 11. In all hospitals there shall be an age limit for the retirement of medical officers.

Address in Medicine.

The address in medicine was delivered by Sir William Selby Church. He spoke of the advance made in the different branches of medicine since the last meeting of the association at Oxford in 1868, especially in bacteriology, physiology and tropical medicine. He spoke of the discoveries which have been made in the agglutinative, bactericidal and hemolytic properties of the blood serum, and of the advances which have been made in the field of serum therapy.

He spoke of the advance in physiologic knowledge which was attained with the recognition of the connection between myxedema and the diseased conditions of the thyroid gland. He also spoke of the internal secretions of other glands, such as the suprarenal, and in connection with this mentioned the researches of Schäfer and Oliver, which have proved the physiologic action of the extract of the suprarenal glands to be both active and powerful.

In regard to tropical medicine, he spoke of the work which has been done in malaria and yellow fever; the discoveries of Castelani, Bruce and Nabarro in the African sleeping sickness, and the experiments of Leishman, Donovan, Ross and Christopher, which tend to show that the chronically enlarged spleen found in malaria is probably due to some other micro-organism.

The active part taken by the association in securing public health legislation and laws regulating the practice of medicine in the British Isles was described. He also spoke of the bill which the association has drawn up providing for increased supervision of the sale of foods and drugs, the necessity for proper sanitation and hygiene in villages and small towns, as well as in larger cities.

He spoke at some length on the necessity for pure air in dwellings and condemned the modern style of architecture which crowded houses and apartments together and did not permit free access of air to the dwellings. In conclusion he quoted statistics to prove that the rate of mortality is in direct proportion to the density of the population.

Treatment of Chronic Renal Disease.

At the section on medicine Dr. Hale White, London, spoke on "The Treatment of Chronic Renal Disease." He said that treatment might be divided into the treatment of particular symptoms and treatment employed owing to theoretical views of the nature of the disease. He said that albuminuria is often treated, but it is forgotten that the mere presence of albumin in the urine is of itself of no importance except as an aid to diagnosis. It is so frequent in heart disease, fevers, etc., that half the patients who have albuminuria have not Bright's disease; yet it is never treated in these conditions. Many persons pass albumin in the urine for 20 years or more without harm. The loss of proteid in Bright's disease is trifling and can easily be counterbalanced by a little more food. Frequently patients are injured by the alarm engendered by frequent examinations of the urine.

Diet.—A milk diet, which is chiefly relied on to reduce the albumin, fails to do so and injures the patient. Some patients have a high-tension pulse and a hypertrophied heart. In such cases the tension must be reduced by restricting exercise, regulating the bowels, avoiding alcohol, meat extractives, excess of meat food and the drinking of much fluid, and in such cases digitalis should never be ordered. In another class, where the pulse tension is low and the heart weak, the mistake is made of keeping patients on a limited milk diet in the hope of relieving the kidneys, with the result that the patients become enfeebled and the heart fails; such patients improve on an ordinary diet. A patient with chronic nephritis is often injured by starvation. Some patients are kept too much in bed and the body becomes flabby. On the other hand, acute and subacute cases are not kept in bed sufficiently; some take too little exercise and become fat, giving the heart more work. It is best for patients to drink a normal quantity of fluid.

To sum up, keep vascular tension normal without the aid of drugs. Slight edema is best treated by posture, limiting the fluid drunk and keeping the bowels regular. The most efficient way to get rid of edema is by Southey's tubes, but antiseptic precautions are necessary.

Medicinal Treatment.—Such drugs as cantharides must be used carefully; blisters are often applied incautiously. Drugs which are excreted with difficulty, such as lead and digitalis, must be given with care. As to morphia, small doses are sometimes fatal; therefore, it should rarely be given. Sulphonal and trional should not be given, for they may induce hematoporphyrinuria. Alcohol in moderate quantities will not injure the kidneys, but it should not be given if the pulse tension is high.

Granular kidney is frequently treated too zealously, and the patient injured by starvation. We do not know for certain that any ordinary article of diet is harmful. I give the patient good, plain, ordinary foods, but exclude sauces and condiments, which may possibly cause harm. There is nothing to show that red meat is more injurious than white. In chronic parenchymatous nephritis similar mistakes are made until the patient loathes his farinaceous diet. His last days may be rendered happier by removing useless restrictions. Tea, tobacco and coffee should be used with moderation, in consequence of

their rendering the pulse irregular. Water is given excessively, inducing hydremic plethora and injuring the heart.

In a few cases of tubal nephritis without edema an extra pint of water may be given daily to wash away the dead epithelium. We do not know the nature of the poison in uremia. There is a vague belief that it is due to nitrogenous retention, but it may develop on a farinaceous diet. The only treatment is to help all the excretions. It is of little use trying to stimulate the kidneys. Give plenty of hot fluid, such as weak tea, or transfuse with a saline solution. Pilocarpin may do harm. Severe convulsions may be relieved by inhalation of chloroform. The skin may be stimulated, but excessive sweating should be avoided. A warm bath may be given every night.

Climate.—Egypt is the ideal climate. For a few an occasional Turkish bath may be allowed. Keep the skin warm by means of woolen underclothing. We should not be too quick to check diarrhea and vomiting, which may be eliminative. It should be remembered that the patients bear operation badly.

DISCUSSION.

PROFESSOR VAN NOORDEN maintained that neither physiologic nor clinical evidence showed that white meat has any advantages over red meat. He has found it unnecessary to give great quantities of fluid, which injures the heart. Systematic muscular exercises are very useful. In Germany it used to be the custom to forbid all exercise, but more good can be done by the systematic training of the muscles. At first the albumin may increase, but it then falls to perhaps less than before. The great improvement, however, is in the heart and the sense of health and strength is restored. He prefers health resorts where there are carbonic acid baths and saline waters for drinking. A most dangerous complication is obesity, which leads to heart failure. It should be treated carefully and slowly reduced. A milk diet is often harmful by inundating the body with too much fluid.

SIR JOHN MOORE, Dublin, pointed out the value of open-air treatment, as the lungs have an eliminatory function. He recommended Sicily as a health resort. Oxygen inhalations are useful, especially in the so-called "uremic asthma." The drowsiness of uremic coma often yields to 20-grain doses of benzoated soda. Urotropin is useful, but must be given with care. Dropsy often acts as an eliminant. The state of the heart is the paramount factor in prognosis. Strychnin and digitalis are useful if the heart is failing. The tendency of digitalis to raise arterial tension may be overcome by giving it with nitrites or iodids. Pilocarpin is a treacherous drug: it may "drown" the patient by the bronchial effusion it induces.

Treatment of Tuberculous Pleural Effusion and Pneumothorax.

DR. WILLIAM OSLER, Baltimore, spoke on the "Treatment of Tuberculous Pleural Effusion and Pneumothorax." He expressed the opinion that a large majority of all cases of pleurisy with effusion are tuberculous. The following are his reasons: 1. The postmortem examination in cases of sudden death in pleurisy almost always reveals tuberculosis. Even in traumatic pleurisy, tuberculosis is often found. 2. Healed tuberculosis is often found in patients dying from other causes than tuberculosis. 3. Cytologic investigations show the small mononuclear leucocyte almost characteristic of pleurisy. Centrifugalization may reveal the tubercle bacillus. Inoculation is still more important, and has shown it in 59 per cent. 4. There is frequently a tuberculous focus in other parts of the body. 5. In a percentage varying from 25 to 35, the patient subsequently becomes tuberculous. 6. A characteristic tuberculin reaction has been obtained in a large number of cases.

Treatment.—For treatment it is best to assume all cases to be tuberculosis. For discussion, he proposed the value of early and repeated aspiration in acute cases. Previously it has been merely an adjunct in treatment. Lately there has been a tendency to tap earlier and not to wait for the fever to subside. In a large number of cases a cure is obtained. In 20 cases treated by him recovery took place in all. In some, aspiration was performed as often as 4 times. Of these cases, 7 were proved to be tuberculous. The removal of the fluid sometimes appears to be directly curative. It prevents the formation of dense adhesions and certainly does no harm. Pneumothorax has followed tapping in a few; but in none of his cases was the pleurisy acute. The chronic cases present the most difficulty. If tapping fails, West's suggestion of incision should be adopted. Drug treatment, blisters and the "thirst cure" have only a limited field of utility. As soon as the fever disappears systematic pulmonary gymnastics should be carried out. Careful after-treatment to establish the general health is important.

The treatment of pneumothorax is very unsatisfactory in consequence of the concurrent pulmonary lesions. In a large number of cases it is best to do nothing. "*Pneumothorax acutissima*" demands immediate operation to convert a valvular into an open pneumothorax. A group of chronic cases demands the operation recommended by West.

DISCUSSION.

DR. G. A. GIBSON, Edinburgh, expressed his difficulty in diagnosing tuberculosis. He believes that in a large number of cases the diplococcus of rheumatism would be found in the urine. He had found tuberculin useful in the treatment of some cases.

MR. STANLEY BOYD, London, thought that in cases of serous fluid, when repeated tapping failed, it would be best to drain the pleural cavity with a fine canula. But he admitted the danger of creating a pyothorax.

DR. SAMUEL WEST did not think that tapping materially influenced the course of the case. He condemned modified Estlander's operation as futile.

Pathologic Chemistry of Gout.

PROFESSOR VAN NOORDEN spoke on the "Pathologic Chemistry of Gout." He gave a résumé of recent progress and discussed the oxygenation processes, the nitrogen metabolism, the influence of gout on the functions of the stomach and intestines, the peculiarities of the absorption of nitrogenous substances and the condition of uric acid in the urine, blood and tissues. All these pathologic facts have to be combined in a theory, but are far from sufficient to explain the clinical phenomena. He put forward a theory which combines his own, published 12 years ago, and a new one recently published by Murkowski.

Treatment.—Food containing excess of purins should be avoided. Alcohol is injurious because it renders the elimination of uric acid difficult and causes retention. Remedies which increase the excretion of uric acid must be given. Various substances were tested. Salicylic acid is apparently the most powerful, but it is a dangerous remedy in gout. Alkalies are utterly useless, though they are excellent in nephrolithiasis. In gout they cause retention of uric acid. The pure alkalies and Vichy and other mineral waters were tested. On the other hand, the increase of the renal excretion of uric acid produced by saline solutions and certain saline springs was very remarkable. The Homburg-Elizabeth spring seemed to be the most powerful. Under it the excretion of uric acid often rose from 25 to 30 per cent. and remained at this height for a considerable period—a confirmation of an old empiric fact. This spring has long been a renowned resort for gout.

(To be continued.)

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Fourteenth Annual Meeting, held at Atlantic City, N. J., June 6, 1904.

(Concluded from Page 513.)

Dr. P. Richard Taylor moved that the new constitution adopted at New Orleans become operative on July 1, 1907, instead of July 1, 1905. Seconded.

Dr. Means moved that the motion be laid on the table. Carried.

Committee on President's Address.

Dr. Egbert, on behalf of the committee on president's address, reported as follows:

Your committee recommends that the thanks of the association be tendered to President Guthrie for his most able and

excellent address, and that it be printed and a copy sent to each member of the association. It recommends further, that the various suggestions contained therein be referred to the committee on by-laws, with the request that they give the same due consideration, and report to the association at an early date. (Signed.) WM. H. WATHEN,
SAMUEL C. JAMES.
SENECA EGBERT.

Dr. Means moved that the secretary be authorized to send to each member of the association a copy of the application blank presented as a part of the secretary's report, and that the proper officer shall fill in the necessary data and return the blank to the secretary on or before November 1, 1904.

Seconded and carried.

Dr. H. B. Ward asked for a ruling by the chair with reference to that portion of the report of the special committee on by-laws recommending the expenditure of $400 annually for the visitation of colleges. Whether the adoption of the report was to be considered authority for the expenditure of the money.

The chair ruled that that was the sense of the association, that an appropriation for that amount is to be made.

Report of Auditing Committee.

The auditing committee, through Dr. Egbert, reported as follows:

Your committee, appointed to examine the report of the secretary-treasurer, beg leave to report that they have audited the financial statement, and find it correct. They also wish to compliment the secretary-treasurer on the fullness of his report, and the important work done by him during the year, and that the association tender him a vote of thanks for his efficient services.

The report was accepted.

Dr. J. A. Dibrell moved that the secretary be authorized to accept resignations from membership. Seconded and carried.

Dr. S. C. James asked what recourse, if any, outside of the law, colleges have to obtain the admission of their graduates to certain territories of the United States from which they are excluded absolutely at the present time. New Mexico bars the graduates of every college in the association, except three. They will not permit the graduates from any institution that gives students conditions to enter their territory to practice medicine.

No information on this point could be given, and the matter was passed.

Officers Elected.

The nominating committee then reported as follows: President, Samuel C. James, Kansas City, Mo.; first vice-president, R. Dorsey Coale, Washington, D. C.; second vice-president, R. H. Whitehead, Chapel Hill, N. C.; secretary-treasurer, Fred C. Zapffe, 1764 Lexington Street, Chicago; judicial council, Wm. J. Means, 715 North High Street, Columbus, Ohio, chairman, term expires 1907; Parks Ritchie, St. Paul, Minn., term expires 1907; Geo. M. Kober, Washington, D. C., term expires 1906; Thos. H. Hawkins, Denver, Colo., term expires 1905.

Dr. Guthrie introduced the president-elect, Dr. James, who addressed the association in a few well-chosen words, and announced that the next annual meeting would be held Monday, June 5, 1905, at the place of meeting of the American Medical Association.

The association then adjourned.

J. R. GUTHRIE, President.
FRED. C. ZAPFFE, Secretary.

List of Members.

ARKANSAS.

Arkansas University Medical Department, Little Rock.

CALIFORNIA.

College of Medicine University of Southern California, Los Angeles.
University of California Medical Department, San Francisco.

COLORADO.

Colorado School of Medicine University of Colorado, Boulder.
Denver and Gross College of Medicine, Medical Department of the University of Denver, Denver.

CONNECTICUT.

Yale University Department of Medicine (Yale Medical School), New Haven.

DISTRICT OF COLUMBIA.

Columbian University Department of Medicine, Washington.
Georgetown University School of Medicine, Washington.
Howard University Medical Department, Washington.

ILLINOIS.

American Medical Missionary College, Battle Creek, Mich., and Chicago.
College of Physicians and Surgeons, College of Medicine of the University of Illinois, Chicago.
Illinois Medical College, Chicago.
Northwestern University Medical School, Chicago.
Rush Medical College (in affiliation with University of Chicago), Chicago.

INDIANA.

Fort Wayne College of Medicine, Ft. Wayne.
Central College of Physicians and Surgeons, Indianapolis.
Medical College of Indiana, University of Indianapolis.

IOWA.

Drake University College of Medicine, Des Moines.
College of Medicine University of Iowa, Iowa City.
Keokuk Medical College, College of Physicians and Surgeons, Keokuk.
Sioux City College of Medicine, Sioux City.

KANSAS.

Kansas Medical College, Medical Department of Washburne College, Topeka.
School of Medicine University of Kansas, Lawrence.

KENTUCKY.

Hospital College of Medicine, Louisville.
Kentucky School of Medicine, Louisville.
Kentucky University Medical Department, Louisville.

LOUISIANA.

Flint Medical College, Medical Department New Orleans University, New Orleans.

MARYLAND.

Baltimore Medical College, Baltimore.
College of Physicians and Surgeons, Baltimore.
Johns Hopkins University Medical Department, Baltimore.
University of Maryland School of Medicine, Baltimore.
Woman's Medical College, Baltimore.

MASSACHUSETTS.

College of Physicians and Surgeons, Boston.

MICHIGAN.

Detroit College of Medicine, Detroit.
Michigan College of Medicine and Surgery, Detroit.
University of Michigan Department of Medicine and Surgery, Ann Arbor.

MINNESOTA.

Hamline University College of Medicine, Minneapolis.
College of Medicine and Surgery of the University of Minnesota, Minneapolis.

MISSISSIPPI.

Medical Department University of Mississippi, Oxford.

MISSOURI.

University of Missouri Department of Medicine, Columbia.
Kansas City Medical College, Kansas City.
University Medical College, Kansas City.
Marion-Sims-Beaumont College of Medicine, Medical Department St. Louis University, St. Louis.
St. Louis College of Physicians and Surgeons, St. Louis.

NEBRASKA.

John A. Creighton Medical College, Medical Department of Creighton University, Omaha.
University of Nebraska College of Medicine, Lincoln and Omaha.

NEW YORK.

University of Buffalo Medical Department, Buffalo.
Syracuse University College of Medicine, Syracuse.

NORTH CAROLINA.

University of North Carolina Medical Department, Raleigh and Chapel Hill.
Wake Forest College School of Medicine, Wake Forest.

OHIO.

Medical College of Ohio, Medical Department University of Cincinnati, Cincinnati.
Miami Medical College, Cincinnati.
Cleveland College of Physicians and Surgeons, Medical Department Ohio.
Wesleyan University, Cleveland.
Western Reserve University Medical College, Cleveland.
Ohio Medical University, Columbus.
Starling Medical College, Columbus.
Toledo Medical College, Toledo.

OREGON.

University of Oregon Medical Department, Portland.
Willamette University Medical Department, Salem.

PENNSYLVANIA.

Medico-Chirurgical College of Philadelphia, Philadelphia.
Woman's Medical College of Pennsylvania, Philadelphia.
Western Pennsylvania Medical College, Medical Department Western University of Pennsylvania.

TENNESSEE.

Meharry Medical College, Medical Department Walden University, Nashville.

VIRGINIA.

University College of Medicine, Richmond, Va.

WEST VIRGINIA.

University of West Virginia Medical Department, Morgantown.

WISCONSIN.

Milwaukee Medical College, Milwaukee, Wis.
Wisconsin College of Physicians and Surgeons, Milwaukee.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gout.

Satterthwaite, in the *Med. Record*, gives the following method of treating acute gout: Elevate the inflamed part and protect from the weight of the bedclothes by a cradle. Lead and opium wash may be used, applied on absorbent cotton, covered with oil silk, and renewed every four hours. Or, a saturated solution of bicarbonate of soda. Or:

R.	Guaiacol	
	Olei gaultheriæ, āā ..... ʒiv	15
	Olei olivæ ..... ʒii	60

M. Sig.: Apply locally to inflamed part.

Or, a more elegant mixture he believed to be:

R.	Menthol ..... ʒi	30
	Alcoholis ..... ʒiv	120
	Glycerini	
	Aquæ laurocerasi, āā ..... ʒi	30

M. Sig.: Apply locally to the inflamed part.

The patient may be placed in a tub at 98 to 100 F., kept there for fifteen minutes, douched with water at 102 F. for another fifteen minutes. Afterward the flabby parts are massaged and the inflamed parts are left untouched. Administer a mercurial purge, followed by a saline cathartic. The wine of colchicum should be given in from 15 to 20 minum doses every four hours. The dose should be lessened as soon as possible because of the disturbance of the gastrointestinal tract, which follows large doses or the prolonged use of the drug. Sodium salicylate or salicylic acid should alternate with the colchicum every four hours. If the salicylates are not well borne he suggests the citrate of potassium in 30 to 60 grain doses every four hours.

Following the mercurial purge he suggests a cholagogue, and his favorite is:

R.	Resin. podophyllin ..... gr. ss	03
	Ext. colocynth	
	Ext. hyoscyami, āā ..... gr. i	06
	Ext. nucis vom. ..... gr. ss	03

M. Ft. pil. No. i. Sig.: One at night if necessary.

For drinking purposes he recommends the waters containing carbonate of lime, of soda, of potash, and lithia. The diet during the acute stage should be, with the exception of toast and butter, a liquid diet. The treatment of the other and more chronic forms of gout consists chiefly in the free use of water, the free evacuations from the bowels, the administration of the iodids and to abort an attack the use of colchicum, the salicylates or the alkaline carbonates. The author believes that the patient does better on a dietary of food that he has found to be suitable by personal experience rather than the usual dietary recommended.

Luff, in the *London Practitioner*, treats at length on the subject of diet in gouty states. He concludes that no routine method can be adopted which is suitable to all cases, but that consideration should be taken of the nutritional conditions of the patient, habits, environs, likes and dislikes, and, as Pawlow has shown that a habit of digesting with ease certain kinds of food is acquired by the stomach, which learns to secrete a gastric juice appropriate to it, for this reason certain changes of food may interfere materially with the function of the digestive apparatus. A further conclusion is that foodstuffs must be used which are not only readily utilized in the system, but must be readily attacked by the gastric juices, therefore the simplicity of meals is more important than the exclusion of certain articles of diet.

The following is the diet recommended by Dr. Luff for his gouty patients:

Morning: One-half to one pint of hot water, flavored with a bit of lemon peel, taken slowly immediately on rising.

Breakfast: A selection may be made from the following articles of diet: Porridge and milk, whiting, sole, or plaice, fat bacon (grilled), eggs cooked in various ways (never hard boiled), dry toast, or zweiback bread thinly buttered and tea infused for three minutes and strained.

Lunch and dinner: Vegetable purées, soups made by boiling beef or mutton bones with vegetables and subsequently removing the fat. The soups should not be thickened with the farinaceous substances. The varieties of fish most suitable are whiting, sole, turbot, plaice, smelt, flounder, gray mullet and fresh haddock. The birds that are admissible as articles of diet are chicken, pheasant, turkey and game (not high). Beef, mutton and lamb should be taken at only one meal a day, and then in very moderate quantity. Two vegetables may be taken at both lunch and dinner, spinach, Brussels sprouts, French beans, winter cabbage, turnip tops, turnips and celery. Potatoes may be taken in moderate quantities. Stewed fruits, or baked apples, or pears may be taken every day at one meal. Green vegetables, as salads, without oily dressings may be allowed. A simple savory may be taken at the end of dinner, or a small quantity of cheese, if well masticated and free from molds.

Night: Half to one pint of hot water flavored with lemon peel should be slowly sipped before retiring.

Intestinal Colic.

Merck's Archives recommends the following:

R.	Spiritus chloroformi ..... ʒii	60	
	Tincturæ belladonnæ ..... ʒiiss	10	
	Dionin ..... gr. v		30
	Tincturæ cardamon co. q. s. ad ..... ʒiv	120	

M. Sig.: Teaspoonful in water every half hour for adults.

Metrorrhagia from Fibroma.

Huchard, in the *Med. Press*, discusses some of the points in the treatment of this condition from a medical standpoint before operative treatment is feasible.

Hot irrigations with pure boiled water at 113 F., using from three to five quarts, repeated twice or three times daily. Compresses of salt water are also to be used. A towel steeped in cold salt water (9 oz. to a quart of water) is applied to the

abdomen and covered with a thick layer of wadding, with oiled silk or gutta-percha leaf over all. The compress should be kept on at first two hours, gradually increasing the time until it can be borne a whole night. The treatment lasts one month and is renewed three or four times a year.

For medicinal use he recommends the following:

R.	Ext. hydrastis canadensis fl.	℥i 30
	Ergotin	℥i 4
M.	Sig.: Twenty drops three or four times a day; or:	
R.	Hydrastininæ hydrochloratis	gr. x 65
	Aquæ dest.	℥iiss 10
M.	Sig.: Inject one syringe (gr. i) two or three days in succession; or:	
R.	Quinin hydrobromatis	gr. ii 12
	Hydrastininæ hydrochloratis	gr. ss 03
	Ergotin	gr. i 06
M.	Ft. pil. No. i. Sig.: Two such pills daily.	

These pills can be prescribed for ten days. The ten following days recourse can be had to cannabis indica or adrenalin. The latter has frequently succeeded—ten drops of the 1 to 1,000 solution morning and evening. Sometimes accidents occur: sensation of anguish and cardiac arrhythmia. The treatment should be carefully watched and suspended on the slightest unfavorable symptom.

Intestinal Fermentation and Diarrhea.

Dr. Friedrich Grosse, in a communication, gives the following as his favorite prescription for this condition:

R.	Bismuthi salicylatis	
	Benzonaphthol	
	Sodii benzoatis, āā	gr. xlv-lx 3.-4
	Syrupi simplici	℥v 20
	Aquæ q. s. ad.	℥iv 120
M.	Sig.: One teaspoonful every three to four hours.	

In case of diarrhea add or substitute tannigen 3ii (8 grams) for the benzonaphthol in the above prescription.

Coryza.

Hirtz, in *Le Mois Therapeutique*, recommends the following dusting powder in the treatment of coryza:

R.	Quinin sulphatis	
	Bismuthi salicylatis, āā	gr. viii 50
	Acidi borici	gr. xv 1
	Amyli	℥iiss 10
M.	Sig. Use as insufflation in nose three times daily.	

Subacute Gastritis.

Wood, in the *Therapeutic Review*, discusses the treatment of this condition under the following three heads:

Habits.—Regularity in the time of eating, thorough mastication. The value of chewing the food depends not solely on the mechanical subdivision of the mass, but also on the complete ensalivation. Salivary digestion in the stomach plays a part hardly secondary to that of peptic digestion.

Water.—Water should be avoided during meal time as much as possible; it dilutes the digestive secretions, and enables the food to be swallowed without sufficient mastication.

Diet.—Of the starchy foods those that, like toast, stale or pulled bread, require considerable mastication are to be preferred. Sugar and fats are best reduced to a minimum. Of the albuminous foods, well-cooked mutton or beef or the fish foods, such as rock fish and oysters, are generally permissible. Pork, veal and rich game foods should be avoided.

Drugs.—Stimulation is closely allied to irritation, and where there is a true inflammatory condition the stimulant remedies are always contraindicated, such as bitter tonics and stimulating aromatics. In cases where there is a marked failure of the hydrochloric acid this drug may be given both on account of its action as a digestant and its antiseptic action.

Perhaps even more efficient is the nitrohydrochloric acid, which should be prescribed undiluted, since it rapidly deteriorates after dilution. Of this, five drops may be given in a half tumbler of water after meals. Of the artificial digestants, such as pepsin, pancreatin and the various vegetable ferments, the best that can be said of them is that they are comparatively harmless.

The one drug which has proved of most value in the writer's experience in the treatment of these cases is the bicarbonate of soda. It neutralizes the lactic acid when present, thus relieving the distressing pyrosis; it enables the salivary ferment to act by rendering the gastric contents alkaline, and, finally, it has been most abundantly proven to be one of the most effective stimulants of the secretion of hydrochloric acid. It is best given before meals. The following prescription has given the author good results where there is much irritation.

R.	Bismuthi subnitratis	℥i 4
	Sodii bicarb.	℥iii 12
	Acidi carbolici	gr. xv 1
	Spiritus menth. pip.	m. xx 1 30
	Mucilag. acaciæ q. s. ad.	℥ii 60
M.	Ft. emulsio. Sig.: Teaspoonful before each meal.	

Acute Rheumatism.

A. Martinet, in *Nouveaux Remedes*, states that a combination of antipyrin and sodium salicylate is remarkably efficacious in this disease. On account of the pasty mass it is impossible to dispense in capsules, and, moreover, the combination is irritating to the stomach. The following is the formula:

R.	Antipyrini	gr. lxxv 5
	Sodii bicarbonatis	℥iss 6
	Sodii salicylatis	
	Aquæ dest. āā	℥iiss 10
	Rum	℥i 30
	Syrupi aurantii cort.	℥v 150
M.	Sig.: A tablespoonful as required.	

Medicolegal.

Liability Between Towns in Contagious Disease Cases.—The Supreme Judicial Court of Maine holds, in the case of the Inhibitants of Machias vs. the Inhabitants of Wesley, that the right of towns to recover expenses incurred in cases of contagious diseases is governed by statute. The fact that the statute gives to the overseers of the poor of the oldest incorporated adjoining town the care of persons found needing relief in unincorporated places does not make such adjoining town liable to reimburse another town for the expenses incured in relieving such destitute person. The result is the same if the expenses were incurred by the local board of health.

Woman's Charge to Physician Against Man Not Privileged.—The First Appellate Division of the Supreme Court of New York says, in the case of People vs. Abrahams, where it was sought to fix the paternity of a child born on the 15th of May, that a practicing physician with whom the mother had a consultation in the preceding September or October was asked, "In that conversation, did she make any charge against any person as being the cause of her condition at that time?" This was objected to and the objection sustained. It was sought to sustain the ruling on the ground that the answer was not admissible under section 834 of the New York Code of Civil Procedure which provides "A person duly authorized to practice physic or surgery . . . shall not be allowed to disclose any information which he acquired . . . in a professional capacity and which was necessary to enable him to act in that capacity." The testimony here sought to be elicited was not information acquired by the physician which was necessary to enable him to act as such. It needs no argument to demonstrate such fact, and its exclusion may have done great injustice to the accused. He testified that he never met the mother until the 15th of October. The question called for a statement made by her in September or October, and if she stated to the physician at that time that some other person than the accused was the cause of her condition it was possible that the court would have reached a different conclusion than it did, adjudging the accused to be the father of the child. In any event, the testimony was admissible, and for the error committed in excluding it a new trial must be had.

Expert Evidence on Physical Ability to Commit Crime.—The Supreme Court of Alabama says that it understood certain questions asked a physician in the homicide case of Dixon vs. State to call for the professional opinion of the witness whether

a person suffering from malaria with bilious complications, and in a high fever late in the afternoon, could walk twelve miles and go through the ordeal of killing a man overnight, and be free from fever and of normal pulse early the next morning. This was, of course, a matter for expert opinion. Neither the jury nor the court could know what effect the physical exertion of walking so great a distance and the mental excitement incident to doing murder would have on a man in the accused's condition. A physician would know whether such conduct on the part of the accused would likely aggravate his fever overnight. Assuming an opinion that it would, the fact that the accused had no fever the next morning, taken in connection with the opinion, would be a pertinent circumstance tending to show that the accused had not gone to the victim Gordon's house and killed him. It was the same legal question as if it had been shown that the accused was desperately ill on the eve of the homicide—in the last stages of consumption, for instance—and his physician's opinion had been that he could not have gone to Gordon's, killed him, returned, and himself survived the night, and that he was alive the next day. Or, for further illustration, the question stood on the same legal footing as if it had been shown that the accused was critically ill and in a very weak and helpless state, and the physician's opinion as to whether he could have walked to and from Gordon's house at all; and it seems clear to the court that such expert opinion in either of the cases stated would have been competent. Therefore, it concludes that the Circuit Court erred in sustaining objections to the question calling for the expert opinion of the physician to the effect that the condition of the accused on Sunday afternoon was such that he could not have walked to Gordon's that night and killed him and return to the place where he was stopping and been in the physical condition he was found to be in at 8 o'clock the next morning.

Court Bound by Physicians' Certificates of Sanity.—The Supreme Court of Michigan says that in the case of Grinky vs. Durfee, Judge of Probate, the former petitioned the latter for an order admitting his wife, Celia Grinky, to an insane asylum. At the time set for hearing the judge refused to proceed with the same, because two reputable physicians, appoin ed by him to examine said Celia Grinky, had reported that she was not insane. (One of these reports was not in precise statutory form, but, as it could not be considered a certificate of insanity, its informal character, the court says, was in its opinion immaterial.) Mandamus proceedings were then instituted to compel the judge to proceed to a hearing on said petition; an order to show cause was issued, a hearing in the mandamus case had, and the writ denied. In affirming that decision the Supreme Court says that its correctness depended on the construction and effect of Act No. 217 of the Public Acts of Michigan of 1903. Section 16 of that act made it the duty of the probate judge, on the filing of Grinky's petition, "to fix a date for the hearing thereof" and "appoint two reputable physicians to make the required examination of the alleged insane person, whose certificate shall be filed with the court on or before such hearing." Section 14 of said act provides: "No person who is a resident of this state shall be held as a public or private patient in any asylum, public or private, or in any institution, home or retreat for the care or treatment of the insane, except on certificates of insanity and an order for admission, as hereinafter provided." Section 15 provides: "Certificates of insanity must be made by two reputable physicians, under oath, appointed by the probate court of the county where such alleged insane person resides, or is an inhabitant, to conduct the examination." Continuing, the Supreme Court says that it was urged that, notwithstanding the language above quoted, section 16 of the act makes it the duty of the judge of probate, even though the physicians appointed by him certify to sanity, to himself determine that question. The court can not assent to this construction. Under such circumstances a finding of insanity by the probate judge would be a mere idle formality, for without the physicians' certificate of insanity the patient could not be held by the asylum authorities. The language of section 16 does not indicate the legislative intent to compel the probate court to make an adjudication which would be altogether meaningless. On the contrary, the language in that section, above quoted, requiring the certificate "to be filed with the court on or before such hearing," and the fact that the form of the order therein set forth shall contain a recital of the "filing the certificates of two legally-qualified physicians," indicates to the court that the legislature intended that the probate judge should not proceed when said physicians certify to sanity. Nor does the court consider the statute so construed unconstitutional on the ground that the authority of the probate court to make an order for the admission of an alleged insane person to an asylum can not constitutionally be made to depend on a certificate made by nonjudicial persons. It thinks that the most that can be said of such an objection is that the legislature has prescribed a certain rule of evidence, viz., it prohibited the making of the order in question unless a certain kind of proof is adduced. The authority of the legislature to prescribe this rule might be denied if it deprived any person of a vested right. The rule in question certainly does not deprive the alleged insane person of a vested right, for it tends to safeguard her rights. It deprives no one else of a vested right, because it can not be conceived that any one has a vested right to have another committed to an insane asylum. Neither does the court agree with the contention that the legislation in question confers on keepers of asylums judicial powers because it prohibits their holding a patient "except on certificates of insanity and an order for admission."

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

August 6.

1 Recognition and Treatment of Chronic Myocardial Disease. A. A. Stevens.
2 Enlargements of the Liver. J. N. Hall.
3 *Splenohepatic Fibrosis with a Remarkable Leucocytosis. B. K. Fletcher and S. W. Sappington.
4 *Pathology of Frambesia. P. G. Woolley.
5 Subcapsular Nephrectomy for Pyonephrosis; Report of Case and Exhibition of Specimen. John DeVinne Singley.
6 Surgical Aspect of a Case of Jacksonian Epilepsy. G. Childs MacDonald.
7 Treatment of Chronic Internal Hydrocephalus by Lumbar Puncture. H. Lowenburg.

3. Splenohepatic Fibrosis with a Remarkable Leucocytosis.—The authors report a case of splenohepatic fibrosis in which it was impossible to make a diagnosis owing to the absence of symptoms distinctive of either group. The patient, a woman, aged 71, had been ill for ten years. The left side of the abdomen began to "fill up" about eighteen months before she sought medical advice. The patient also noted a swelling on the right side, but this did not attract her attention as much as that on the left side. The abdomen was slightly tender to touch, and the patient complained of a dragging in the lumbar region and a sense of weight and fullness in the abdomen. On examination, the spleen was traced from the edge of the ribs on the left side downward 9 cm. below the level of the umbilicus in the mid-clavicular line. The tumor was hard and smooth, with a sharp edge. The splenic dullness began at about the eighth rib in the mid-axillary line. On the right side the liver extended almost as far as the level of the umbilicus. The liver flatness began at the fifth interspace. The organ was firm and smooth. The blood count showed the following: Hemoglobin, 48 per cent.; red cells, 4,100,000; white cells, 136,000. The latter consisted of the following varieties: Polymorphonuclear neutrophiles, 89.2; small mononuclears, 1.7; large mononuclears, 2.8; eosinophiles, 1.4; basophiles, .3; neutrophilic myelocytes, 4.5; eosinophilic myelocytes, 0.1. There was slight poikilocytosis, slight evidence of polychromatophilia, and only a few normoblasts. The last blood count, made one month later, showed a marked decrease in both red and white cells and an increase in the polymorphonuclear cells, the others remaining about the same. A microscopic examination of the spleen, liver and kidneys showed a diffuse increase of connective tissue. The other organs were normal, or only slightly

involved. Many arteries throughout the body showed the most extreme degree of sclerosis and calcareous change. The authors feel that this is a case in which they can not name the cause nor say that the primary lesion was in the spleen any more than it was in the liver. The name given to the disease was used simply to indicate the organs clinically and pathologically prominent, and to suggest the variety of morbid change present. They offer no explanation for the marked leucocytosis in the absence of any complications.

4. **Pathology of Frambesia.**—Woolley describes the microscopic appearance of a nodule taken from a case of frambesia. There was a marked hyperplastic acanthosis, with a round-celled infiltration of the underlying, and especially of the perivascular connective tissues. There was some semblance of epithelioma, but the acanthus layer of the skin was thickened and prolonged in strands and columns of bizarre shapes. In many places in this hyperplastic epithelium there were larger or smaller islands of connective tissue, each apparently representing the path of the blood pressure. In the centers of such areas and about the vessel were collections of small round cells and plasma cells. But this small-celled infiltration was most marked in the larger strands of the submalpighian connective tissue. Within these areas there were occasional leucocytes and fibroblasts in varying stages of development. A number of plasma cells were present within the round-cell accumulation. At the site of the ulceration the structure of the lesion was modified by the destructive process. All the layers were invaded by a multitude of polymorphonuclear leucocytes, the blood vessels were widely dilated, and there was a certain amount of superficial degeneration. There was no distortion of the arrangement of the layers of the skin. In many parts of the section a peculiar appearance was noted, suggesting the overlapping scales of the fish. This was apparently due to the fact that certain of the acanthus cells took a more intense stain on one side, in which the nucleus did not participate. There were no giant cells, no tubercle bacilli, no lepra bacilli, and no evidence of cell inclusions.

Medical Record, New York.

August 6.

8 *Rectal Constipation in Women. Grace Peckham Murray.
9 *Hypodermic Injection of Strychnin Nitrate in the Treatment of Progressive Muscular Atrophy. Sanger Brown.
10 The Clinical Features of the Epidemic of Dysentery at Tuckahoe, N. Y., During the Summer of 1902. Oliver L. Austin.
11 Use of Series Spark Gaps for X-ray Work. L. Weiss.
12 New Operation for Pyothorax. Spencer Graves.
13 Case of Foreign Body Remaining in the Lens of the Eye for Six Years with the Lens Otherwise Clear. Frank N. Lewis.
14 Case of Chronic Fibrinous Bronchitis, with Special Reference to the Treatment of This Disease. W. Moser.
15 Fibril's and Ganglion Cells. V. Biart.

8. **Rectal Constipation in Women.**—Although this subject is one of the greatest importance, Murray believes that it is the least understood and is given the least study. It is a question which involves the understanding of diet, of occupation, of chemistry, as well as the whole process of assimilation; of the mechanical obstructions and inflammatory conditions of the intestinal canal and adjacent structures and the nervous reflex and psychic influences which are more easily recognized in this part of the human system than anywhere else. Women are most subject to constipation, especially rectal constipation. This may be, but is rarely, due to a nervous condition. While it may occur as the result of inflammatory conditions, such as hemorrhoids, fistulæ and fissures, in very many cases it is mechanical in its origin by reason of the peculiar anatomy of the parts. Anteversions, retrodisplacements, neoplasms and periuterine inflammations obstruct the bowel. A form of rectal constipation which heretofore has received but little recognition is that which occasions and is the result of the pulling down of the rectovaginal septum, thereby forming a pouch constantly increasing in size, changing the direction of the intra-abdominal rectal pressure to that of the vaginal, which is at right angles to it, and making it difficult for the rectal sphincters to relax so as to void the contents of the bowel. The retention of fecal matter causes rectal irritation and auto-intoxication. In regard to treatment, cathartics may be useful in those cases in which the obstruction is due to inflamed and displaced organs or neoplasms, but would be useless in cases where there has been a displacement of the rectovaginal wall. In such cases, glycerin or gluten suppositories or injections of small amounts of olive oil, glycerin or soothing fluids may be employed. The use of daily enemata, as ordinarily practiced, is to be reprehended, from every point of view. The use of bougies or dilators may prove beneficial. For constipation of purely rectal origin, massage, electricity and measures designed to improve peristaltic action are of no avail. The olive oil enemata are especially beneficial. The patient, on retiring, injects into the rectum the amount of olive oil which can be retained easily during the night. The amount varies greatly with different individuals, and with practice one can usually begin with half a cup full, and after a little can retain two-thirds or even one cup full. The oil is very soothing to the rectum and allays the irritation which has been occasioned by retained feces. It is especially beneficial to those who are thin. The directions are to take the injections nightly for three weeks, and then every other night for three weeks, and then less often, gradually discontinuing them as may be necessary.

9. **Strychnin Nitrate in Progressive Muscular Atrophy.**—Brown says that although the hypodermic injection of strychnin nitrate in the treatment of progressive muscular atrophy has fallen short of his expectations, yet it has gone a long way to dissipate the horrible sense of depression, discouragement or even despair, which the prognostic contemplation of these cases hitherto aroused. For an adult the dose should be 1/25 gr. once daily for six weeks, resumed after an intermission of two weeks, and so on until several courses have been taken. Though many patients can bear a larger dose without exhibiting unpleasant symptoms, the results following its use are not so good as when a small dose is given. Possibly, a certain amount of the drug might act as a tonic and restorative to the degenerating neurons, while more might accelerate the process of decay. No other form of strychnin than the nitrate given hypodermically, and no form whatever, not even the nitrate itself, given by mouth, can influence the course of the disease favorably. The value of hygienic measures, and the judicious use of electricity, massage and gymnastics, is rather enhanced than otherwise when used in conjunction with the strychnin treatment.

Boston Medical and Surgical Journal.

August 4.

16 *Operations on Benign Diseases of the Stomach. F. B. Lund, E. P. Joslin and F. T. Murphy.
17 The Union of the Teachings in Cystoscopy and Microscopy. Frank M. Johnson.

16. **Operations on Benign Diseases of the Stomach.**—The authors review the surgery of benign diseases of the stomach at the Boston City Hospital and the Massachusetts General Hospital during the last six years. They report a series of operations for chronic gastric ulcer, pyloric obstruction and acute gastric dilatation, perforation of gastric ulcer and gastric hemorrhage. Surgical intervention in gastric hemorrhage should be considered even before it is urgent, and the physician, with the surgeon, should watch the course of the patient. Operations on females under 30 years of age should be advised most conservatively, since death under medical treatment is rare. Time should not be lost during an operation in seeking the bleeding point, but gastroenterostomy should be performed. The mortality in operations for perforation of the stomach is dependent chiefly on the length of time intervening between perforation and operation and the virulence of the infection. Patients with chronic ulcers of the stomach or strictures of the pylorus should be watched jointly by the physician and surgeon. Postponement of operation after it is indicated is dangerous, owing to the possibility of hemorrhage, perforation and exhaustion. Many conditions must be taken into consideration when estimating the final results in the cases reported. First, the method used; second, the operator; third, the time of operation, and, fourth, the nature of the case. Doubtless the next six years will show a remarkable improvement in this branch of surgery as compared with the results of the past six years. In many instances the technic has been faulty, owing largely to the inexperience of the operator. Med-

ical clinicians are learning to differentiate those cases which are amenable to surgical treatment while there is yet time and opportunity for surgical aid. Modern surgical technic, and in particular posterior gastroenterostomy by the method of Moynihan, and the gastroduodenostomy of Finney, have shortened the convalescence and improved the final results in gastric surgery. Of the 21 cases of pyloric obstruction operated on, 5 died, 9 are well, 3 were relieved, 2 required secondary operation, and 4 were not benefited. Of the 21 cases of chronic ulcer, 5 died, 7 are well, 4 were relieved, 8 required secondary operation, and 5 were not relieved. Hemorrhage—Ten cases; 10 deaths. Perforation—Eighteen cases; 13 deaths, 5 recoveries, and 2 cases required secondary operations. Acute dilatation —One case; 1 death.

New York Medical Journal.

August 6.

18 The Pathogenesis of the Aneurismata of the Aorta. Fritz Schwyzer.
19 *The Best Method of Operating to Effect a Radical Cure of Senile Hypertrophy of the Prostate Gland. (To be continued.) Orville Horwitz.
20 *The Indications for and the Technic of Prostatectomy. G. Frank Lydston.
21 Appendicitis Associated with Disease of the Tubes and Ovaries. H. C. Coe.
22 *Placenta Previa Centralis. A. A. Moore.

19. **Senile Hypertrophy of the Prostate.**—As the result of a study of 150 radical operations for the cure of senile hypertrophy of the prostate gland, Horwitz concludes that a Bottini operation or a prostatectomy performed as soon as the symptoms of obstruction begin to appear offers the individual a better chance for help, comfort and prolongation of life than the unfortunate patient who leads a catheter life. Experience proves that patients of the latter class eventually succumb to one or the other sequelæ attendant on this method of treatment. The author advocates early operations in both private and hospital practice, and reproaches himself for being, at times, too conservative by delaying surgical intervention. He urges on the profession the importance of having a surgeon supervise these cases of prostatic hypertrophy in conference with the attending physician as soon as it is deemed necessary to resort to catheterism. By adhering to this rule, cases that will ultimately require an operation will be recognized early and permanently relieved, with comparatively little risk. If this suggestion were followed, the mortality attendant on radical operations would drop to a very low percentage, and so-called "palliative" operations would seldom be resorted to. The Bottini operation often is condemned by an individual whose experience is limited to a few operations, possibly in cases the majority of which may not have been suitable for such an operation. And a certain procedure is advocated, based on the report of a few successful cases. Such expressions of opinion are valueless, as reliable statistics can only be obtained by the study of the results in a large number of cases. Furthermore, no effort is made by writers to classify their cases according to age, character of the growth, condition of the patient or length of time that he has suffered; all these conditions have a direct bearing on the proper methods of treatment, the results which follow the operation, as well as the question of mortality. Of all the radical methods that have been suggested for dealing with enlargement of the prostate gland, but two have stood the test of experience—prostatotomy by means of the galvanocautery (the Bottini operation) and prostatectomy.

20.—See abstract in THE JOURNAL, xli, p. 1106.

22. **Placenta Previa Centralis.**—Moore reports a case of placenta previa centralis in which there were very copious hemorrhages, followed by collapse. It was impossible to find the edge of the placenta, so that it was deemed expedient to introduce the hand directly through the placental tissue, this, in the author's opinion, being less likely to produce violent hemorrhage during the ensuing manipulations than if the placenta were stripped from the uterine wall. Podalic version was performed, the placenta was delivered manually, Credé's method proving ineffectual. The child was dead. The patient was given a hot mercury bichloride intrauterine douche, 1 to 10,000, at a temperature of 112 F. One-half a dram of fluid extract of ergot was given hypodermically, and this was continued three times on the following day and twice on the next. On the third day the patient's temperature was normal, and continued so until the eighth day, when the patient was discharged from the hospital. Moore believes that the fetus had died one or two days before its delivery, as there was a minus quantity of the normal mucus in the mouth and throat, and in efforts at insufflation by the mouth there was no mucus blown out of the nose.

Medical News, New York.

August 6.

23 Conservatism in Otology. Gorham Bacon.
24 Intrahepatic Cholelithiasis. (Continued.) Edwin Beer.
25 *Observations on Dilatation of the Stomach and on Gastroptosis. Robert Coleman Kemp.
26 *Experiments to Determine the Value of Collargolum and Antistreptococcic Serum in Infected Wounds of the Eye. J. H. Claiborne and E. B. Coburn.
27 Puerperal Sepsis. Swithin Chandler.
28 Vaccination and the Law. Nelson G. Richmond.
29 Dipsomania and Its Treatment. William Lee Howard.

25. **Gastroptosis.**—Kemp details the result of a series of observations made on cases of gastrointestinal diseases in two New York hospitals. He calls attention to the unfortunate fact that too often physicians depend on the examination of the stomach contents alone for a diagnosis of gastroptosis, and neglect the investigation of the motor functions and position of the stomach. A prolapse of the stomach may exist without discoverable nephroptosis, and often with no enteroptosis that is detectable by the ordinary means of physical diagnosis. As long as the functions of the organ are normal, we can not regard the conditions met with as pathologic. He discusses atonia gastrica, dilatation of the stomach and gastroptosis, the general treatment of the latter being summed up as follows: 1. Correction of the derangement of the stomach by appropriate diet and medication suited to each case. 2. Regulation of the bowels. 3. Mechanical support to increase the intra-abdominal tension, such as (a) silk abdominal supporters, (b) bandaging, as by the Van Valzah-Hayes method, (c) Gallant's corset, (d) Rose's adhesive plaster belt—the best of the three, as it can not slip and become displaced. He prefers, however, rubber plaster on moleskin, as it is looser in texture and the sweat readily evaporates through it. It can be worn longer and with practically no irritation. It is superior to the ordinary rubber adhesive and even to the zinc oxid plaster. Dr. Rose's belt is the best to fulfill the indications. The paper closes with a description of the various methods that may be employed for locating the position of the stomach.

26. **Collargolum and Antistreptococcic Serum in Eye Infections.**—According to the authors 7½ per cent. of the blind are made so by injuries to the eye and the ineffectiveness of modern methods of treatment. This has led them to conduct experiments with collargolum and antistreptococcic serum with the view of determining their efficiency in the treatment of infected wounds of the eye. Collargolum is an allotropic form of silver (colloidal silver), which is soluble in water in the proportion of 1 to 25, forming a brownish solution. It has some direct bactericidal action and produces a marked and rapid leucocytosis, but is ineffectual in preventing the spread of purulent processes in the eyes of rabbits, whether used intravenously or by injection into Tenon's capsule. It has, however, been used with considerable success in septicemia and pyemia, surgical infections, puerperal sepsis, sepsis of infectious diseases, skin diseases, venereal diseases and certain muscle diseases, including rheumatism, abscesses, cellulitis, etc., when injected intravenously in a 1 per cent. solution. It has also been used successfully by inunction in the form of Credé's ointment in the treatment of eye diseases. In the experiments a 2 per cent. solution of collargolum was injected; in one series of animals into the veins, and in another series into the capsule of Tenon. Twenty-five minims of the solution were injected into the veins on successive days, but the inflammatory conditions increased. The same was true of the second series, that in which the injection was made directly into the capsule of Tenon. In still another series collargolum in 100 minim doses of the 2 per cent. solution, was injected intravenously. The results were the same as in the other

series. In another set of experiments antistreptococcus serum was injected intravenously in quantities varying from 5 to 10 c.c. The injection of the serum into the capsule of Tenon also was ineffectual. Antistreptococcus serum does not appear to exercise any favorable influence on purulent processes in rabbit's eyes, but there is no good reason why serum treatment should not be tried in all forms of purulent eye diseases, inasmuch as it has been found successful in the treatment not only of pure streptococcus infection, but also of such infections mixed with staphylococci. The use of antistreptococcus serum, being harmless, may be of benefit even though selective in its action. In certain experiments it has been shown that the doses of serum must be increased enormously the longer the treatment is begun after the primary infection. The authors recommend the exercise of considerable care in its use, as death is likely to follow from air embolism, as was the case in one of their experiments.

Cincinnati Lancet-Clinic.

August 6.

30 Résumé of the Clinical Results on the Newer Methods of Diagnosis in Surgical Diseases of the Kidneys. Wm. E. Lower.
31 A Case of Tumor of the Brain; Operation; Recovery. H. J. Whitacre.
32 Surgical Treatment of Minor Injuries. W. N. Bradford.
33 Man in the Divorce Court. E. S. McKee.

St. Louis Medical Review.

July 30.

34 Chronic Infective Arthritis Simulating Chronic Polyarticular Rheumatism Due to Chronic Abscess in Connection with a Tooth. J. R. Clemens.

Richmond Journal of Practice.

June.

35 *Modification of Cow's Milk for Feeding in Early Infancy. McGuire Newton.

35. **Modification of Milk for Infant Feeding.**—To those who live in large cities, says Newton, the modification of milk is an easy task; but for those who have not the advantage of a milk laboratory, and who, consequently, have to resort to the home modification, there are many difficulties, and these are often sufficient to prevent an intelligent attempt to prepare a proper food mixture. A number of set formulæ may be used, but that based on an analysis made for winter is the simplest and will be of much service in overcoming the difficulties connected with the modification of milk. The formula is as follows:

Infant's Age.	Table 1.			Table 2.				Table 3.	
	Percentage of Fat.	Percentage of Sugar.	Percentage of Proteid.	Quantity of "top milk" from a vessel containing a quart (in ounces).	Milk Sugar (in tea spoonfuls).	Lime Water (in ounces).	Boiled Water (in ounces).	Number of Feedings.	Amount of each Feeding (in ounces).
1-3 day	2	7	0.25	1	3.5	1.5	9	10	5-1
4-7 day	3.5	7	0.33	1.5	4	2	10.5	10	1 1.25
2d week	3	7	0.50	2.25	4	2	10	10	1.5
3d week	3.5	7	0.75	6	7	4	18	10	1.5-2.5
2d month	4	7	1	9	8	4	19	9	2.5-3
3d month	4	7	1.25	11	7.5	4	17	8	3 -4
4th month	4	7	1.50	13	7	4	15	7	4.5-5
5-6 month	4	7	1.75	15	6.5	4	13	6	5.5-6.5
7-9 month	4	6.5	2	17	5.5	4	11	6	6.5-7.5
10 11 month	4	6	2.50	21	4.5	4	7	5	8 -9
12 month	4	5.5	3	25	3	4	3	5	9 10

In the first table will be found the proper proportions in which the constituents should occur at the various ages. In the second table are found the quantities of "top milk" sugar, lime water and sterile water necessary to prepare proper mixtures, and in the third table are found the number of daily feedings and the quantity of each for various ages. To prepare food mixtures according to this table, it is necessary to have a quart of milk which has stood long enough for the cream to rise, and from which the desired quantity is to be taken by means of a dipper or siphon made for the purpose. The formula is simple and accurate, and when the table is followed closely mistakes are much less liable to occur than with a more complex method. Certain indications demand special modification of the milk, such as a slow gain in weight with no digestive disturbance, indicating a deficiency in all the ingredients, especially the sugar. Thin, green, acid stools, with or without colic, indicate an excess of sugar. Constipation, with dry, hard stools, indicates a deficiency in fat. Excess of fat will cause vomiting or regurgitation of small quantities of food one or two hours after feeding, or frequent, apparently normal, bowel movements. The presence of curds in the stool, with or without colic, points to an excess of proteids. These indications are to be met by the use of formulæ in which the disturbing elements are altered in response to the demands of the case.

The Laryngoscope, St. Louis.

July.

36 Reflex Neuroses of Nasal Origin. G. Hudson Makuen.
37 Neuroses of the Pharynx. F. E. Hopkins.
38 Neuroses of the Larynx. Emil Mayer.
39 *Some Interesting Cases of Mastoiditis. James F. McCaw
40 *Treatment of Tinnitus Aurium. Wm. S. Bryant.
41 Unilateral Hyperasthesia of the Tongue as a Concomitant of Acute Otitis Media. Lennox Wainwright.
42 Chevalier Jackson's Transilluminator with Some Modifications. Otto T. Freer.

39. **Some Interesting Cases of Mastoiditis.**—The first case reported by McCaw is one of acute suppurative otitis media, mastoiditis, subperiosteal mastoid abscess and perisinus epidural abscess following scarlet fever. The interest in this case centers about the fact that, although rupture had taken place through the external surface of the mastoid, serious involvement of the intracranial contents was taking place. It furnishes a striking illustration of the necessity of always opening the mastoid process in subperiosteal accumulations, regardless of the fact that the external surface may show no pathologic changes. The patient was operated on and recovered. The second case was one of acute suppurative otitis media and double mastoiditis, following an attack of influenza. The points of interest in this case, besides the simultaneous occurrence of a double mastoiditis, were the profound septic conditions and mental derangement. The third case contracted acute suppurative otitis media and mastoiditis following typhoid fever. Although there was some uneasiness in the ear for about one week, it was only three days after the first pain in the ear before operation revealed an extensive mastoid involvement. There must have been a simultaneous infection of tympanum and mastoid, as the extensive distribution of pus and the beginning necrosis can not be accounted for in any other way. The anomalous arrangement of the cells about the mastoid tip also was a peculiarity in this case. The most internal one was situated so deeply that it might readily have been overlooked and continued to act as a focus of infection. In the last case, one of acute suppurative otitis media, mastoiditis, epidural abscess and meningitis, there was no history of a previous illness, except that the patient, a man aged 87, had been almost totally deaf in one ear for twenty years. The diagnosis was evident, but in view of the patient's extreme age, the complications and the request of the family, operative measures were desisted from at that time. When the operation was finally performed the patient died, without regaining consciousness, forty-eight hours afterward with pulmonary edema.

40. **Treatment of Tinnitus Aurium.**—Bryant gives a very thorough review of the local treatment of tinnitus aurium from all causes, and presents the following classification:

I. Objective.
  1. Vibratory:
  1. *External:* (a) Vascular. (b) Pharyngeal. (c) Respiratory. (d) Muscular.
  2. *Internal:* (a) Tubal. (b) Tympanic.
II. Subjective.
  (A) Phonetic.
  1. *Exaural:* (a) Vital. (b) Dinlacusic.
  2. *Endotic:* (a) Circulatory. (b) Myotolitic. (c) Movement. (d) Somatic.
  (B) Neurotic.
  1. *Peripheral:* (a) Reflex.
  2. *Otic:* (a) Conduction: I. Myringeal. II. Tubal. III. Ossicular. IV. Mucous. V. Contraction. VI. Adhesion. VII. Fenestral. VIII. Traumatic. IX. Meatal. (b) Reaction.
  3. *Sensory:* (a) Nerve Tinnitus: I. Peripheral. II. Trunk. III Proximal. IV. (b) Psychopathic: I. Central. II Illusional. III. Hallucinational. IV Delusional.

Pacific Medical Journal, San Francisco.

June.

43 *The Stump in Appendectomy. Winslow Anderson.
44 The Medical Profession in a Civilized Century. E. M. Jackson.
45 *Acute Thyroidism Following Curettage. B. H. Wells.
46 Phlyctenular Keratitis. Louis P. Dorals.

43. **The Stump in Appendectomy.**—Anderson treats the stump of the appendix after an appendectomy as follows:

As soon as the appendix is "delivered" or brought out of the abdominal cavity with or without a portion of the caput coli, and freed from adhesions, should there be any, I apply an angiotribe (the blades of which measure one centimeter in width) to the appendix close up to and flush with the colon. The angiotribe compresses the appendiceal tissues so firmly that only the peritoneal tissue remains. By means of an intestinal or cambric needle, threaded with No. "0" catgut, a "purse-string" ligature is applied in the walls of the colon one centimeter from the base of the appendix. The next step consists in the introduction of a ligature of the same material through the mesenteriolum midway between the appendix and its free margin. The abdominal wound is now carefully packed with sterile moist gauze to protect the peritoneal cavity from the slightest possible infection. The angiotribe is removed and the ligature tied around the appendix, flush with the bowel where the angiotribe has crushed the tissues. When practicable, as it usually is, the same ligature is retied about and made to include the mesoappendix. Should the latter be too large or contain too much adipose tissue several small ligatures are applied to it. Forceps are now applied to the distal end of the appendix and mesoappendix within two centimeters of the ligature and the appendix and mesenteriolum are amputated between the ligatures and forceps. The ligatures control all the bleeding and oozing and the 10 millimeters of appendiceal stump consist of nothing but peritoneal tissue, the mucosa and muscularis having been crushed. Pure liquid carbolic acid is applied to the stump; this is followed with pure peroxid. The whole is washed with sterile hot normal salt solution and then carefully dried. An assistant now depresses the stump into the caput coli and the "purse-string" ligature is tied, thus completely invaginating the ligatured stump. By placing the "purse-string" ligatures about one centimeter from the base of the appendix, and by leaving the stump only about 10 millimeters long, the serous surfaces of the invaginated colon and appendiceal stump come in actual contact and rapidly adhere, forming a solid base, which has never, in my hands, left any depression or infundibulum for future trouble.

The advantages of this method are the following: 1. The mucosa is entirely crushed and the stump thoroughly sterilized; 2, the ligature is applied flush with the colon, leaving no infundibulum and no appendiceal tissue to create further trouble. 3. The invagination is complete with sero-serous surfaces in contact, favoring rapid healing. 4. Absorbable ligature material is used which never becomes infected and never causes a sinus to form. 5. Intra-abdominal adhesions do not take place, as the cut surfaces are invaginated. 6. The ligature about the appendiceal stump prevents the formation of a fistula, which may occur when the stump is not ligated. 7. The method is simple, can be executed rapidly, and is thoroughly aseptic.

45.—This article has appeared elsewhere. See THE JOURNAL, July 9, ¶18, p. 149.

Journal of the Association of Military Surgeons, Carlisle, Pa.

August.

47 *The Medical Treatment of Appendicitis in Accordance with the Modern Principles of Therapeutics. Enrico Castelli.
48 *An External Suture. Thomas Page Grant.
49 The New Hospital Corps Drill Relations for the U. S. Army. Frederick P. Reynolds.
50 Typhoid Fever in the Tropics. Thomas C. Biddle.
51 The United States Army General Hospital at the Presidio, San Francisco, Cal., 1901-2. Alfred C. Girard.
52 The Medical Department of the Janpanese Army.
53 The Splint Stretcher. Charles F. Stokes.
54 Case of Pernicious Malarial Fever; Comatose Type; Recovery. Frederick Hadra.

47. **Medical Treatment of Appendicitis.**—Castelli opposes the routine medical treatment of appendicitis because of its direct antagonism of physiologic principles. Because of the fact that constipation always accompanies appendicitis, and that all patients affected by this disease suffer from constipation, he concludes that the appendix is, perhaps, the governing center of the secretory intestinal functions, and, for this reason, as well as for other reasons, he is strongly opposed to the new practice of surgery which deprives persons coming under the knife of a healthy appendix. At the beginning of an attack of appendicitis he directs his attention carefully to the removal of fecal stasis. His preliminary treatment is as follows: 1. The administration of salicylate of sodium, dose .75 cg., to be given twice, within the interval of one hour. The salicylate is a cholagogue, an antithermic. In order to avoid the irritating action of the salicylate on the gastric mucous membrane, he uses an excipicus—Vichy water. 2. Three hours after the administration of the salicylate, he gives calomel in doses of .05 cg., to be taken one hour apart, until the first intestinal evacuation occurs. Calomel acts as an intestinal antiseptic, as a cholagogue, laxative diuretic, and as a stimulant of the pancreatic secretions. The necessity of relieving pain, internal congestion, depression of the nervous system and high temperature, have induced him to add to the symptomatic treatment of appendicitis the use of warm balneation. The warm bath produces a general tonic sedative effect on the nervous system; it equilibrates thermogenesis; it decongests the internal organs, produces analgesia, and relieves all pain of a colic type. Besides, it has an antitoxic effect since it increases the reactive processes of metabolism, produces free exudation, and relieves the iscuriæ paradoxæ. The temperature of the water varies from 25 C. to 40 C. During the bath he gives small doses of cold champagne. The hot pack may be substituted for the hot bath. As an adjunct to the relief of constipation he gives at the beginning of the attack an enema of warm water and sodium chlorid—solution 5 per cent., temperature, 18 C. to 28 C., quantity 400 drams—to be injected at a low pressure. The infective cause of appendicitis is attacked by intra-muscular injections of 1 c.c. of the following solution every two hours: Acid. carbol., .20 cg.; water, 10 grams; pure alcohol, 2 grams. A diminution of temperature and of the nervonsness peculiar to the disease usually takes place after the second injection. The results he has obtained from this treatment are such as to warrant its adoption in cases in which no possibility of surgical intervention exists.

48. **An External Suture.**—Grant describes a simple dressing which he devised as a substitute for the suture to meet an emergency in the shape of a badly contused and lacerated wound on the forehead. It has proven so satisfactory that he has used it many times since. The materials for this external suture are—strips of adhesive plaster (isinglass plaster on muslin is the best, as it is least likely to slip or creep on the skin), some ordinary old-fashioned dress hooks, and some rubber bands, No. 7 or 8. The plaster should be either one-half or three-quarters of an inch in width, for one or two hooks, as the case may be. More than two hooks on a strip does not work satisfactorily. The hooks and rubber bands should be boiled and put in a bottle kept well stoppered. The plaster, too, must be aseptic. Having cut the plaster the desired width, make two holes for each hook to be used, the holes to be about one inch from the end of the strip and a quarter of an inch apart. The rings on the back end of the hooks are to be opened so as to better catch in the plaster. Turn the free ends of the plaster back on itself, and make a double thickness under the hooks. This prevents the plaster from adhering too close to the wound, and keeps the hooks from pressing too much on the edges of the wound. The plaster may be as long as is thought best to make the proper tension, and it should be brought to within from half an inch to an inch of the edge of the wound. When it is firmly adherent, begin lacing the rubber band from one hook to its fellow of the opposite side, drawing as tight as may be needed to bring the lips of the wound together. It may be desirable sometimes to put a gauze pad under the hooks. This may be done before the rubbers are tightened, or, better still, after the wound is drawn together. If it is desired to make the dressing waterproof, the plasters may be painted with a little collodion, or a solution of rubber in bisulphid of carbon. Some of the advantages of this external suture are the following: 1. The possibility of using it in cases of extensive contusion or laceration where the thread suture can not be used. 2. Freedom from stitch abscesses. 3. The rubber bands allow for almost any amount of swelling, which with the ordinary suture often calls for the clipping of the stitches before union, and which not infrequently causes the stitches to ulcerate out. Its use makes it possible to adapt the edges of a contused wound into a normal position, or nearly so. This dressing is not offered as a universal substitute for the needle, but in very many cases of minor surgery its use will afford both comfort and success to the surgeon, and save the patient from a large scar and perhaps from much suffering.

Texas Medical Journal, Austin.

July.

55 *Compound Comminuted Fracture of the Spinal Vertebræ; Operation and Recovery. E. M. Albers.
56 Case of Renal Calculus with Operation. John B. Thomas.

55. **Compound Comminuted Fracture of the Spinal Vertebrae.**—Albers describes a case of compound comminuted fracture of the spinal vertebræ, the injury extending from the second lumbar vertebra to the base of the sacrum, freely exposing the cauda equina. Under strict asepsis, without an anesthetic, all detached fragments were removed, the depressed bone elevated, and the ragged pieces excised. An ice pack was placed over the site of the wound, and applied continuously for four days, when it was temporarily discontinued for twenty-four hours. During the first four days following the injury, retention of urine existed, and during the first seven days, the bowel was paralyzed. After the ice pack was left off the temperature rose to 103¾ F.; pulse, 125; respiration, 26. The ice pack was reapplied, and on the second day following the temperature, pulse, and respiration were normal. The wound healed without suppuration. One year after the injury the patient was fully restored to health. The author calls special attention to the value of the ice pack in the treatment of wounds in a hot, sultry climate. Otherwise, they have a tendency to inflame and suppurate, even in the presence of strict asepsis.

American Practitioner and News, Louisville.

July 15.

57 Cretinism—Synonyms; Sporadic Cretinism, Cretenoid Idiocy; Myxedematous Idiocy, with Pachydermatous Cachexia. F. J. Kieffer.
58 *Report of Case of Splenic Leukemia Treated by X-rays. J. T. Dunn.

58. **The X-Ray in Splenic Leukemia.**—Dunn reports another case of splenic leukemia which is being treated successfully with the *x*-ray. The blood examination confirmed the clinical diagnosis. *X*-ray treatments were given almost daily, each consisting of an exposure over the spleen with a hard tube at eight inches distance for ten minutes. When thirty-six treatments had been given, the general condition of the patient was very much improved, and the spleen had decreased in size considerably and was quite soft. After seventy-five treatments the spleen was barely palpable. The patient had the appearance of one in perfect health. Two months before treatment was begun the blood findings were as follows: Red cells, 4,600,000; leucocytes, 128,000; color index, .65; proportion of red cells to leucocytes, 35 to 1. Red cells: shape, irregular; size, irregular; nucleated, none. Leucocytes: large lymphocytes, 8 1/3 per cent.; small, 5 2/3 per cent.; polymorphonuclear, 39 per cent.; eosinophile, 8 per cent.; myelocytes, 38 per cent. Hemoglobin, 60 per cent. The last count, made six months after treatment was instituted, showed the following: Red cells, 5,544,000; leucocytes, 37,000; color index, .65; proportion of red cells to white, 149 to 1. The red cells were of irregular size and shape but not nucleated. Leucocytes: Large lymphocytes, 5 per cent.; small, 10 per cent.; polymorphonuclear, 65 per cent.; eosinophile, 5 per cent.; myelocytes, 15 per cent. Hemoglobin, 65 per cent. The patient is still under treatment and feels perfectly well. She has taken 129 treatments in all.

Ophthalmic Record, Chicago.

July.

59 The Practical Application and Use of a Simple Test for the Latent Convergence Power. Mark D. Stevenson.
60 *Report of a Case of Bilateral Dislocation of the Crystalline Lenses Into the Anterior Chambers. H. W. Woodruff.
61 *A Case of Triple Rupture of the Choroid Coat. J. Davidson Lewis.

60. **Bilateral Dislocation of the Crystalline Lenses.**—Woodruff reports the case of a girl, 9 years old, in whom following the instillation of eserin the crystalline lens of the right eye disappeared into the vitreous; that of the left eye remained in position, but the tension became elevated and had to be relieved by a pericentesis. After the effects of the eserin wore off the lens in the right eye returned to its normal position. Occasionally it would be missing, but most of the time it could be found in the anterior chamber. These cases are exceedingly rare.

61. **Triple Rupture of the Choroid Coat.**—A case of this kind is reported by Lewis, following a severe blow from the fist. There was no discoverable fracture at the orbital bones, the ocular conjunctiva was slightly congested; there were no appreciable notchings at the pupillary margin of the iris; the aqueous, cornea, lens and vitreous were normal. The tension was normal, but there was slight photophobia; no pain. On ophthalmoscopic examination of the eye there were found three very dark hemorrhages (choroidal) with sharp borders—one situated one-quarter disc diameter from the papilla, and two on the temporal half of the fundus; one one-quarter disc diameter from the nerve and the other three and one-half disc diameters from the papilla. Retinal vessels traversing the hemorrhagic areas were not visible. In addition to these hemorrhages, there was a large retinal extravasation upward and slightly inward from the disc, and blood was plainly visible in the macula. Four months following the injury the eye ground presented a picture of three typical choroidal ruptures, the margins of which were entirely free from pigment granules. The treatment consisted of rest and atropin instillations. The elements of interest in the case were the clearness of the media, especially the vitreous; a choroidal rupture situated in the nasal half; a horizontal rupture of the choroid; absence of pigmentary deposit about the margins of the rupture; the condition of the macula and the accompanying retinal hemorrhage.

Therapeutic Gazette, Detroit.

July 15.

62 *The Surgical Treatment of Abortion. F. C. Hammond.
63 Strychnia as an Evacuant. George E. Pettey.
64 *Internal Hemorrhage from Ectopic Gestation Without Rupture of the Sac. E. E. Montgomery.
65 Eserin; a Warning. G. G. Speer.
66 Meteorism Following Abdominal Operations. A. P. Condon.

62.—See abstract in THE JOURNAL, xlii, p. 1375.

64. **Internal Hemorrhage in Ectopic Gestation.**—Montgomery calls attention to the possibility of grave internal hemorrhage in ectopic gestation without rupture of the gestation sac, and reports a case in point. The patient, aged 35, menstruated last in April and again a few days before she came under observation late in June, and has had a continuous flow since attended with attacks of severe pain in the lower abdomen. At one time, the pain became very severe, and a small portion of membrane was discharged from the vagina. After careful examination the diagnosis of ectopic gestation was made, but the shock did not appear to be sufficient to indicate either rupture or tubal abortion. The abdomen was opened and a large quantity of blood evacuated. The left appendages were adherent, but otherwise normal; the right tube presented a sac occupying its outer half, which was filled with a clot, but showed no rupture. The fluid had escaped by the end of the tube, and apparently so slowly that there was no evidence of shock. A subsequent examination disclosed that portions of the sac had become extremely thinned, and at one place a small rupture had probably exposed the villi, from which bleeding had occurred, as well as from the abdominal osteum. The clot in the tube arrested the bleeding and prevented a fatal result. Another class of cases in which hemorrhage occurs without rupture are those in which the chorionic villi have penetrated the over-stretched tubal wall, and bled from their extremities through the peritoneal surface of the tube. These villous projections may be so small as only to be perceptible by the microscope, and yet cause a dangerous hemorrhage. This hemorrhage is so insidious, so capable of recurrence, and associated with the danger of rupture and increased hemorrhage when the vital forces of the patient are most reduced, that it is important to make an early diagnosis.

Mobile Medical and Surgical Journal.

June.

67 *Pure Drinking Water for Country Homes and Villages Unsupplied with Water Works. Edgar B. Kay.
68 Acute Milk Infection. Bernard Phillips.
69 The Menopause. J. L. Ellis.
70 The Treatment of Chronic Ulcers of the Leg. W. S. Britt.

67. **Pure Drinking Water.**—Kay says that pure water is a laboratory compound, hydrogen monoxid, not found in nature. It is a powerful oxidizing agent, and if it could be obtained as a

supply for a household or town, would be entirely unsatisfactory. It is unsuited for domestic purposes, and is even more objectionable for generating steam because of its tendency to oxidize metals, and in that way to destroy apparatus. The chemistry of good drinking water is discussed at great length; it is the same as can be found in any modern text-book on the subject. For the filtration of surface waters used in the household the author recommends filters made of unglazed porcelain or fine infusorial earth, such as the Pasteur and Berkefeld filter. The latter is superior to the former, as it filters considerably faster. Of course, all filters require frequent and thorough cleansing. It may be necessary to sterilize or distill the water or to purify it chemically. Of the method instituted for the chemical purification of water, the most successful has been the use of ozone, generated electrolytically and passed through the water. Traube's method, the addition of chlorinated lime or bleaching powder, is also a good one. For general domestic use no water requiring treatment is to be recommended; first, because of the expense involved in securing the required purification, and secondly, because of the danger through carelessness or neglect of not being able at all times to maintain a proper standard of purification. The capitalized cost of maintaining a purification system generally will more than suffice to provide a supply of wholesome water. Having procured a satisfactory supply of water for domestic use, it is necessary that such constructive measures shall be taken as will enable the water to be transported from its source to the place of utilization without impairing its quality, and of storing it in sufficient quantities for all ordinary uses or emergencies.

Kentucky Medical Journal, Louisville.

July.

71 Ether Anesthesia. R. Linsey Ireland.
72 *Mastoiditis in General Practice. J. A. Stucky.

72. **Mastoiditis in General Practice.**—Stucky is of the opinion that the average practitioner does not appreciate the gravity of suppurative disease of the ear, nor equip himself with the facilities for recognizing serious complications, either in the acute or chronic forms. The average case of chronic otorrhea can not be wiped out or medicated into a healthy condition. Mastoid antrum disease is the appendicitis of the head, and every case of chronic suppuration of the middle ear is a slumbering volcano or a charge of dynamite liable to explode at any time. The only safe treatment for suppurative mastoiditis is an early opening of the cells and the establishment of free drainage, thus getting rid of the disease entirely, or else making it the point of least resistance from the brain in case of subsequent infection. Under aseptic precautions the operation is practically devoid of danger; delay in doubtful cases may lead to more serious complications. When in doubt whether there is pus formation, if there be evidence of mastoid involvement, it is safer to do an immediate exploratory operation rather than to attempt to abort the disease. In no diseases are the symptoms more misleading than in the one under consideration. Pain, temperature, and pulse, and general systemic condition often do not give evidence of the serious destruction of tissue and rapid inroads being made on the vital centers. The auditory canal should be examined thoroughly, and any sagging or bulging of the posterior superior wall is to be regarded as pathognomonic evidence calling for immediate operation. Pressure, which causes pain over the antrum or tip of the process after the third or fourth day of an acute otitis media in which there is a free drainage through the tympanum with systemic disturbance, is also an indication for surgical interference. The consensus of opinion is that it is eminently wise to operate on cases of chronic suppuration in the quiescent state. Then the Stacke operation can often be done, involving a short convalescence. There is always danger in delay, but, perhaps, never more so than in the acute stage of mastoiditis when involvement of important structures may be very rapid and often fatal.

Medical Fortnightly, St. Louis.

July 25.

73 Some Remarks on Bacteria in the Dead Body. R. B. H. Gradwohl.
74 Diagnosis of Pulmonary Tuberculosis. Frank Billings.
75 Dimness of Vision as an Ocular Complication with Lumps, with Report of Two Cases. W. E. Fischer.
76 Observation on the Relations of the Ductus Bilis and Ductus Pancreaticus, with Illustrations of Calculus in Each Duct. Byron Robinson.
77 A Plea for Early Exposure of the Mastoid Antrum and Cells in Persistent Acute Otitis Media Purulenta with Pain. J. C. Buckwalter.
78 Value of Blood Examination in Differential Diagnosis. Herbert A. Potts.

Virginia Medical Semi-Monthly, Richmond.

July 22.

79 The Bedside Diagnosis of Typhoid Fever, with Special Reference to the Early Recognition of the Disease. Charles Z. Chandler.
80 Cholera Infantum. W. H. Wallace.
81 Gastro-uterine Disease. Joseph M. Rector.
82 Fractures of the Skull. J. Shelton Horsley.
83 Sundown Journalism. T. D. Crothers.
84 Diphtheria. J. A. Williams.

Northwestern Lancet, Minneapolis.

August 1.

85 A Study of Electrical Injuries. H. L. Stapler.
86 Art and Science of Medicine. Charles Lyman Greene.
87 Some Ideas Regarding the Nature of Syphilis. Franklin R. Wright.

Central States Medical Magazine, Anderson, Ind.

July.

88 Diagnosis. Reminiscent. John E. Lockridge.
89 Chronic Muscular Rheumatism and Sodium Salicylate. G. D. Lind.
90 Blood Diagnosis in Typhoid Fever. W. T. S. Doods.
91 Enemata. J. W. Wainwright.
92 Report of a Case of Typhoid Fever Complicated by Subcutaneous Abscesses and Intestinal Hemorrhage with Temperature of 107 Degrees. H. M. Johnson.
93 Report of a Case of Pneumonia with Reinfection, Necessitating Thoracotomy, Followed by Recovery. T. Roy Cook.

Oklahoma Medical News-Journal, Oklahoma City.

July.

94 Organization. A. K. West.

Therapeutic Review, Philadelphia.

July.

95 Glandular Fever, with a Report of Three Cases. Clara T. Dercum.

Medical and Surgical Monitor, Indianapolis.

July 15.

96 Some Later-day Tendencies in Medical Education. Stanley Coulter.
97 Some Points on Modern Principles in Treating Fractures and Dislocations. J. B. Fattic.
98 Syphilis—A Non-venereal Disease. Nelson D. Brayton.
99 Tuberculosis. Wm. A. McCoy.
100 Pneumonia and Its Treatment. Henry R. Slack.

Journal of Medicine and Science, Portland, Maine.

July.

101 Ocular and Aural Therapeutics. Erastus E. Holt.

Colorado Medicine, Denver.

July.

102 Perforation of the Appendix, with General Peritonitis, Sepsis and Perforation of the Colon. John P. Hammill.
103 Some Helpful Analogies. W. W. Wilkinson.

Kansas City Medical Record.

July.

104 Duty of the Medical Expert. A. L. Fulton.
105 Acute Gastroenteric Infection or Summer Diarrhea. Tom Fields.

Fort Wayne Medical Journal-Magazine.

July.

106 Clinical Consideration of Arteriosclerosis. A. C. Kimberlin.

Pacific Medical Journal, San Francisco.

July.

107 Simplicity in Diagnosis and Therapy of Digestive Disorders. Alfred W. Perry.
108 Immunity from Tuberculosis: Its Production by Fat Foods and Outdoor Camp Life. Thomas Bassett Keyes.

St. Louis Courier of Medicine.

July.

109 Use of the Colpeurynter in Obstetric and Gynecologic Practice. George Gellhorn.
110 The Vesical Trigone. Trigonum Vesicæ—Its Anatomy and Physiology. Byron Robinson.
111 Report of a Case of Senile Chorea. W. L. Johnson.
112 Should a Physician Attending Puerperal Sepsis Continue His Midwifery Practice? H. N. Chapman.

Vermont Medical Monthly, Burlington.

May 25.

113 Pulmonary Tuberculosis. D. D. Grout.
114 Ten Years' Obstetrical Practice. W. J. Aldrich.

Western Medical Review, Lincoln, Neb.

July.

115 The Medical Profession: Its Relation to the Public. B. F. Crummer.
116 Electro-therapeutics in Country Practice. F. A. Butler.
117 Meteorism Following Abdominal Operations. A. P. Condon.

Woman's Medical Journal, Toledo, Ohio.

June.

118 Acute Rheumatism. Marie Schmidt.
119 Facial Erysipelas in the Third Week of the Puerperium in a Woman with Serious Heart Lesion. Mary O. Porter.
120 "The Emotions." Lena A. Beach.

Medical Herald, St. Joseph, Mo.

July.

121 *Minimum Requirements for Aseptic Surgical Operating in a Hospital in which the Personnel of the Operating Room is Permanent. A. J. Ochsner.
122 Home Management of Chronic Cases. J. H. Cleaver.
123 Fecal Impaction. F. E. Walker.
124 Vague Muscular Pains and Aches. G. B. Acker.
125 Correction of Some Complications in the First Stage of Labor. W. Berry.

121.—See abstract in THE JOURNAL of July 2, p. 67.

Medical Mirror, St. Louis.

June.

126 Neural Phases of Dentistry. Marc R. Hughes.
127 Some Clinical and Pathologic Phases of Urinary Obstruction. G. Wiley Broome.
128 Case of Complete Retroversion of the Gravid Uterus. N. Newnhan Davis.

Dominion Medical Monthly, Toronto.

July.

129 Influence of Heredity on the Expectancy of Life. H. R. Frank.
130 Expectancy of Life in Morbid Conditions of the Genito urinary System. F. LeM. Grasett.
131 Expectancy of Life in Morbid Conditions of the Cardio-vascular System. Robert J. Dwyer.
132 Expectancy of Life in Morbid Conditions of the Respiratory System. Edwin Ryan.
133 The Nervous System in Relation to Life Assurance. H. C. Scadding.
134 Life Insurance. James Thorburn.
135 Influence of the Plan of the Acceptance of Risks for a Life Insurance Company. Percy C. H. Papps.
136 Financial Responsibility of the Medical Examiner for Life Insurance. Bruce L. Riordan.

Alabama Medical Journal, Burlington.

July.

137 Abdominal Hysterectomy for Fibroid Tumors of the Uterus. George H. Noble.
138 Passing of the Old-time Doctor. George T. McWhorter.
139 Some Suggestions in the Management of Large Cystic Tumors of the Abdominal and Pelvic Cavities, with Report of Case. W. R. Bishop.

Carolina Medical Journal, Charlotte.

July.

140 Management and Treatment of Typhoid Fever. R. M. Reid.
141 The Sponge Bath in Typhoid Fever. H. S. Monroe.
142 Immunity. Albert Anderson.

Journal of Comparative Neurology, Granville, Ohio.

July.

143 Associative Processes of the Guinea-pig. A Study of the Psychical Development of an Animal with a Nervous System Well Medullated at Birth. Jessie Allen.

Old Dominion Journal, Richmond, Va.

July.

144 George Ben Johnston, Twenty-third President of the American Surgical Association. Charles R. Robins.
145 Errors in Diet as a Cause of Infantile Diarrhea. St. G. Grinnan.
146 Medical Society's Dynamics. W. H. Wallace.
147 Report of an Obstetrical Case. John B. Woodville.
148 Modification of Cow's Milk for Feeding in Early Infancy. McGuire Newton.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 30.

1 *President's Address, British Medical Association. William Collier.
2 *Address in Medicine. William Selby Church.
3 *Address in Surgery. William Macewen.

1, 2, 3.—See abstract in the Society Proceedings of THE JOURNAL in this issue.

The Lancet, London.

July 30.

4 The Growth and Development of the Oxford Medical School. William Collier.
5 Our Sanitary Needs, with Special Reference to the National Health. William S. Church.
6 The Hereditary Bias and Early Environment in Their Relation to the Diseases and Defects of Children. R. Clement Lucas.
7 Bright's Disease and Its Varieties. John Rose Bradford.
8 *Red Light Treatment of Smallpox. T. F. Ricketts and J. B. Byles.
9 Sleeping Sickness: A Résumé. Aubrey D. P. Hodges.
10 Symptoms and Treatment of the Intracranial Complications of Otitis Media, with Cases. George Heaton.
11 *Case of Multiple Sarcoma. Seymour Taylor.
12 Case of Acute Arsenical Poisoning. R. E. Sedgwick.

8. **Red Light Treatment of Smallpox.**—The authors report a series of 13 cases in which the red light was used without any benefit to the patient. The ward in which these cases were treated was a small one containing four beds. It has six windows, all of which were blocked by a double layer of photographic "ruby" fabric. There were two doors, over each of which was hung a curtain made of a double thickness of red "Turkey twill." The doors opened into lobbies, and an area around each door was screened off with a double thickness of the same material, so that on passing through the door and under the door curtain one found oneself in a small chamber completely shut in with red curtains. The effect of this arrangement was that persons entering or leaving the ward admitted no white light when raising the curtains. In fact, the ward was converted into a photographic dark room. Artificial light was obtained by the use of dark room lamps with red glass. Of the 13 cases treated in red light throughout the period of suppuration, 5 were vaccinated, 6 were unvaccinated, 1 patient had been vaccinated in the period of incubation, and in 1 case the matter was doubtful. Four were cases of discrete and 9 of confluent smallpox. The mildest case was one of a very moderate type of discrete smallpox, and at the other extreme was one of very severe confluent smallpox. Two of the patients died, both during the fever of suppuration. In neither case was there any complication to which the fatal result could be attributed. The treatment did not affect suppuration nor did it prevent scars. The milder cases recovered without scars and the more severe did not. The authors agree that this treatment possesses none of the merits which have been claimed for it; in fact, the mental complications occurred more frequently and were more severe than with the ordinary methods of treatment. In most of these cases the treatment was harmful. In addition to increasing the tendency to mental symptoms, the suppurative fever appeared to range higher than might have been expected, and the general condition of the patient was bad. The patients did well in respect to affections of the eye, as might be expected, but they had more than their share of the other septic sequelæ of smallpox. One great objection to the red-light treatment is the difficulty of carrying out personal and general hygienic measures, because in excluding light we must necessarily limit the supply of air. In all suppurative conditions, and especially in smallpox, an abundant air space and the freest circulation of air is essential. Any form of treatment which puts a check on the supply of fresh air must be regarded with suspicion unless it brings solid advantages in compensation, which is not the case with the red-light treatment. The writers appeal to Dr. Finsen to cease to lend the weight of his authority to the support of a method of treatment which, if it is inefficacious, necessarily must be inhumane.

11. **Multiple Sarcoma.**—Taylor reports the case of a man aged 32, the victim of multiple sarcomata. Scattered over the abdomen and thoracic walls were a number of solid tumors varying in size from that of an orange to that of a large pea. The large growth was situated on the right side of the abdominal wall midway between the anterior superior iliac spine and the umbilicus. Its surface was red and granular, but there was no discharge, although yellowish scales of necrosed epidermis appeared between the granular nodules. Both mammæ were indurated and involved with the neoplasm. Similar nodules were found in the skin over each fourth costal cartilage, and gave the impression of a circular outbreak involving the abdominal wall principally, but also the lower zone of the thorax, but to a lessened degree. Smaller growths were found over the front of the upper chest. The inguinal and axillary lymph glands were indurated and matted together. Those of

the neck were unaffected. The skin was fully movable over each tumor and was uninvolved over the smaller ones. Similar tumors were also found on the back, especially over the left scapula. All these growths appeared within a period of six months. Microscopic examination showed these tumors to be small round-celled sarcomata. The patient died seven months after the first signs of the disease were noticed. No autopsy was allowed.

The Practitioner, London.

July.

13 History of Syphilis in France Since Ricord. Paul Gaston.
14 *Mercurial Injections in Treatment of Syphilis. Louis Wickham.
15 On the Treatment of Syphilis in Wiesbaden. Karl Touton.
16 The Treatment of Syphilis at Aix-La-Chadelle. Anton Levin.
17 *The Zittmann Treatment of Tertiary Syphilis. Alfred Cooper.
18 Syphilis Disease of the Brain. F. W. Mott.
19 *Serum Treatment in Syphilis. J. Ernest Lane.
20 Syphilis in Egypt. Frank C. Madden.
21 Syphilis in Children. George F. Still.
22 The Ocular Manifestations in Syphilis and Their Treatment. Walter H. Jessop.
23 Syphilis and its Treatment in the Upper Air Passages. St. Clair Thomson.

14. **Mercurial Injections in Syphilis.**—Wickham says that the hypodermic method has the great advantage of sparing the stomach; it favors the more direct penetration of the mercury into the blood stream, a more complete utilization of the dose administered, and permits of exact dosage. Before undertaking the treatment, it is well to examine the urine with reference to the condition of the kidneys, and to insist that the teeth be thoroughly overhauled by a dentist. If the state of the kidneys is carefully watched and the cleanliness of the mouth maintained, large doses of mercury can be taken without inconvenience. The initial dose should be small, and then raised gradually, but persistently, as long as no reaction is produced. The surgeon should inform himself of the exact mercury content of the salt he elects to use. It is well to restrict one's medical armament so that by employing only a small number of preparations we may become thoroughly familiar with the mode of using them. It is best to raise the dosage to a considerable amount rather than to use a moderate average dose, which may prove quite insufficient in particular instances. It must be remembered that an attack of syphilis which at first appears benign may develop into a grave case. In cases of gravity it is natural to employ large doses; but every case must be looked on as potentially grave and treated as such. Along with the treatment by injections all collateral remedial measures must be carried out, such as local dressings and tonics; these measures are of the greatest importance and may in some cases assume a dominant position. In cases where the weakness of the patient is marked, injections of mercurial salts incorporated with large doses of physiologic serum are excellent, although the injections of the serum in large quantities apart from the daily injections of soluble salts of mercury are preferable. The best site for the injection is the buttock, at the point of intersection of two lines, one horizontal line passing through the junction of the upper quarter with the lower three-quarters of the buttock, the other a vertical line through the junction of the internal third with the external two-thirds of the region. The injections can be made in an area having a radius of 2 cm., the point of intersection of the two lines being its center. The injections may be either superficial, or they may be deep: because of the irritation produced by salts of mercury, the injections are almost always intramuscular. In thin subjects, in whom gluteal intramuscular injections are not well borne, and in whom it is necessary to attack the disease vigorously, the intravenous route may be chosen. The injections may be given at the bend of the elbow into the cephalic or basilic vein on either side. The usual antiseptic precautions must be observed. The salt used is a cyanid, the largest dose hitherto employed being 0.01 gram daily. The author also discusses the instrumentation, the different mercurial solutions, preparations of insoluble salts, and gives directions for treatment and the choice of salt to be used.

17. **Zittmann Treatment of Tertiary Syphilis.**—Cases are occasionally met with in which iodid or mercury not only prove ineffectual in arresting the progress of the disease, but actually aggravate the symptoms and hasten the destruction of tissue. It is in such cases as these, says Cooper, that the Zittmann treatment proves most effectual. Under it healing occurs rapidly, and the symptoms disappear quickly. A fortnight's treatment with this remedy will arrest the disease and will cause rapid healing and cicatrization of the lesions. The principle of the treatment consists in eliminating the poison from the system by sweating and purgation. The patient is kept in a room the temperature of which is maintained at 80 F. The evening before commencing the treatment two of the following pills are administered:

℞. Hydrarg. chloridi mitis . . . . . gr. ii | 12
Ext. colocynthidis . . . . . gr. v | 30
Ext. hyoscyami . . . . . gr. ii | 12

The diet is regulated, and for the first four days the patient drinks half a pint of the following decoction, as hot as possible, at 9, 10, and 11 a. m., and 12 m.

DECOCTION I.

℞. Rad. sarsæ contus. iv
Sem. anisi contus.
Sem fœnieuli contus, āā . . . . . 3viiss | 31
Fol. sennæ . . . . . ℥i | 30
Rad. glycyrrh. contus. iv
Add: in a linen bag:
Sacchar. alb.
Alum. sulph.
Hydrarg. chloridi mitis, āā . . . . . 3iss | 6
Hydrarg. bisulph rub. . . . . ℈i | 1
Aquæ . . . . . Cong. iii | 12 liters.

Boil gently down to 1 gallon, strain, and put into four 40-ounce bottles.

On the same days, at 3, 4, 5 and 6 p. m., half of the following decoction, which is taken cold:

DECOCTION II.

To the dregs from No. 1 decoction add:
Rad. sarsæ contus. . . . . ℥ii | 60
Cort. limonis contus.
Sem. cardamon contus
Rad. glycyrrh. contus., āā . . . . . 3i | 4
Aquæ . . . . . Cong. iii | 12 liters.

Boil gently down to 1 gallon and put into four 40-ounce bottles.

The patient is kept in bed except for an hour every evening, when he may sit up. On the fifth day he is given a hot bath and allowed to get up. In the evening two pills are administered, the patient starting the decoctions again on the next day as before. This treatment goes on in the same way until the fifteenth day, when it is discontinued. The author has used it with great success in all the tertiary lesions of syphilis, as well as in many skin diseases and in rheumatic and gouty affections.

19. **Serum Treatment in Syphilis.**—The results of this treatment, says Lane, have not been sufficiently favorable to recommend it as a routine therapeutic measure. The majority of cases treated with serum showed some improvement in the general health and a more rapid healing of the syphilitic ulcers, especially when other anti-syphilitic treatment was used concurrently. Nevertheless, the treatment does not appear to modify the course of the disease or to diminish the intensity of the later manifestations.

Australasian Medical Gazette, Sydney.

June 20.

24 An Introduction to Modern Theories of Immunity. D. A. Welsh.
25 Cerebral Hydatid; Operation; Recovery. J. C. Vercow and B. Poulton.
26 Right Central Hemianopsia with Word Blindness. J. L. Gibson.
27 Peritonitis or Ileus. Charles MacLaurin.
28 Conservatism in Renal Surgery. H. C. Hinder.
29 *A Case of Unilateral Gigantism. C. Reissmann.
30 *Ethyl Chlorid as a General Anesthetic. St. John Dansey.

29. **Unilateral Gigantism.**—Reissmann reports the subsequent history of a case of unilateral gigantism which came under his observation in September, 1902, and was reported at the time. The patient, a child 26 months old, still exhibits right-sided gigantism, the cheek, arm, forearm, and leg and

foot on the right side are larger than the corresponding parts on the left side, but not as much as they were 20 months ago. The giant side has not grown proportionately to the sound side, although it is stronger. The head is large for a child of its age, but the left side of the cranium, in the parietal and occipital regions, is larger than the right. The child speaks well, is intelligent, active and strong, but irritable. The peculiar interest in this case lies in the association of left cranial enlargement with complete right-sided gigantism. No similar case has been reported. The author suggests that some part of the central nervous system (? the left parietal cortex) is primarily at fault. It is a noteworthy fact that none of the 11 reported cases of gigantism were observed until some time after birth. In the case in question nothing was noted amiss with the child until it was some weeks old, from which one may conclude that the overgrowth of tissues did not commence until after the nervous system has established what the author terms trophic control over the peripheral tissues. If the condition of gigantism is due to an abnormality of the developing mesoblasts, as has been suggested, it is remarkable that not one of the 11 recorded cases were noticed at birth. Reissmann believes that there is sufficient evidence to warrant a strong suspicion that the origin of this rare condition is a pathological activity of certain nervous structures which excites an abnormal growth in the parts they control. In the case in hand it seems probable that the nervous structures primarily affected are those which have some influence on the growth of the right side of the body, namely, the cortical cells in the parietal region of the left side of the brain.

30. **Ethyl Chlorid as a General Anesthetic.**—Dansey prefers ethyl chlorid to nitrous oxid gas because it is quicker in the initiation of anesthesia; there is none of that disturbing duskiness which is more the rule than the exception with the administration of gas; it gives a much longer narcosis; the apparatus necessary is more easily portable and the ethyl chlorid is cheaper; it is not unpleasant to the patient; the recovery from narcosis is rapid and there are no subsequent ill-effects; ethyl chlorid is stimulating to the circulatory and respiratory centers, rather than depressing. He has given ethyl chlorid in over 60 cases for removal of adenoids, opening abscesses, teeth extractions, exploratory punctures, etc. He uses an ordinary Clover's ether inhaler, the ebony plug at the side being replaced by one with a small hole eccentrically placed downward, into which fits a small conical peg. The usual rubber bag is used or a bag made of fine silk lightly wrung out of water. To fill the inhaler the indicator is turned to zero and the small peg removed; through this hole about 4 c.c. of ethyl chlorid are sprayed into the ether reservoir. The patient is told to take a deep breath and the mask is fitted to the face in the usual way. At first the pulse is slightly slowed, but it soon regains its former rate; the color is good right up to deep narcosis; spasm and excitement are very rare. When the pupil is well dilated and the conjunctival reflex has disappeared the patient is anesthetized sufficiently. In anesthetizing with ethyl chlorid the chief point to bear in mind is the very rapid transit through the second and third stages of anesthesia. He also uses ethyl chlorid to initiate the narcosis of ether.

Bulletin de l'Académie de Médecine, Paris.

31 (LXVIII, No. 26.) *Thérapeutique et prophylaxie anticancéreuse dans les campagnes (in the country). Triboulet.
32 *Cas d'épithélioma de la langue traités par la radiothérapie. Bisserié.
33 *Le diabète pancréatique, ses lesions, sa nature. E. Lancereaux.
34 *Report from Hyères Children's Sanatorium.
35 (No. 27.) *L'analgésie locale par la stovaine P. Reclus.
36 *Le traitement des anévrismes des gros vaisseaux par les injections de solutions chloruro-sodiques de gélatine. Lancereaux.
37 *L'étiologie de l'appendicite, grippe et alimentation carnée (meat diet). J. Lucas-Championnière.
38 Cas d'épithélioma cutané de la region temporo-frontale, guéri par application des rayons X. C. Monod.

31. **Anti-Cancer Campaign in the Country.**—Triboulet urges the installment of Röntgen apparatus in small towns for free, or nearly free, treatment of the poor in the outlying farm district. In certain of the French provinces the number of cases of cutaneous cancer is very large—no village is without a few—and they could so easily be cured under Röntgen treatment if it were only accessible at moderate cost.

32. **Cure of Tongue Lesions by Radiotherapy.**—Bisserié relates that two rebellious cases of epithelioma of the tongue were completely cured by the Röntgen rays in less than two months, one with four exposures, the other with three. Three months have since elapsed without recurrence and the lesions are apparently cured. Another patient who had suffered for eight years from fungoid mycosis was practically cured by a few exposures, as also others with leucoplasia of the tongue.

33. **Pancreatic Diabetes, Its Lesions and Nature.**—Lancereaux describes 4 cases of the type he calls "thin diabetes." Large amounts of sugar were eliminated, 500 gm. in the twenty-four hours in one case with 5 liters of urine; about 90 gm. to the liter in the second, with 12 to 15 liters per day; in the third, 750 to 1,100 gm. sugar in 6 to 10 liters, and in the fourth, with a maximum of 550 gm. sugar in about 5,500 c.c. of urine. All the patients were extremely emaciated and they wasted away in progressive debility to death in coma after two to several years. Diabetic symptoms, polydipsia, polyuria, polyphagia, etc., the discoloration of the lips, dryness of the skin and weakness were common to all the cases, and at the necropsy all the islands of Langerhans were found completely destroyed. The acini were affected in some parts, not in all, but the constancy of the lesions of the islands of Langerhans confirms the connection between them and the disease. It is possible that some direct or reflex nervous inhibition from these islands of Langerhans may be the cause of the other types of diabetes, the nervous and arthritic types. In all these conditions the diabetes is the symptomatic expression of some functional or material disorder of the nervous system or of some alteration in the pancreas of variable origin. Diabetes should, therefore, be regarded as a mere symptomatic expression of the more or less advanced degree of annihilation of a special organ.

34. **Notes from a Children's Sanatorium.**—Vidal has been collecting data in addition to his own experience, which show that girls are much more subject to tuberculosis than boys, and also to all respiratory affections. On the other hand, he noted that boys were more subject to parasitic scalp affections than girls. A number of local epidemics of favus, alopecia areata and tinea circinata have occurred among the boys, but not among the girls, and the epidemics could not be arrested until the hair of the boys was allowed to grow long. Evidently long hair protects against these affections, and possibly, also, pomades applied to the hair.

35. **New Anesthetic: Stovaine.**—Reclus has been testing a new analgesic made by synthesis by a French chemist, Fourneau, and states that now, for the first time, we have in our possession a substance fully the equal of cocain, while only half as toxic and very much less expensive. It exerts a specific tonic action on the myocardium. Billon, Pouchet and others have also been testing it on animals and in the clinic, and emphasize in particular its special tonic action on the heart. Stovaine is the hydrochlorate of benzoic ether of dimethylamino-propanol, and is not a general anesthetic. Not a trace of by-effects was observed or elicited by questioning in the clinical cases in which it has been used for local analgesia, epidural injections, etc.

36. **Gelatin Treatment of Aneurisms.**—Lancereaux was the originator of this method of treating aneurisms, and here reports his experiences during the years he has been using it. Gelatin injected into the buttocks is carried into the blood, and wherever the current is sluggish and there is a depression, an eddy, in the channel, fibrin is deposited. This ensures clot formation in the depths of the aneurism, exactly where it is needed. In the thousands of injections made in his service there has not been a single mishap. If any have been observed by others they are due exclusively to impure material or defective sterilization. He relates the clinical history of 8 cases of large aneurisms of the aorta treated in this way; 4 of the patients are in good health to-day. All pains ceased after the first injections, and the tumor subsided. The aneurism was so large in 2 instances that a fatal result was inevitable—

the skin mortified from the pressure of the tumor—but the gelatin relieved the patients and the clots in the pocket prevented rupture, the final hemorrhage being merely an oozing instead of sudden gush of blood. Two patients succumbed to sudden syncope before the benefits of the gelatin treatment were apparent. The 4 others have been relieved of all their pains and discomfort, and the tumor has vanished. No other method of treatment can show such good results in 50 per cent. of the cases. He used a solution of 7 gm. of sodium chlorid and 25 gm. of gelatin, with water to make 1,000 gm. The formula for a single injection is generally 5 gm. gelatin in 250 c.c. of a 7 per 1,000 salt solution. He injects 200 gm. every three or four days. (At first he made the injections only once a week, but found that the intervals could be safely shortened.) Occasionally the injection caused a slight febrile reaction, or a little inflammation at the site, but these accidents were always briefly transient. The injected fluid is completely absorbed in less than twenty-four hours. He sterilizes the gelatin under pressure at 105 to 115 C., the latter temperature being the one accepted as preferable by the Académie.

37. **Etiology of Appendicitis.**—Lucas-Championnière denies that appendicitis has long existed and merely passed unrecognized. He attributes it to the epidemic of grip, affecting persons who habitually eat much meat. He regards appendicitis as a new disease, and advocates restriction of the intake of meat as important in prophylaxis, as also periodical purges. Purgation is the great preventive of all alimentary infections, and it should rank as the chief means at our disposal to ward off appendicitis. Occasional fasting from meat is an excellent measure, especially for those who have suffered from grip. He groups a large number of facts collected from various sources to sustain these views. Among them we note the first appearance of appendicitis in certain localities, always after an epidemic of grip, the latter being followed by numerous cases of the previously unknown appendicitis. He cites letters from physicians practicing in tropical regions, all testifying to the absence of appendicitis among the vegetarian natives, and its occurrence among the meat-eaters. In Roumania, whenever there is an epidemic or a sickly period at any remote point in the country, a detachment of physicians and nurses is sent from the hospital of the capital and a temporary hospital is set up, a sort of annex to the large central hospital at Bucharest, and under the control of its officers. Professor Stoicesco is at the head of this unique service, and he states that in the rural districts, where little or no meat is eaten, no cases of appendicitis are encountered. Out of 108,651 patients treated in these rural hospitals, 1898-1902, only 5 cases of appendicitis were observed, or once in 22,000 patients. In the hospitals of the city of Bucharest, during the same period, 221 cases of appendicitis were observed in the 51,817 patients, a proportion of once in 234 patients. La grippe has swept over the country as over the towns, but the population in the country is vegetarian, while in the towns meat is eaten. In the French, British and other colonies and armies the same observation is made again and again, the absence of appendicitis among the native non-meat-eating population and its prevalence among the meat-eaters. In the French prisons meat is allowed only once or twice a week, and no eggs. In the asylums, also, the menu is essentially vegetarian. None of the physicians interrogated knew of a single case of appendicitis in some of these institutions and in the others only 3 cases in many years, one of these a recurrence in a new inmate. Investigation of the religious orders showed a remarkable absence of appendicitis among those whose vows compel abstention from meat or frequent fasting, while in others, where much meat is used, appendicitis is remarkably frequent.

Semaine Médicale, Paris.

39 (XXIV, No. 28.) *La dénutrition par persistance de la sécrétion lactée. L. Cheinisse.
40 *L'esprit d'asepsie dans le traitement des plaies (spirit of asepsis in treatment of wounds). F. Lejars.
41 De la délimitation abdominale du foie et de la rate, au cas d'ascite (outline of liver and spleen). L. E. Bertrand.
42 Traitement des bourdonnements de l'oreille par l'effluve de haute fréquence (electric treatment of tinnitus). Marqués. Abstract.
43 (No. 29.) *Recherches sur les localisations motrices spinales. G. Marinesco (Bucharest).
44 Importance of Daily Weighing of Patients with Anasarca. J. Courmont. Abstract.

39. **Debility from Persisting Lacteal Secretion.**—Cheinisse warns that it is possible for the secretion of milk to persist indefinitely in a more or less latent stage and seriously compromise the general health. He has observed a case of this kind in which there was pronounced debility and anemia in a young, previously healthy primipara, who had weaned her child more than two years before. All the organs were found sound, but in using the stethoscope a drop of milk escaped from the nipple, and the patient casually remarked that she "still had milk." The menses were regular, and analysis of the milk showed that it was not due to a new pregnancy. Antipyrin was administered to suppress the milk secretion, about 1.5 gm. a day, fractioned. By the end of a few days it was impossible to express any milk from the breasts, and without further medication the patient rapidly regained her usual health. Beltz reported a similar case in the *Bull. de la Soc. Méd.* of Rheims in 1876. In his patient the milk secretion persisted for more than four years, although milk escaped only under pressure, except during the menstrual period, when there was always an increase. The patient complained of pains in the stomach and kidneys, debility and lassitude, and there was considerable anemia. Whenever a woman is anemic and debilitated without apparent cause after weaning a child the possibility of a latent lacteal secretion should be borne in mind.

40. **The Spirit of Asepsis.**—The requirements of true asepsis in the treatment of wounds are plenty of good, soft, porous, absorbent gauze, thoroughly sterilized, and applied to the wound with a "muff" around it of absorbent cotton. These supply the conditions for perfect physiologic repair and normal defense of the wound process. Wet dressings, impermeable coverings, antiseptics, etc., are merely breeding places for germs or devitalize the tissues, enfeebling their resisting powers, while not materially enfeebling the germs. In infected wounds it may be necessary to apply hydrogen dioxid or hot saline solution to the depths of the wound, but above them the dressing should be as above. All moist, airtight methods of treating wounds should be totally abandoned.

43. **Spinal Motor Localizations.**—Marinesco has been conducting research for years on the motor localizations in the spinal cord. His work was done mostly on dogs, studying the reactions at a distance after section of nerve trunks or muscle nerves, or resection of muscles after severing the nerve roots. He summarizes his conclusions in this article, which is accompanied by 23 illustrations. He has found that the muscles which possess a common function are represented by groups of nerve cells arranged in relation to each other to correspond with the anatomic arrangement of their corresponding muscles. By this combination Nature economizes material while ensuring rapid and useful functioning. This explains the piling up of the cells in certain parts.

Archiv f. Gynäkologie, Berlin.

Last indexed XLII, page 132.

45 (LXXI, No. 3.) Study of Blood Supply of Uterus, etc., during Parturition. O. Schaeffer.—Ueber die Blutversorgung der Gebärmutter vor und während des Geburtsbeginnes, sowie über die Aenderungen der allgemeinen peripheren Blutmischung unter der Wehenthätigkeit.
46 Ueber die Anwendung von Bossi's Dilatator. C. Hahl (Helsingfors).
47 Tarnier's "Ecarteur utérin" und seine Anwendung. O. Heikel.
48 Causes of Various Presentations. F. Schatz.—Die Ursachen der Kindeslagen. (Continued.)
49 Zur Anatomie der Tubar-Graviditat. E. Runge.
50 (LXXII.) *Festschrift.
51 (LXXIII, No. 1.) Die Beschaffenheit des Mesometrium bei Uterus-Carcinom. A. Theilhaber and Hollinger.
52 Erfahrungen über Tubar-Gravidität (Bericht über 100 Fälle). L. Zuntz (Berlin).
53 *Die Lymph-Organe der weiblichen Genitalien und ihre Veränderungen bei malignen Erkrankungen des Uterus. P. Kroemer (Giessen).
54 Die Alexander-Adams'sche Operation und ihre Dauer-Resultate. K. Reifferscheid (Bonn).
55 *Remote Results of Delivery by Instrumental Dilatation. H. v. Bardeleben (Gusserow's clinic, Berlin).—Spätfolgen des Entbindungsverfahrens mit schneller mechanisch instrumenteller Muttermundserweiterung.

50. **Festschrift of Leipsic Obstetric Society.**—The Leipsic Gesellschaft f. Geburtshilfe recently celebrated its twenty-fifth anniversary with much ceremony, Paul Zweifel presiding. A Festschrift was published in honor of the occasion, a bulky volume of 578 pages, containing 22 articles, and printed as Vol. lxxii of the *Archiv f. Gynäkologie*, Berlin.

53. **Lymph System in Uterine Cancer.**—This monograph by Kroemer is very extensive and copiously illustrated with 37 figures and 6 plates, and a bibliography of 251 references, carefully sifted. He proclaims that investigation of the glands should be the first step in surgical intervention. Three requirements are essential: 1, Exploratory excision to determine the indications for operating; 2, that patients treated by radical operation in whom the glands are found microscopically degenerated should be classed apart from others; 3, the material coming to the dissecting table should be utilized for microscopic examination and comparison with the clinical records.

55. **Remote Results of Instrumental Dilatation.**—Bardeleben's experience with instrumental dilatation to facilitate delivery has been very unfavorable. In 5 out of the 6 cases there have been consecutive disturbing parametritic indurations and cicatrices, or recurring inflammation in the parts. Four out of the total of 10 patients thus treated succumbed to pre-existing complications.

Monatshefte f. praktische Dermatologie (Unna's), Hamburg.

Last indexed page 180.

56 (XXXVII. No. 8.) *Connection of Human Epidermia Cells with Each Other and with the Corium. L. Merk.—Die Verbindung menschlicher Epidermiszellen unter sich und mit dem Corium.

57 (No. 9.) Ueber einige Fälle von Neurodermitis chronica linearis. V. Mibelli (Parma).

58 Mode of Action of Urotropin. Köhler (Leipsic).—Weitere Beiträge über die Wirkungsweise des Hexamethylentetramin (Urotropin).

59 *What Do We Learn from the History of Hydriatic Treatment of Syphilis? J. Sadger.—Was lehrt uns die Geschichte der Syphilis-Hydriatik? (Commenced in No. 7.)

60 Chemistry of Elastin and of Elastin Staining. A. Pappenheim.—Ueber den Chemismus der Elastiufärbung und des Elastins, sowie das spezifische Prinzip der Elastinfarbstoffe. (Commenced in No. 7.)

61 (No. 10.) Benign Sarcoid Formations on the Skin. P. A. Pawloff (Moscow).—Zur Frage der sogen. gutartigen sarkoiden Bildungen der Haut (Boeck).

62 Treatment of Gonorrhea. M. Porosz (Budapest).—Die Behandlung des Trippers. Bemerkungen über Acidum nitricum und Cruriu.

63 *Innerliche Darreichung von Ichthyol in 3 Fällen von Mykosis fungoides und hematologische Untersuchung 2 dieser Fällen um die Zeit ihres Beginns. M. Hodara.

56. **Connection of Epidermis Cells with Each Other and with the Corium.**—Merk presents evidence to prove that the epidermis cells are connected with each other and with the corium merely by juxtaposition and a mucilaginous vehicle. They can be dissolved apart the same as a flake of sputum from a china surface.

59. **What Do We Learn from the History of Hydriatic Treatment of Syphilis?**—Sadger summarizes his conclusions in the statements that there are undoubtedly cases which have been cured by the combination of hydriatic procedures and careful dieting, but that years are required to accomplish this result. It is still an open question whether it is possible for all cases. The duration of treatment can be much shortened and its success, perhaps, first rendered possible by combining the hydriatic course with iodid or mercury and a careful diet. This combination has a number of advantages over either alone. The water treatment relieves intolerance to the drugs, and may possibly first render them effective. The dosage may be reduced, as the hydriatic treatment enhances their efficacy and makes the skin more receptive. The water course expels the mercury from the system as soon as it has accomplished its purpose, and hardens the patient to climatic changes. The general health also benefits materially; the various phases of the syphilis are shortened, and the subjective prodrome banished. The indurations are rapidly and permanently dispelled. The special domain of hydriatic procedures in syphilis is in cases of severe mercurial intoxication.

63. **Ichthyol Internally in Mycosis Fungoides.**—In a very severe, typical case of mycosis fungoides, Hodara administered ichthyol internally—.5 to 1.5 gm. a day—for two years, and then only during the summer for three more years. Marked improvement was evident from the first, and the patient is now practically cured. She was a woman of 60, who had suffered from the affection for six years previous to commencing taking the capsules of ichthyol. Similar benefit was attained in another case, and a third patient was also practically cured, but arsenic was given at the same time in this case. The diagnosis of mycosis fungoides was confirmed by the finding of a mononuclear leucocytosis. The ichthyol promptly relieved the itching in every instance.

Münchener medicinische Wochenschrift.

64 (LI. No. 25.) Chemical Processes Involved in Action of Light on Fluorescent Substances, and the Import of These Processes for the Action of Toxins. W. Straub (Leipsic).—Ueber chemische Vorgänge bei der Lawirkung von Licht auf fluoreszierende Substanzen (Eosin und Chinin), und die Bedeutung dieser Vorgänge für die Giftwirkung.

65 Action of Photodynamic Substances on Bacteria. A. Jodlbauer and H. v. Tappeiner.—Ueber die Wirkung photodynamischer (fluoreszierender) Stoffe auf Bakterien.

66 *Behavior of Neutrophile Leucocytes in Infectious Diseases. J. Arneth.—Zum Verhalten der neutrophilen Leukozyten bei Infektionskrankheiten.

67 Relations Between Chemical Constitution and Hypnotic Action. A New Series of Hypnotics. G. Fuchs and E. Schultze.—Beziehungen zwischen chem. Konstitution und hypnotischer Wirkung. Eine neue Reihe von Schlafmittel.

68 Zur Kenntnis des Herpes Zoster bei kruppöser Pneumonie Riehl.

69 The Gaertner Test for Determining Pressure in Right Auricle. Peters (Erb's clinic, Heidelberg).—Ueber die neue klinische Untersuchungsmethode von Prof. G. zur Messung des Druckes im r. Vorhof.

70 Die Orthodiagraphie und Perkussion des Herzens (of heart). Schütz (Freiburg).

71 Suprapubic Cystotomy for Prostatectomy. J. P. zum Busch (London).—Die Entfernung der vergrösserten Prostata vom Blasenschnitt aus.

66. **Behavior of Leucocytes in Infectious Diseases.**—Arneth reiterates his previous announcements that the methods of research on the blood count at present in vogue are absolutely inadequate. He has established that the neutrophile leucocytes, instead of belonging all to one class, must be further classified according as they possess one or more nuclei. He has found that these subclasses predominate in a characteristic manner in various infectious diseases, as is shown by 276 tables which he has compiled, each representing the examination of 100 neutrophile leucocytes. In a case of miliary tuberculosis he found that nearly all the neutrophiles belonged to the classes with one or two nuclei, and many of these nuclei showed morphologic changes. During the entire course of the disease these findings were obtained every time, although the number of leucocytes was normal. On the other hand, in a fatal case of traumatic tetanus the neutrophile findings corresponded to the normal average in every particular, even after treatment with Tizzoni's antitetanus serum. In cases of varicella, measles, mumps, erythema nodosum, etc., the findings showed that these infections are liable to cause severe injury of the neutrophile blood picture, although the total number of neutrophiles may correspond to the normal figure. In classifying the neutrophiles he arranges his tables in 5 groups: Group 1 (neutrophile leucocytes with one nucleus), with the subdivisions of, M (myelocytes), W (cells with nuclei only slightly hollowed out), and T (cells with nuclei much hollowed out). Group 2, neutrophiles with 2 nuclei, has three subdivisions, 2K (nucleus in 2 parts), and 2S (2 loop-like parts), and 1K, 1S. Group 3 has four subdivisions, Group 4 has five, as also Group 5. The average normal neutrophile findings determined by research on 15 healthy subjects is, in Group 1, M=0; W=.2; T=5. Group 2 is 2K=.27; 2S=23.46; 1K, 1S=11.62. Group 3 has 3K=2.27; 3S=5.6; 2K, 1S=16.66; 2S, 1K=16.4. Group 4 is, 4K=3.8; 4S=.07; 3K, 1S=6.4; 3S, 1K=1.6, and 2K, 2S=4.73. Group 5 is, 5K=1; 4K, 1S=.4; 3K, 2S=.4; 4K, 2S=.07, and 3K, 3S=.07. The average in round numbers is thus 5 per cent. in Group 1, 35 per cent. in Group 2, 41 per cent. in Group 3, 17 per cent. in Group 4, and 2 per cent. in Group 5. The article issues from von Leube's clinic at Würzburg. It is supplementary to a monograph which Arneth has recently published in book form.

Wiener klinische Rundschau, Vienna.

Last indexed XLII, page 1195.

72 (XVIII. No. 15.) *Relations Between Appetite and Secretion of Gastric Juice. A. Melsel.—Ueber die Beziehungen zwischen Appetit und Magensaftsekretion. (Commenced in No. 14.)

73 Tabes und Syphilis, mit bes. Berücksichtigung der Verhältnisse von Bosnien und Herzegovina. C. Hodlmöser. (Commenced in No. 13.)
74 (No. 16.) Malformations of Female Genitalia. L. Stolper. —Ueber Miszbildungen der weiblichen Geschlechtsorgane. (Commenced in No. 15.)
75 *Beitrag zur diagnose der Arteriosklerose des Zentral-Nerven-Systems. J. Hnatek (Prague). (Commenced in No. 11.)
76 (No. 17.) *Influence of Sewing Machine Work on Health. Nussbaum.—Ueber den Einfluss der Nähmaschienenarbeit auf das körperliche Befinden.
77 (No. 18.) *Failures in Treatment of Gonorrhea. E. Finger. Ueber Misserfolge bei der Gonorrhoebehandlung. (Commenced in No. 17.)
78 (No. 19.) *Neuere Beiträge zur Behandlung der Cholelithiasis mit Chologen. J. Winterberg.
79 (No. 20.) Zur Therapie des Keratokonus. Elschnig.
80 (No. 22.) Various Structure of Cell Nucleus in Higher and Lower Organisms. L. Felnberg (Berlin). (Commenced in No. 16.)
81 (No. 23.) *Causes of Gout. Falkenstein.—Ursachen der Gicht.
82 Quinin as Oxytocic. A. Wiesner.—Zur Kenntnis der Wirksamkeit des Chinins als Weheumittel. Geburt von Zwillingen mit Pause von 24 Stunden. (Commenced in No. 22.)
83 Favorable Effects of Antitussin in Whooping Cough. N. Swoboda.—Ueber die Behandlung des Keuchhustens mit Antitussin.
84 (No. 24.) *Results of Immunization with Separate Elements of Blood. A. Klein (Vienna).—Ueber Resultate von Immunisierungen mit getrennten Bestandteilen des Blutes.
85 *Color Hearing. H. Chalupecky (Prague).
86 *Zur Lues des Nerven-Systems. A. Buraczynski. (Commenced in No. 18.)
87 (No. 25.) Die Aetiologie der Lungen-Tuberkulose. von Weismayr.
88 Fracture of Clavicle in Normal Birth. Wohl.—Schlüsselbeinfraktur bei normaler Geburt.
89 Ueber die Heilwirkung der Akrato-Thermen. R. Beck.
90 Helmitol, Hetralin und Acidum nitricum bei Gonorrhoe und Cystitis. J. Bindermann.

72. **Appetite and Gastric Secretion.**—Meisl remarks that the study of metabolism is incomplete unless we take the appetite into account at the same time. It is a hitherto neglected but most important factor in the metabolism. He regards it as an impulse from the cortex, inciting various reflex acts as it passes through the sensory centers, which are of the greatest importance for the utilization of the food. It stimulates the secretion of saliva long before the influence of the ingredients of the food can be felt in this line, prolonging and enhancing the enjoyment of the food and getting the food into the best possible condition for its utilization in the stomach. The appetite is the inciter of the "appetite gastric juice," without which the digestion of bread and albumin in the stomach is entirely impossible, and the digestion of milk and meat is a much slower and weaker process. The appetite further increases the secretion in the pancreas and arrests the inhibitions which are liable to hinder the functioning of the pancreas. And, finally, the appetite leaves behind it an agreeable mood, in which the cortex functionates more perfectly, and any inhibiting influences which may have previously existed are suspended. The appetite is the highest phase of development of an instinct. If we obey its mandates it not only affords us enjoyment, but it has a vivifying and stimulating action on the functions of all the organs, especially those of the cortex. It is the highest mental evolution of the need of food, and is for the preservation of the individual what sexual love is for the preservation of the race.

75. **Diagnosis of Arteriosclerosis of Central Nervous System.** Hnatek describes 2 cases. In one, a patient with a suspicion of lues, but not the slightest indication that the brain was involved, was suddenly seized with headache, vomiting, vertigo and numerous subcutaneous hemorrhages. Two weeks later there was also a weakness in the feet and in the bladder functions, followed in a month with nystagmus, partial oculomotor paralysis, dysphagia, anarthria, glossoplegia, anesthesia of tongue, right facial paralysis and spasmus nictitans. There was no paralysis of the legs, but much weakness. Death occurred in the course of ten weeks. The patient was a woman of 38, with general lipomatosis, and the necropsy revealed general arteriosclerosis, most pronounced in the vessels of the base of the brain, with hypertrophy of left heart and dilatation of right ventricle. Among the more striking symptoms was the high blood pressure, the difference in the pulse between symmetrically located arteries, which amounted at times to ten beats, and the so-called stability of the pulse—that is, the lack of variation when the subject changed from the reclining to the upright position, or *vice versa*. In the other case described the symptoms pointed to a tumor in the brain, with general arteriosclerosis, but the necropsy revealed extensive arteriosclerosis of the vessels of the brain, with consecutive, recent foci of softening in the white substance and in the gray nuclei, with a tendency to cyst formation, malacia of the pons, hypertrophy of the left heart and acute hemorrhagic nephritis. The patient was a woman of 42. The incipient choked disc had been accepted as evidence of a tumor in the brain.

76. **The Sewing-Machine and Health.**—Nussbaum refers to statistics and his own experience to show that the position at the machine and the constant use of the legs are liable to cause congestion in the female genitalia and consequent inflammation. The menses are frequently very irregular, and abortions, inflammation of the adnexa and other gynecologic troubles are unusually prevalent in this class of working women. He advises that they should take especial pains to sit erect and breathe deep, frequently rising to change their occupation or to step out of doors or practice respiratory gymnastics. Good ventilation and illumination are particularly necessary for persons who have to use the sewing machine constantly.

77. **Failures in Treatment of Gonorrhea.**—Finger mentions instances in which the gonococci had retreated to the prostate, where they remained, few in numbers and scarcely at all virulent, not causing the bearer the slightest trouble or even suggesting its possibility. Marriage, however, was followed by infection of the wife. The posterior urethra and the prostate are the usual sources of late trouble, and neglect of this possible localization may entail the severest consequences.

78. **Treatment of Cholelithiasis with Chologen.**—Winterberg's experiences with Glaser's chologen were eminently favorable. He found it particularly effective in the cases of small calculi and also in certain gastric affections which simulated cholelithiasis, but vanished completely under the influence of chologen. Its most important use, he thinks, is in prophylaxis, and he witnessed fine results in warding off cholelithiasis in the predisposed by its use.

81. **Causes and Treatment of Gout.**—Falkenstein attributes gout to malfunction of the glands in the stomach which produce HCl. This results in defective digestion and defective metabolism in general, with the syndrome of gout as the final outcome. The therapeutic indications are to supply the missing hydrochloric acid. Treatment on this principle has been always well borne by his patients during the two and a quarter years since he made this discovery. The treatment prevents the formation of new deposits, and in time—by the improvement in the general health—it enables the organism to dispose of the old deposits. The subjects should not eat too much or too frequently, but otherwise may eat ordinary diet, avoiding indigestible articles, fat food, cheese, eggs and the internal organs of animals on account of their large proportion of nuclein. Sugar should also be strictly avoided. Persons with a tendency to gout should avoid sugar in any form, either in ice cream, cake, candy or in any article of food. With care in these respects, and constant taking of hydrochloric acid to supply the missing factor in digestion, the intervals between the attacks of gout become longer and longer, until finally the subjects find themselves entirely free and well.

84. **Results of Immunization with Separate Elements of Blood.**—Among the results reported we note that the tests demonstrated the non-identity of serum precipitin and erythro precipitin.

85. **Color Hearing.**—Chalupecky argues that the phenomenon of color hearing is merely a dual sensation, the result of exceptional sensitiveness on the part of the cortex—a slight exaggeration of the physiologic condition. It is akin to the cold shiver that runs down the back in connection with certain sensations—another dual perception.

86. **Syphilis of Nervous System.** Buraczynski's article is based on 20 cases. The age of the patients was between 19 and 30 in 11, between 30 and 40 in 7, and only 2 were over 40. In one case the infection seemed to have originated in the tonsil. In 16 cases there were other manifestations of syphilis, but 4

were apparently exempt. There were no neuropathic antecedents in any instance, and the heart and lungs were sound. In 13 of the cases the nervous symptoms appeared within a year; in 4 they were not manifest until the third, fourth, sixth or tenth year. Only 10 patients had received previous treatment, and it had been very inadequate in the majority. His experience shows that continuous, energetic specific treatment will accomplish a complete cure in time in the majority of cases. Some of the patients refused treatment, and he longs for obligatory measures for such cases. One case of endarteritis terminated fatally, as no treatment had been attempted, the syphilitic nature of the affection not having been recognized. In another case of ignored syphilis the first nervous symptoms were intense pains in the left foot. The sciatic was found sensitive its entire length; knee-jerk present, but weaker on the affected side. The pains subsided under potassium iodid, and vanished completely with inunctions. Four similar cases have recently been published; the nocturnal type of the pains was an aid in diagnosing. In another case facial paralysis was observed the second month after infection. It developed slowly and was accompanied by headache, worse at night; all the symptoms vanished under inunctions. The syphilitic nature of the paralysis in this, and a second similar case, was demonstrated by the presence of secondary symptoms and the lack of other causes, the youthful age of the patients and the brilliant results of specific medication.

Annali dell' Instituto Maragliano, Genoa.

91 (I, No. 1.) *Facts in Regard to Tuberculosis Demonstrated by Maragliano and His Pupils.—Fatti dimostrati dagli studi sulla tubercolosi dal Prof. Maragliano e dalla sua scuola.

92 Description of Maragliano Institute for Study of Tuberculosis and Infectious Diseases, Genoa, 1900.

93 *Sulla formazione di anticorpi specifici tubercolari in animali trattati con estratto acquoso di bacilli vivi. E. Marzagalli and F. Figari.

94 *Sopra un nuovo metodo per la sierodiagnosi della tubercolosi. E. Marzagalli.

95 *Contributo allo studio dell' immunita nella tubercolosi. F. Figari.

96 Di un estratto oleoso a freddo dei bacilli della tubercolosi e della sua azione (value of oil extract of tub. bacilli). M. Sciallero.

97 *I fenomeni di necrobiosi presentati dai bacilli tubercolori iniettati sotto la cute degli animali. C. P. Goggia.

98 Modificazione morfologiche del bacilli della tubercolosi in soggetti refrattari, immunizzati e curati col siero specifico antitubercolare. M. Sciallero.

91. **What the Maragliano School Has Accomplished.**—Professor Maragliano has commenced the publication, in a special *Annals*, of the work accomplished by him, or under his direction, in the line of the study of infectious diseases, tuberculosis in particular. The points already established are enumerated—fourteen in all. They all have been duly chronicled in THE JOURNAL. (See page 961 of the last volume.) The crowning demonstration is that of the possibility of curing tuberculosis in man by inducing a defensive process analogous to that which occurs in spontaneous recovery; also that the defensive materials (antitoxins and antibodies), administered by the alimentary canal, pass into the circulation and confer immunizing properties on the organism into which they have been introduced, rendering it refractory even to intravenous injection of virulent tubercle bacilli.

93. **Formation of Specific Antibodies in Animals Treated with Aqueous Extract of Live Tubercle Bacilli.**—This research was undertaken to see if it were possible to produce specific antibodies powerful enough completely to prevent the development of experimental tuberculosis. A large number of rabbits and guinea-pigs were the subjects, and the results showed that an agglutinating power of 1/2,000 had been conferred on the serum, and that the antibodies were capable of preventing the development and reproduction of tubercle bacilli both *in vitro* and in other animals.

94. **Improved Technic of Sero-Agglutination in Tuberculosis.**—Marzagalli rinses the tubercle bacilli in cold water until all the culture material is washed away. They are then triturated with distilled water and the emulsion is filtered through a Chamberland, after which the fluid is ready for the sero-agglutination test.

95. **Study of Immunization to Tuberculosis.**—Figari found that animals rendered passively immune to tuberculosis by serum from other animals treated with the aqueous extract of live bacilli were able to withstand otherwise fatal doses of human tuberculous material. On the other hand, animals rendered actively immune for a time proved in the end less resistant. He explains this contradiction by the fact that in passive immunization we introduce into the system defensive substances which, superposed on those already in the organism, confer sufficient immunity for purposes of resistance. But when we induce active immunity the formation of defensive substances is stimulated to such an extent that the elements of the tissues producing these defensive substances become exhausted by the extreme task imposed on them and are rendered more susceptible than is the case when these elements are not stimulated to such an extent.

97. **Morphologic Changes in Tubercle Bacilli.**—The conclusions of Goggia's research may be summarized in the statement that the predominance of aberrant and necrobiotic forms of tubercle bacilli in the sputa is an encouraging sign, as it indicates that the organism is working vigorously in its own defense.

Riforma Medica, Palermo and Naples.

Last indexed page 537.

99 (XX, No. 18.) Sull azione protettiva del pus contro le infezioni mortali. R. Binaghi (Cagliari).

100 Della percussione del torace ascoltata alla bocca (percussion of thorax auscultated at mouth). T. Prodi.

101 Bacilli simil-tubercolari nel secreto delle otiti medie puruleute croniche. A. de Simoni.

102 2 Aneurismi aortici migliorati colle inlezioni di gelatina. E. de Silvestri.

103 Sclerosi a placche familiare. R. Massalongo. Abstract.

104 (No. 19.) Intorno ad uno speciale tipo di infezione enterica da bacterium coli. F. Sicurani (Siena).

105 *Contributo alla cura degli ascessi polmonari ed alla esplorazione del polmoni. G. Cavazzani (Venice).

106 Rupture of Hydronephrosis Simulating Appendicitis. V. Gaudiani.—Rottura di una idronefrosi simulante appendicite.

107 (No. 20.) Contributo allo studio dell' epididimite blenorragica. F. Sprecher.

108 Caso di psicosi uremica con sintomi coreiformi. G Maggiotto.

109 Intorno alla quistione delle nefrolisine. A. Cecoui and F. Micheli. Abstract.

110 (No. 21.) Incision for Appendicitis Suspects. A. Signorelli.—Nel semplice sospetto di peritonite appendicolare si deve intervenire con laparotomia mediana o con il taglio obliquo laterale destro?

111 Contributo all' ernia dell'uretere. S. Rolando.

112 Congenital Anomaly of Heart in a Pregnant Woman. A. Ferraro.—Anomalia congenita di cuore in donna gravida. (Commenced in No. 20.)

113 Cancro primitivo della milza (of spleen). G Baccelli. Abstract.

114 (No. 22.) Su di una alterazione speciale necrotica delle cellule epatiche nell' infezione tubercolare. B. Pernice.

115 Study of Streptothrix. F. Sanfelice.—Tuberculosi e pseudo tuberculosi.

116 Sulla prezenza di blastomiceti nella tubercolosi vegetante del naso (of nose). A. De Simoni.

117 Sulle parotite pneumococcica. O. Pennato. One case.

118 (No. 23.) I corpi di Negri in rapporto all'etiologica e alla diagnosi della rabbia (Negri's bodies in rabies). L. d'Amato. Found constantly and exclusively in rabid animals.

119 Incipient Primary Adeno-carcinoma in Appendix, Causing Repeated Attacks of Appendicitis. F. Neri.—Caso d'incipiente adenocarcinoma primitivo, circonscritto alla mucosa e sottomucosa di un app., etc.

120 Bacilli simil-tubercolari nell' adito faringeo degl' individui sani. A. De Simoni.

121 Nuovo processo di gastroenterostomia. G. Masnata (Stradella). Abstract.

122 (No. 24.) Contributo all'istologia patologica ed alla patogenesi dei corpi liberi articolari (free bodies in joints). G. Lionti.

123 *Respirazione dissociata. P. Grocco (Florence).

105. **Technic of Exploration and Operation on the Lungs.**—Cavazzani, in June, 1901, operated on a patient on account of an abscess of the lungs, and has since had occasion for intervention on a dozen more. The results have been so gratifying that he recommends his technic for exploring the interior of the thorax without special apparatus and without fear of accidents. It is based on the assumption that pneumothorax may be induced without fear of serious results, and the pleural cavity can then be sutured air-tight, leaving two drains in it. The air in the cavity is then aspirated through the drains and the openings closed air-tight; or physiologic salt solution can be injected to displace the air, and the openings be then closed air-tight. As the fluid is gradually absorbed the lung slowly expands to its

former volume. By either means it is possible to explore and operate on the viscera inside the thorax without fear of complications from the pneumothorax. He describes the details of his 13 cases. In the first, he made a subperiosteal resection of the seventh rib, opening the pleura, incising the pleura and lung, evacuating an abscess the size of an orange, and tamponing. The cure was complete in three months. In his second case the abscess was small and at a depth of 7 cm. from the surface. He operated on the lungs of a child three times in one case, but the lesions were multiple and could not all be reached and the patient succumbed in time, as in another case of lobular pneumonia in a child. In this case he mentions the return of resonance as the air in the thorax was aspirated and the lung expanded after the operation. Case X was a woman of 27, presenting symptoms which had been variously treated as acute and chronic pneumonia. Examination revealed a gangrenous abscess at the base of the upper lobe. After resection of 9 cm. of the fifth rib the abscess was found at a depth of 3 cm. from the surface. The cavity was the size of two fists. It was tamponed and recovery was complete in three months. The results of his operative intervention demonstrate that the thorax can be entered at any point in its periphery, and can be explored without danger if the air that has entered is aspirated or displaced by a physiologic fluid. He adds further that direct intervention on the lungs is feasible and practicable, especially if the cavities left are filled with some harmless substance and the breach in the walls made as small as possible. All his patients recovered except the 2 children.

123. **Dissociated Respiration.**—Grocco studies the type of respiration in which the physiologic co-ordination between the movements of the diaphragm and those of the intercostal muscles is disturbed. It is observed in endocranial affections and also in typhoid, pneumonia, uremia, etc., that is, it is liable to occur whenever the medulla is injured by the action of toxins, congestions, asphyxia or infections. He noticed it also in 2 cases of neurotic respiratory spasm.

Vratchebnaya Gazeta, St. Petersburg.

Last indexed XLII, page 809.

124 (XI, Nos. 3-4.) Advantages of Braun's Adrenalin-Cocain Anesthesia. V. J. Geinatz.—Nabliudeniya nad adrenalin-kokainovoi anestesiei.

125 Obscure Points in Contemporaneous Knowledge of Syphilis. I. I. Herbsman.—Nyekotoriya temnlya storoni v sovremennom utchenii o syph.

126 *Unusual Forms of Anthrax in Man. E. I. Lintvareff.—Nyeskolko ryedkikh slutchaev sibirskoi yazvi u tchelovyeka.

127 (No. 6.) Importance of Anamnesis in Diagnosis of Abdominal Tumors. A. Novikoff.—Gdye iskat oporuikh punktov dlya diagnostiki opukholei brinshnoi polosti.

128 *Salicylates in Chorea Minor. M. A. Zausailoff.—O letchenii Vittovo piyaski salicilovim natrom.

129 (No. 7.) *Mosquitoes and Malaria. S. I. Zlatogoroff.—Po povodu moskitnoi teorii rasprostarneniya malarii.

130 To Reduce Infant Mortality. P. I. Fedoroff.—Borba s dyetskoi smertnostiu. (Concluded.)

131 (No. 8.) *Diphtheria puslyerodovoi matki (of puerperal uterus). M. P. Orbant.

132 *K kazuistikye ognestryelnikh ranenii zheludka (fire arm wound of stomach). A. S. Zholkoff. (Concluded.)

133 (No. 9.) *Mikrogastria. I. A. Bendersky.

134 *Myringotomiya kak sredstvo nlutchshainsbtchee slukb pri chron. otitis media. F. T. K. Stephanovski. (Concluded.)

135 Contagiousness of Leprosy. I. I. Hubert.—O zarazitelnosti prokazi.

126. **Unusual Forms of Anthrax in Man.**—Lintvareff reports 2 cases of anthrax of the lungs and digestive tract, mycosis pneumointestinalis, and 2 of malignant edema of the lids, with one of malignant edema with tetanus. A differential sign of anthrax of the digestive tract or lungs is the observation of numerous small, circumscribed patches of cutaneous edema. Anthrax bacilli can usually be found in their serous contents.

128. **Salicylates in Chorea Minor.** Four cases are related to illustrate the favorable effects liable to be attained by systematic salicylic medication.

129. **Mosquitoes and Malaria.**—Mosquitoes are numerous at the mouth of the Don river and malaria is prevalent, but Zlatogoroff calls attention to the fact that the majority of cases occur during the spring months when the mosquitoes are comparatively rare. At the same time, the transmission of the disease by the mosquitoes was beyond question, but some other factors may co-operate in some cases.

131. **Diphtheria of Puerperal Uterus.**—In the case described the patient had fever after instrumental delivery with decapitation of fetus at term. Examination the sixth day showed a thick false membrane covering the mucosa of the uterus and plugging the os. Diphtheria bacilli were found in it with pus cocci. Serum treatment was instituted the ninth day and the patient was dismissed in good condition six days later.

132. **Firearm Wounds of Stomach.**—A young man fired a bullet from a revolver into his own chest. It entered the sixth left interspace, but under expectant treatment was evacuated in the stools a few days later, and recovery was soon complete. There had been only a little fever the first few days.

133. **Microgastry.**—Bendusky calls attention to the possibility of the stomach being congenitally very small and retaining its infantile type. He thinks the condition is more liable to occur in women—similarly to an infantile uterus.

134. **Myringotomy.**—Stephanovski illustrates his technic and describes 16 cases in which he applied it to cure deafness resulting from chronic otitis media. The deafness was completely cured in 12.5 per cent. and materially improved in 62.5 per cent., while the subjective sounds in the ears were partially or entirely banished in all. No inconveniences of any kind were noticed after the paracentesis.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A SYSTEM OF PRACTICAL SURGERY. By Prof. E. von Bergmann, M.D., P. von Bruns, M.D., and J. von Mikulicz, M. D. Volume IV. Translated and Edited by William T. Bull, M.D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York. Edward Milton Foote, M.D., Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Carleton P. Flint, M.D., and Walton Martin, M.D. Surgery of the Alimentary Tract. Cloth. Pp. 757. Price, $30 per set. 5 volumes. New York and Philadelphia: Lea Brothers & Co. 1904.

THE OPTICAL DICTIONARY. An Optical and Ophthalmological Glossary of English Terms, Symbols and Abbreviations, Together with the English Equivalents of Some French and German Terms Relating to Physical, Physiological and Pathological Optics, Optical and Other Instruments of Precision, and Terms Descriptive of Color and Photo-chemistry, to Which Are Added a Number of General and Mathematical Expressions. Edited by Charles Hyatt-Woolf, F.R.P.S. Cloth. Pp. 166. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co. 1904.

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Original Articles.

ERGOT IN GENERAL PRACTICE.*

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The chief object of this paper is to demonstrate that inefficient tone of unstriated muscular fiber is a common and serious element of disease; and that it is important to guard against, or to correct, such abnormal state of that tissue.

The secondary object is to show that a drug which has been used therapeutically for three centuries for a single purpose, and for three decades for but one additional purpose, is the best medicinal agent at our command with which to tone the weak, relaxed, or paralyzed unstriped fiber, and, therefore, deserves, without exception, the first place, the place of honor and trust, in the physician's emergency case.

The most common manifestation of atony of the unstriped fiber is an abnormal disturbance of the equable distribution of blood throughout the body. The relation of the blood supply to the several organs or regions of the body varies normally (physiologically), dependent on their special functional activities at any given time, but such variations are included in what I term "the equable distribution of blood," and they do not imply any degree of atony of the muscular coat of any blood vessels.

It is well recognized that a supreme activity in one region determines a more rapid or abundant flow of blood through that region and a lessened blood supply to other parts; witness the mental apathy or somnolency accompanying the good digestion of a full meal.

The abnormal (pathologic) disturbance of blood distribution is quite another thing, and depends on a relaxed state of the muscular coat of the blood vessels of some region or regions. The location, degree and persistence of such vascular relaxation, alone or together with the influence of bacteria, autotoxins or other irritants, or of cold, heat, moisture, altitude, fatigue, traumatism or other etiologic factors, determine a great variety of diseases, most of which would not occur if there were a good degree of tone in all vascular walls.

A relaxed state of unstriped fiber, elsewhere than in blood vessels and lymphatics, as in the bowel and other hollow organs, produces other disorders which indicate the same object in therapy, namely, a stimulating or toning of unstriped muscular fiber.

A very small percentage of humanity is absolutely well, which is practically equivalent to saying that as small a percentage has a good state of tone of all the unstriped fiber of the body, which is again equivalent to saying that disease in general depends on atonic unstriped fiber. You are probably now thinking of bacteria, but of that bugbear later.

One of the most common illustrations of abnormal blood distribution is "poor circulation," which is the passive form of too much blood in one region and too little elsewhere, and chiefly serious because it is a good soil on which to sow the seeds of disease. The commonest active form is in "a cold," which ordinarily is evidenced in a simple catarrhal inflammation. I am not aware that a bacillus has as yet been caught in the act of producing "a cold."

It will be more convenient to make some classification in treating this subject, and I will begin with disorders of blood vessels.

DISORDERS OF BLOOD VESSELS.

Inflammation of arteries, veins and lymphatics implies an abnormal disturbance of equable blood distribution, in that the minuter vessels of the inflamed or congested vascular walls are relaxed, dilated, and contain too much blood.

Endarteritis.—An interesting illustration in this department is a series of cases of endarteritis which I have encountered, involving a portion or portions of the abdominal aorta or its principal branches, the common iliacs, or their branches, the external iliacs. The chief subjective symptoms were pain and shock, the patient sometimes fainting, but more frequently only reaching the verge of that crisis. Palpation disclosed one or more localized sensitive spots in the artery, and firm pressure usually produced pain in the back, opposite the inflamed spot. In one instance a chronic, intense pain at the *vertex capitis*, which had begun after an extreme exertion, was markedly increased by pressure on the inflamed spot of the abdominal artery.

Auscultation demonstrated a distinct friction sound at the spot or spots previously found to be sensitive to palpation, but not apparent elsewhere. The paroxysms of shock, or shock and pain, followed exertion, such as lifting a heavy article, or sometimes the mere effort of rising from a prolonged recumbent posture. Recovery occurred only in those cases that accepted the extreme course I prescribed, namely, long-continued absolute rest for from two to five months, and daily injections of ergot.

The heart's pulsations were thus markedly slowed and softened, which gave longer intervals of rest from, and less friction of, the blood current over the inflamed surface. I detail these cases because I have not found them clearly described in the books, nor could I get light on them from prominent physicians who examined some of the cases.

Septic Conditions.—Septic inflammation of veins and

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lymphatics has repeatedly yielded to the ergot treatment. This does not imply any antiseptic quality in that drug. In some instances I also employed the constant current.

Dilatation of Veins.—In dilatation of veins it is desirable to secure some emptying of the greatly stretched vessels by gravity or pressure in order to allow the shortening by ergot of the overstretched and paralyzed unstriped fiber of their walls.

I will refer here to edema because it is the direct sequence of circulatory stasis from vascular dilatation. Ergot is striking in its relief of this condition, and the more so the more recent the occurrence of the edema.

Inflammation begins in congestion, which consists of an area of abnormally dilated blood vessels. If ergot is promptly and sufficiently administered, the congestion is relieved and the succeeding stages do not occur; in other words, the inflammation is aborted. When it is not applied, or not sufficiently applied, in the stage of congestion, ergot will modify or limit the extent of the succeeding stages; and it is also an effective aid in promoting the absorption of exudates, because this process demands a restricted caliber of capillaries and lymphatics, which ergot tends to secure by contracting unstriped fiber.

FEBRILE DISEASES.

A very extensive class of diseases, in which an abnormal relaxation or paralysis of unstriped muscular fiber is the prime factor, is the febrile, whether from zymotic, infectious, autotoxemic or other irritants. I say that the abnormal state of the unstriped fiber is the prime factor, because it is that state that determines, in some way, the serious and fatal elements of those diseases.

I distinctly appreciate that the generally accepted theory to-day is that the prime factor in these diseases is the bacterium, waste product or other irritant; but the deduction which I am obliged to make from a rational consideration of my clinical experience is that if a good degree of that state which we denominate "tone" exists in this class of fiber to begin with, or is promptly secured by proper treatment to that end, the effects which would otherwise result from those irritants do not occur, or, if they have had opportunity to initiate, those results will be dissipated or modified by a proper, thorough and persistent treatment applied to the restoring of tone in that unstriped fiber which is deficient in tone. The serious and fatal elements of febrile diseases may be summarized under the following heads:

First. Congestion and the succeeding stages of inflammation, including unresolved exudates.

Second. Hemorrhage from ulcerative corrosion of tissues, or from rupture of weak or greatly strained blood vessels.

Third. Disturbed function of glands or other vital organs, including disturbances of digestion, assimilation and elimination.

Fourth. Insufficient oxidation.

Fifth. The so-called vasomotor pareses.

Sixth. Exhaustion and paralysis of the heart.

Congestion.—Congestion and its sequences will be admitted to be related to vascular atony for, if the vessels are not abnormally weak, they will not be abnormally dilated, and if not abnormally dilated, there is no congestion.

Hemorrhage.—The hemorrhage from ulceration is plainly thus related, for ulceration succeeds inflammation and inflammation begins in congestion. The weakness of vascular walls leading to rupture is due, in part, directly to a relaxed state of unstriped fiber, which permits overstretching from increased tension, and, in part, to trophic defects, which, in turn, are due to relaxation of the minuter vessels.

Disturbance of Glandular Function.—The dependence of altered or deficient function of glands or other organs and tissues, on atonic unstriped fiber may not so clearly appear, but I can reach no other conclusion after observing the restoring of function by various means that relieve internal congestions and stimulate unstriped muscular fiber.

Assimilation and elimination require for their best performance a caliber of the minuter blood vessels that admits of sufficient lymph spaces in which the nutritive and waste materials may circulate.

Insufficient Oxidation.—Oxygenation is too little considered in relation to disease. Oxygen is desirable as a stimulant to vital activities, and is necessary to the normal chemistry of waste; and, not only does vascular relaxation in the lungs interfere with the access of air to all the air cells, from which the oxygen is transferred to its carriers in the blood, but wherever there is congestion in the general vascular circuit there is interference with the proper transference of that element from its carriers to the tissues of that region, or to the waste elements that require oxidation.

Vasomotor Pareses.—As to the essential condition in the so-called vasomotor pareses, whether it lies wholly in the abnormal state of the unstriped fiber in the dilated blood vessels of the general circulation, or, in part, in an abnormal state of the vessels of the vasomotor centers, or partly in an exhausted state of the vasomotor centers, as vital batteries, I will not assume to say, but this I will say, that stimulation, by the constant current of the vasomotor centers related to certain areas of the circulation, as of the brain, will correct the abnormal vascular areas so related; and that ergot which, I believe, acts directly on the abnormally relaxed unstriped fiber, accomplishes the same end; and that ergot is applicable to the abnormally relaxed fiber anywhere in the body, which is not practicable as to the constant current; and also that the usually employed medicinal agents, of which strychnin, digitalis and alcohol are the chief representatives, are unreliable and very often fail to accomplish the end desired. Furthermore, that in serious states of cardiac exhaustion the usually employed stimulants are even detrimental and frequently directly determine death, because, while failing to correct the vascular defects which have produced the exhaustion and which, so long as they exist, will continue to oppose the heart, they add to its exhaustion by irritatingly prodding it to its utmost additional effort, which, continued, must lead to its utter failure.

Exhaustion of the Heart.—Exhaustion of the heart is generally treated as if it depended solely on waning force in the heart centers, which are, therefore, stimulated with all the armamentarium at command, which more frequently results in increasing its exhaustion than in diminishing it.

The change effected by ergot in the action of the heart, as to a great variety of its abnormal manifestations, including the very weak, and even absent pulse, and the extremest tension, so great that the radial artery seemed ready to burst, has impressed me that the condition which produces cardiac exhaustion and paralysis is the abnormally relaxed state of some part or parts of the general vascular circuit, and that the indication is to correct that abnormal state rather than to depend solely on forcing the heart to greater effort by admin-

istering heart stimulants. Very often such correction will be all that is necessary, but when that does not suffice, a judicious use of heart stimulants will be rational after such correction, when their use, before the vascular system is toned, would be as distinctly irrational.

On the other hand, when the action of the heart is excessive and the vascular tension high, ergot will be calmative to the heart and diminish the vascular tension, by correcting the abnormal state of the circulation existing somewhere, that had been the irritating excitant of the heart; and I hold that this is more rational than the use of depressants for such purpose. In such conditions of high vascular tension I have never found it necessary, after using ergot, to resort to depressant medication.

From what I have said it will be recognized that I do not regard the raising of blood pressure as the *sine qua non* in states of low vascular tension, as in shock or collapse, but that the true *desideratum* in such states is to bring about an equable distribution of blood throughout the entire body by contracting all those vascular walls that are abnormally weak, relaxed and stretched; and this is the peculiar province of ergot.

FUNCTIONAL NEUROSES.

Another extensive class of diseases, in which the securing of an equable distribution of blood is the prime indication, is that denominated nervous, more particularly the functional neuroses.

In a communication just received from Dr. Adolph Rupp of New York, I am informed that Waring's Bibliotheca Therapeutics states that W. Hamburger of Leipsic, in 1848, published a work on "The Extraordinary Curative Power of Ergot in Nervous Diseases." I am curious to see this work, published before I was born, and I will be greatly obliged to anyone who may put me in the way of obtaining it. It apparently had as little influence on the profession at large as my own first published paper on ergot would have had but for the accidental presence at its reading of Dr. Frederick Holme Wiggin of New York, to whose appreciative interest in the subject I am indebted for the wider interest the profession has since manifested.

Beginning with the use of this drug in insanity, which I was taught by the late Dr. John P. Gray of Utica, I gradually extended its application by a process of analogic reasoning on similar pathologic elements (circulatory) in other diseases, until I finally grasped the general principle that in many nervous diseases there exists an abnormally relaxed state of some part of the vascular system, and that this is fundamentally causative of the symptoms commonly assumed to be related to abnormal states of the nervous tissues From this point of view many facts were rationally explained which I had not before clearly understood, and the more carefully I analyzed etiologic and pathologic factors and elements of these diseases the more assured I became of the correctness of this deduction.

The principal symptoms that are associated with the so-called nervous diseases are pain, nervousness (including irritability, both mental and physical, and restlessness), spasm, convulsion, delirium, insanity, insomnia, stupor, or coma, disturbed function of sensory, motor, or vasomotor nerve tissue, and the various pareses.

As generally applicable, the statement that "pain is the cry of nerve for food," is poetry of the Keats or Shelley type, highly imaginative. The deduction I make from my own observation is that pain is usually a result of pressure, and that the causative pressure is usually from congested blood vessels. The fact, however explained, is that most pain is relieved by administration of ergot. Ergot contracts relaxed unstriped fiber, and the relaxed unstriped fiber of blood vessels is surely the most likely to be associated with pain.

Headache, as the most common form of pain, deserves especial mention as one of the kinds of pain which is almost uniformly relieved by ergot.

The pain of pneumonia, of appendicitis, of neuritis, of inflammatory states in general, of some neuralgias, the all-over ache or indefinite discomfort of developing fevers, the agony of angina pectoris, and intestinal colic, are among the kinds of pain that ergot relieves, and, therefore, are doubtless due to relaxed unstriped fiber, chiefly in vascular walls.

Nervousness, from its simplest type to the intense agitation of the reaction from alcoholic and drug addiction, is strikingly amenable to ergot, and indicates that motor as well as sensory functional disturbance is related to a disordered state of the unstriped fiber, and this is still more markedly demonstrated by the relief of spasm and convulsion by the same drug.

Insomnia is generally conceded to be due to abnormal vascular states in the brain. While I am writing, a subject is sleeping who fell asleep before I had completed the first injection of my solution of ergot (two fluid drams), which I administered within half an hour of his coming under my care. That hypodermic injection was given at 10 p. m., April 30, and it is now 4 p. m., May 2. He has slept continuously during the forty-two hours, except when aroused to give him food or medicine The subject, a physician, has been a drug habitue for several years, and has latterly been using hypodermically a dram or two drams of morphia *per diem*, and, in addition, two drams or more of cocain each week. During the last day, April 30, he used two drams of morphia and a considerable quantity of cocain. The sleep has been natural in appearance, and, though awakened with some difficulty, he was clear and calm when awake, and immediately fell asleep after taking what was given him. The pulse has ranged from 64 to 80, and has been of good quality, and only a few times was a little spartein added to the ergot solution. He has had no morphia nor other narcotic, nor any hypnotic.[1] I do not class ergot as a hypnotic, but if you

1. The case referred to is illustrative of the action of ergot in the general class of drug habit cases. At the end of sixty hours the crisis was passed and without a particle of suffering or delirium, or even of heart depression, in spite of the immediate complete withdrawal of the extensive dosage of the drugs. The sixth day he began to come to my office for treatment, static and constant currents, and at the end of the second week he removed to the country, where, at a farm house and living much out of doors, eating and sleeping well, he is gaining rapidly in flesh, color and spirits. He does not recall nor did he at any time manifest a desire for his drugs or substitutes.

Another habitué, a woman, is now under like treatment in the same public hospital and with the same satisfying results.

Besides ergot, the only treatment in either case has been cathartics, laxatives and digestives, dry cupping, hot and cold sponging of spine and the constant or static current. The important work was accomplished by ergot.

Abstract of record sheets of W. C. A. Hospital, Jamestown, N. Y.: Case of H. L. F., admitted 9:30 p. m., April 30, 1904.

10 p. m., after tub bath, was given 10 grains of blue mass, followed by ergot solution, 2 drams (all ergot was given hypodermically).

May 1, 1904, "Slept soundly all night."

At 10 a. m., 2, 5 and 8 p. m., ergot, 1 dram, the first three with spartein, 1/10 or 1/20 grain. Action of bowels secured with saline and enema. Liquid diet every three or four hours. F. E. Buckthorn, 3 drams, nocte. Pulse ranged from 64 to 80; temperature, 6 p. m., 99.8 F.

May 2, 4:30 a. m., "Sleeping soundly until now." "Wanted morphia this a. m." 7:30 a. m., "Sleeping most of the time." 6:30 p. m., "Very restless for two hours." 8 p. m., "Nauseated,

know of any other drug that will permit or procure such sleep in such a case, it is surely your duty to make it known to the profession.

Promotion of sleep of a normal character, when ergot has been administered for some other purpose, has been noted hundreds of times in my experience, and this has been one of the most positive characteristics of the drug, from which I deduce that normal sleep is an accompaniment of a certain state of closure of the vessels of the brain, reducing the quantity of blood in that organ below that which is associated with the activities of the waking state.

A recent case, illustrating the relation of ergot, and, therefore, of relaxed unstriped fiber to insomnia, delirum and pain, is worth relating.

I was called to a neighboring city to see a man in whom these three symptoms had existed for six days. His history evidenced that he had been nervously exhausted from overwork, and, while away from home on a business errand, he had an attack of influenza, the temperature reaching 103 F. He apparently had some realization of the mental disturbance, as he had repeatedly said that if the pain continued much longer he would become insane. Before I had finished giving him the first hypodermic of ergot he said the pressure in his head was relieved. There was no delirium after the first hypodermic of ergot. He slept, which he had not done from hypnotics and opiates. The severe pain in head and back, which had not been relieved by the opiates, was promptly relieved by the ergot, and soon dissipated. His treatment, in addition to ergot, was one dry-cupping along the spine and clearance of the bowels by a mercurial and salines.

SURGICAL CASES.

I might enumerate other disorders or classes of disease to which relaxed unstriped muscular fiber is importantly related, but I will speak of but one more class in which it plays a serious and often fatal rôle, because the indication is not properly met. I refer to conditions requiring surgical operation, and I do so under the title of this paper because it is the general practitioner who should so thoroughly appreciate the indications and the means with which to meet them that, when the case is passed over to the surgeon, it is already prepared both for anesthesia and operation. The surgeon's relation to a case is so often at the last moment that there is then no time for the preparation that I believe to be important, namely, the toning of whatever unstriped fiber may be lacking in normal tone.

The important objects attained by this preparation of surgical cases are:

First. A more safe and comfortable anesthesia, avoiding nausea, retching, vomiting, mental excitement and excessive heart strain.

Second. Avoidance of shock from anesthesia or operation.

Third. Relief of shock from traumatism.

Fourth. Avoidance or modification of post-operative pain.

Fifth. In certain cases, avoiding intestinal paresis.

Sixth. In all cases, promotion of the process healing.

In all these there is certainly a most urgent demand for a good state of tone in the unstriped fiber involved.

The evidence afforded by the action of ergot in shock is that the condition is not so much a paralysis of vasomotor centers as it is a tremendous disturbance of the equilibrium of the circulation, the internal vessels being extremely engorged, rendering the efforts of the heart practically futile. The indication is, therefore, primarily, to contract the dilated and engorged vessels which will send their excess of blood to the peripheral vessels, which again establishes an active circulation, the obstacle to the heart being thus removed. It may then be found that the heart needs more stimulus than it can get from the exhausted nervous batteries, in which case the secondary indication appears, namely, for a judicious use of heart stimulants.

I recognize that according to the prevailing theory today, the prime indication is to raise blood pressure, but I think that this theory will be found to be erroneous.

Until an approximately equable circulation (equable distribution of blood) has been secured, the raising of blood pressure will generally be detrimental, even though it temporarily increases the force of the heart's action, and the subject will be all the more certain to die.

METHODS OF TONING UNSTRIPED MUSCULAR FIBERS.

From all that I have said it will be recognized that I regard the toning of relaxed unstriped muscular fiber as important in a great variety of diseases, and of vital import in many instances. As to the means by which such toning may be accomplished, you have possibly guessed one that I have in mind, but there are others.

Electricity.—Electricity in general, but the constant current in particular, is of inestimable value to this end, and applicable in many more instances than is likely to appear at first thought to the occasional user of that force. A truth which I clearly demonstrated in 1890, namely, that the constant current stores the individual with force, as it does the storage cell, is of much importance in this connection, namely, that the constant current is essentially like the vital force in its effects on functional activities.

Dry-Cupping.—Dry-cupping aids materially in relieving internal states of congestion; directly, by withdrawing a considerable amount of blood (if several cups are applied) from the general circulation, and indirectly by causing much damage to the superficial ves-

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vomited." (This followed and I believe was due to cocoa with milk at 5 p. m. A. T. L.) Ergot, 1 dram, at 4:30 and 8 a. m., 12 noon and 6 p. m., sparteine twice. At 9 p. m. "applied 10 dry cups to spine." Ergot, 2 drams, with sparteine. Buckthorn, 2 drams, nocte. 10 p. m., "Sleeping quietly." Pulse, 68 to 80; temperature, 99.4 to 100.2 F. Bowels and kidneys sufficiently active.

May 3, 5:45 a. m., "Slept well till 5 a. m., not as soundly as previously, about 7 hours." 12 noon, "Pulse full, nauseated." 4:30 p. m., Rochelle salts, ½ ounce. "Vomited small amount." 10 p. m., "Has been sleeping quietly." At 1 and 5 a. m., 12 noon, 5:10 and 10 p. m., ergot 1 dram, first time with sparteine. At 2:15 p. m., "Galvanism" (10 cells, one hour). Pulse, 70 to 74; temperature, 99.2 to 99.6 F.

May 4, 5 a. m., "Restless and nausea. Slept most of night, about 6 hours." "Pulse full and good all night." 2:30 p. m., "Galvanism." 11 p. m., "Very restless." Ergot, 1 dram, at 5 a. m., ½ dram at 2 and 11 p. m. Lactopeptin with nourishment. Pulse, 76; temperature, 98.4 F.

May 5, 5 a. m., "Quite restless early in night, did not sleep as well as usual, about 5 hours." Ergot, ½ dram, at 8 a. m., 7 and 11 p. m. 1:45 p. m., "Galvanism." Pulse, 76-78; temperature, 98-99.8.

May 6, 2 a. m., "Very nervous, legs aching, restless, not sleeping well." 7 a. m., "Had poor night. Did not sleep well. Aching and tired this a. m. 10:30 a. m., "Static treatment at Dr. Livingston's office. Ergot, ½ dram, at 2, 4 and 8 a. m., 40 minims at 1.10 p. m., 1½ drams at 5 and 9 p. m. (Diet enlarged A. T. L.)

May 8, "Slept about 5 hours."

May 8, "Slept about 5 hours."

May 9, "Slept in all 7 hours."

May 10, "Slept most all night." 8 a. m., Pulse, 84; temperature, 98.5 F.; respiration, 18.

(In the remarks note was not made of the frequent naps during the day, which, in part, accounts for the less sleep at night. May 14, "Removed to boarding house on lake." A. T. L.)

sels, the repair of which detracts from the abnormal internal activities.

Hot and Cold Applications.—The alternate brief applications of hot and cold water, or hot water and ice, over the entire length of the spine unquestionably tones the nerve centers, either directly or by stimulating their vascular walls, in either case indirectly toning the unstriped muscular fiber which they supply with force.

Massage.—Massage, by its mechanical impulse to the venous circulation and by the increased assimilative and eliminative activities produced in the massaged tissues, aids in securing a more equable distribution of blood throughout the body.

Mercurial Treatment.—Mercury, by its so-called "portal stimulation," but more particularly, I believe, by its notable stimulation of glandular activity, also greatly tends to a more equable distribution of the blood.

Ergot.—I might continue to enumerate measures, physiologic or therapeutic, of more or less value in securing the desired object, but they will occur to anyone who thoughtfully considers his teaching and experiences, and I will refer, in conclusion, only to that one other, which is the chief, the direct, the specific, and the only universal stimulant and tonic to the weak, relaxed, stretched or paralyzed unstriped muscular fiber, namely, ergot.

Having employed this drug during more than thirty years of practice, and in a constantly widening sphere of application, and having observed in thousands of instances its exceptional therapeutic power, and in scores of instances a power that suggested magic, because of the immediate and wondrous change it wrought, I have come to regard it as the one drug without which I would feel impotent in the practice of my profession.

This confident reliance has developed from the recognition that the efficiency shown in so many and so varied states of disease, was because of a really simple and single therapeutic action; and that the existence of a localized or more general state of abnormal relaxation of unstriped muscular fiber is always an indication for, and should determine a broad, rational application of this drug.

I recognize that some of my statements are likely to be regarded as extreme, perhaps as unwarranted, because not in accordance with general experience; but I also recognize that the difficulty of acceptance is wholly due to the limitation of the general experience, and I do not hesitate to rest my reputation on this broad proposition, that the general practitioner, surgeon or specialist, who does himself and his patients the justice to apply in his practice, fully, judiciously and fearlessly, the principles which I have endeavored to clearly express, will demonstrate for himself that ergot is capable of accomplishing all I have claimed for it and more; and that, besides being the great equalizer of the circulation, relieving pain, procuring calm and comfort, and promoting sleep, aiding repair, increasing elimination, supporting the heart, releasing the habitué from his horrible thralldom, and accomplishing many other desirable ends, to some of which I have elsewhere referred, it is, to a degree that can not be asseverated of any other drug, the saver of life.

THE SOLUTION AND METHOD OF ADMINISTRATION.

By an unfortunate blunder, for which neither THE JOURNAL nor myself was responsible, there appeared in connection with my paper[2] on "Some New and Unusual Therapeutic Applications of Ergot," a formula for a solution of ergot which has given much unnecessary annoyance and suffering, and has unfairly prejudiced both patient and physician against the drug. I therefore desire to dissipate such impressions which are unjust to the drug by giving two formulæ, either of which I can commend, and neither of which, if properly prepared and applied, will cause sufficient hurt or inflammation to constitute a serious objection to even the most nervous and sensitive patient, especially when the exceptional therapeutic benefit is taken into consideration. The first, which I have used long enough to test its keeping quality, is solid extract of ergot, one dram, dissolved in sterile distilled water, one ounce. Filter this solution and afterward add two minims of the purest chloroform and shake gently. This solution sometimes stings a little while being injected, but otherwise is satisfactory.

The second is solid extract of ergot, one dram, dissolved in a saturated solution (about two grains to the ounce) of chloretone in sterile distilled water, one ounce. After filtering the solution, add two grains of chloretone and shake gently.

The added chloretone is to secure an abundance of the preservative, and this is the most satisfactory preparation I have ever used, because, being somewhat anesthetic as well as antiseptic, it will not hurt, if injected slowly, as all hypodermics of ergot should be given. This solution, however, is given tentatively, as I am not yet assured that it will be perfectly preserved for a considerable time. It is satisfactory for short periods. I take from five to ten and sometimes even fifteen minutes to apply a hypodermic of ergot. It pays to take this time because of the better therapeutic effect, since, curiously, although so marvelously potent if not interfered with, ergot is distinctly less potent if interfered with by anything which increases vascular tension, as the strain of bearing a hurt, physical or mental activity, or erect posture. In general, it is much better that the patient be recumbent while the ergot is administered, and that posture maintained for half an hour or so after the administration. I recommend only the alcoholic (pharmacopeial) solid extract for solutions for hypodermic use, and I caution against the acetic acid solid extract for such purpose.

Even in the alcoholic solid extract there is a slight acidity which it is desirable to neutralize in order to have the most perfect result as to absence of hurt and local irritation, and this is accomplished by adding three or four minims of a saturated solution of chemically pure bicarbonate of soda to the ergot solution just before administering it. I commend this measure only to the physician who is willing to be at some pains to avoid even a little hurt and succeeding annoyance to his patient. Another matter of importance in making the solution is asepsis, as watery solutions of ergot are extremely prone to develop bacterial or fungus growth. All utensils, bottles, corks, filtering paper, etc., used should, therefore, be sterilized, and the same care should be exercised as to the syringe and needles when administering. The dose for an adult is from one-half to two drams of the above solutions; and the assertions of my various papers as to effects are based on such solutions made from the pharmacopeial solid extract prepared by a reliable house. I have experimented with some solutions supposed to be about five times the strength of my solutions, which were evidently not so, and clinical results alone can satisfactorily determine such relative strengths. Confusion and disap-

2. THE JOURNAL A. M. A., March 21, 1903, p. 774.

pointment are likely to result from such disparities in solutions prepared for hypodermic use, and it would be more satisfactory if all manufacturers adopted the same strength of solution based on pharmacopeial solid extract. After thirty years of strikingly satisfactory experience with ergot, I am unwilling to accept statements of the futility of the drug in an indicated case unless I know that a proper solution has been properly applied in proper quantities to the case. The syringe used for ergot administration should be all glass with asbestos packing, and should be of capacity of from one to two drams. The ideal syringe has not yet been made.

DISCUSSION.

DR. R. H. MONTGOMERY, Youngstown, Ohio—I am surprised at the apathy with which this paper is received. I am sorry that it is buried under an avalanche of gallstones. In our hospital the use of ergot has been attended with the happiest results when used according to the indications pointed out by Dr. Livingston.

DR. J. O. STRANAHAN, Rome, N. Y.—The use of ergot in the insane institutions of New York, as mentioned in the paper, was first suggested by Dr. Gray of Utica, N. Y. His experience of three years in the Hudson River State Hospital in cases of paretic convulsions proved this agent to be of value. He had at one time 100 paretics, and he universally used this agent in solution immediately on the onset of the paretic convulsions. These patients recovered consciousness sooner by the use of ergot, and the effect was very lasting. In private practice I have followed this principle, and I must say that in these cases of cerebral congestion, particularly meningitis, there has been no drug which has served me so well as ergot.

DR. H. GRAD, New York—My observation with the therapeutic action of aseptic ergot has been entirely with surgical cases, particularly its action on nausea following anesthesia and the concomitant shock of the operation. I know of no other therapeutic measure that will control and mitigate the feeling of nausea following anesthesia as a few judiciously applied hypodermics of ergot. Nor is there any doubt in my mind that it has a decided beneficial effect on shock. I know of no other drug that will bring that degree of calmness of nerve and repose of mind to the patient in his recovery from anesthesia as aseptic ergot. Every prolonged anesthesia is followed by a degree of nausea, retching and vomiting which varies with each individual, but as a rule these symptoms are directly in proportion to the length of the time the anesthesia is administered and the quantity of anesthetic ingested. Beside these symptoms, there are others which frequently arise, namely, headache, delirium and a feeling of wretchedness, indescribable, but most distressing to the patient. The popular saying, "I don't mind the operation, but dread the anesthesia," testifies to the fact that the suffering incident to the operation is not to be compared to the torture directly the result of a prolonged anesthesia. Now, therefore, if we possess a therapeutic measure that will prevent, or even only mitigate, those disagreeable sequelæ of anesthesia it certainly deserves consideration. In aseptic ergot we find such a measure, and those who will give it a trial will be charmed with its effect. Since I have been using aseptic ergot in these cases I have been able to give my patients a measure of relief for which they felt grateful, and I would be very unwilling indeed to part with so excellent a therapeutic measure.

DR. JAMES J. WALSH, New York—My own experience with ergot is limited to seeing its effects on delirious alcoholics, where undoubtedly it is of great service. Ergot is undoubtedly useful in those conditions in which we find a relaxation of the blood vessels in the abdominal region; here we may have an accumulation of much blood of the body, and it has been pointed out by German observers that practically two-thirds of the blood of the body may be contained within these abdominal vessels at one time. Therefore, by toning up these blood vessels the circulation can be made better and certain symptoms may be made to disappear. Dr. Homer Wakefield of New York, who has seen good effects from ergot in many neurotic conditions, but who is unable to be present at this meeting, has asked that his opinion of the value of ergot in such affections be stated. Dr. Wakefield has found ergot of decided benefit in the treatment of heart disease with lost compensation, especially in combination with the Schott method of treatment. Dr. Wakefield has also found ergot of decided benefit in cases of dilated heart and the consequent lessening of resistance in the circulation, and this has been shown by the *x*-rays to have become smaller in size.

DR. ALEXANDER LAMBERT, New York—In Bellevue Hospital in New York City it has been a part of my duty to attend to the alcoholics and morphin habitués coming in. Last year there were about 8,000 alcoholics there, and they remained one, two, three, four, five or six weeks, or even longer. In those cases it has always been difficult to lower the death rate beyond 3 per cent. in nine years; those patients with wet brain rapidly sank, due to the exhaustion of delirium. Since using ergot I have obtained a 44 per cent. lower death rate. Ergot quiets the nerves. Formerly I could tell by looking at the tongue of the patient how long the individual had been drunk; when giving ergot I can not; ergot takes the shake out so quickly. When I went on duty I found 16 cases tied in their beds; when I used ergot, within forty-eight hours only one needed to be tied, the rest having a more comfortable time. This agent certainly prevents the dilatation of the capillaries of the brain and contracts those already dilated, and ergot is the only drug in my experience of about ten years at Bellevue that would contract these and prevent or help cure the alcoholic wet brain. The use of ergot in the treatment of morphin habitués takes away the craving for this drug and helps them through their period of misery and woe caused by the cutting off of morphin. I have never seen a patient go into complete collapse when ergot was given. I can speak most heartily of Dr. Livingston's paper, and of the opinions he expressed regarding the use of ergot. It is a drug that will be more appreciated in the future, and it is one of the few drugs against which my skepticism has been changed to unqualified respect.

DR. J. B. TAYLOR, Philadelphia—I should like to know why this drug should be given hypodermically rather than by the mouth. In country practice it is, in many instances, very difficult to give a hypodermic. In giving it hypodermically, is there no danger of ergotism?

DR. ALEXANDER LAMBERT, New York—I have given it every two hours for two weeks and never saw ergotism develop.

DR. ALFRED T. LIVINGSTON—I prefer to use ergot hypodermically because then I am absolutely certain, from a given dosage, what effects I can obtain: by the mouth one can not be certain. Again, ergot is often very offensive to the stomach. Hypodermically, it is certain and inoffensive; by way of the mouth, it is an uncertain agent and may disturb the digestive tract. I have not employed it to any extent in rheumatism, but it would seem to be indicated, because the fundamental factor in either inflammation or disordered function is an abnormal state of the circulation.

Prophylaxis of Anthrax.—J. Lignières, director of the National Institute of Bacteriology at Buenos Ayres and later at Palermo, announces that it is possible to prevent infection from anthrax by proper disinfection of the hides of infected animals. No disinfectants are known which will destroy anthrax spores without at the same time destroying the hides. The anthrax bacteria, however, are extremely vulnerable. It is possible to kill them all by immersing the hide for fifteen minutes in a 5 per cent. solution of crude carbolic acid or cresil, creolin, etc. If this is done at once after the animal is skinned no spores will develop and the hide is effectually sterilized. His extensive tests have demonstrated that no spores develop in the hide until at least two hours after the animal has been skinned. He advocates that every hide in an anthrax focus should be systematically disinfected in this way as a routine procedure, not restricting the disinfection to the known infected animals. The hides are uninjured.

XANTHOMA.*

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PHILADELPHIA.

History.—A lad, 18 years of age, afflicted with peculiar, characteristic and unusual lesions on the hands, knees, posterior aspect of the thighs below the buttocks and on the eyelids, was brought by his father to the dermatologic clinic of the Medico-Chirurgical Hospital, was shown to the class on several occasions and made the subject of a clinical lecture.

Physical Examination.—Small in stature, general lack of development. Greatest weight, 79; present weight, 67. Thin, with almost no subcutaneous fat. General appearance that of a boy of twelve. Face marked with lines, giving the appearance of old age. Skin pale, showing a general anemic condition; complexion yellowish, subicteroid. Tongue flabby and pallid.

Chest narrow, scapulæ prominent; marked depression above and below clavicle.

Circulation poor; pulse weak. Heart's action increased, apex beat displaced, diffuse; functional cardiac murmur.

Liver enlarged, extending from fifth interspace to an inch below umbilicus.

Spleen enlarged; could be easily palpated.

Urine: An analysis of the urine gave the following results: Sp. gr. 1014; acid reaction; no albumin; no sugar; no sediment; hyaline cylindroids; blood cells, uric acid and urates in abundance.

Blood.—An examination of the blood by Dr. L. Napoleon Boston revealed: Red corpuscles, 3,990,000; white corpuscles, 20,000; hemoglobin, 60 to 67 per cent. Dr. Boston also contributes the following notes concerning the blood: The red cells were pale. There was marked variation in the size of the red cells, many of them being greatly oversize, while others were scarcely one-half the normal diameter. The viscosity of the blood was diminished. The red cells stained feebly, as a rule; cells nearly colorless were often seen. The central pale spot in the red cells was much enlarged, and at times this pallor extended to near the margin of the cell. The hemoglobin had been extracted from areas in the protoplasm, and these pale areas overlying such degeneration resembled somewhat the effect produced by the malarial parasite. No pigment was seen in the red cells. The differential leucocyte count was as follows:

	Per cent.
Polymorphonuclear cells	66.0
Large lymphocytes	4.5
Small lymphocytes	15.4
Eosinophiles	6.0
Myelocytes	3.0
Large mononuclear	4.5
Transitional cells	0.6
	100.0

Description of Lesions.—The palmar and dorsal surfaces of both hands were covered with small growths, which had been in existence for about six months. They first came on the hands. The affected regions did not ache spontaneously, but were painful on pressure. The boy could not grasp objects firmly by reason of the tenderness of the palms. The earliest lesions occurred on the palms, especially in the flexures of the metacarpophalangeal and phalangeal joints. They were symmetrically arranged, and a description of one hand will do for both. An artist, with deliberate intent and skill, could not more accurately copy the picture from palm to palm. The palmar aspect of the thumbs and fingers were studded with discrete tubercles, most prominent in the flexures of the joints. At the base of the thumbs were numerous tubercles which presented a linear arrangement. Lesions were similarly distributed, corresponding to the principal lines of the palms. They were also perceptible between the fingers. The disease was likewise conspicuous over the knuckles, although the lesions in these situations were less numerous and distinct than on the palms. An equal symmetry was observed in the location of the growths on the backs of the hands. Lesions were observed between the fingers, and in the flexures of the elbows they were confluent. The distribution was symmetrical on both arms. Large lesions were scattered, though more sparsely, over the back. Some of the largest tubercles, about the size of a pea, were situated below the gluteal fold. Lesions existed behind each ear and on the scalp. The upper and lower lids of both eyes were covered with numerous small lesions. They were present on the dorsal and plantar surfaces of both feet and between the toes. Walking was impeded and kneeling was painful.

In various situations the lesions were both nodular, or discrete, and confluent. Small nodules were seen on the penis. A patch existed on the mucous membrane of the mouth, corresponding to the attachment of the upper lip to the alveolar process. There was a spot of the same kind on the lower lip and others at the angles of the mouth, and one on the uvula. Several were situated within the nostril. Those located on the

Fig. 1 Palm of a typical case of xanthoma.

mucous membrane were rather more conspicuous than those on the skin, owing to the contrast between their yellow color and the red of the mucous membrane.

Many of the lesions were slightly elevated; others were plane with the surface. They were of a yellowish color and resembled fragments of chamois leather embedded in or attached to the skin. As the father expressed it, they are particularly numerous where the skin is "slack," or where it is habitually brought in contact with objects.

Diagnosis.—Although this case represented a rare affection, yet its features were so distinctive that there could be little difficulty in forming a diagnosis. The yellowish color might possibly be suggestive of pus, but the contents of the tubercles were neither fluid nor fluctuating; the lesions were rather soft, but nevertheless of firm consistency. There was no resemblance to acne or any other inflammatory disease of the skin. There was more analogy to milium, which is sometimes of a yellow color, appears principally on the upper eyelid and other parts of the face, and may remain stationary for years. Mil-

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

ium, however, contains sebaceous matter, which may be forced out by pressure after the surface has been pricked. This was not possible with the tubercles of the case now reported.

CLASSIFICATION.

The permanence of the lesions indicates that the disease should be classified among the new growths or tumors of the skin. The structure and the distinctive hue of the lesions are evidence that it could be no other than the affection which is named for its color—xanthoma, from ξανθός, yellow. Ordinarily, there is little scope for error, although multiple dermoid cysts have been mistaken for xanthoma, from which they could only be differentiated by microscopic examination. Urticaria pigmentosa, which occurs during infancy or early childhood, has sometimes been confused with xanthoma, a fact which is suggested by the very name which some writers have bestowed on that rare variety of nettlerash, viz., xanthelasmoidea. The possibility of error is all the more

Fig. 2.—Lesions of xanthoma.

marked when we reflect that pigmented wheals may persist as permanent new formations of the skin and subcutaneous connective tissue, and that their color may be yellow. Wheals, however, are of firmer consistence than the tubercles of xanthoma. Itching is a much more prominent feature in urticaria than in xanthoma.

SYMPTOMS.

Xanthoma is divided into two varieties, according as the lesions are plane or raised—xanthoma planum and xanthoma tuberosum. The spots of xanthoma planum are smooth, sometimes slightly elevated and of a yellowish hue, which has been aptly compared to that of chamois leather. On account of the buff or yellowish color, the disease has also been known as xanthelasma. The abnormal pigmentation has suggested another title for the malady, vitiligoidea. A multiplicity of names or titles for the same disease is undesirable, as it is liable to lead to confusion.

The lesions of xanthoma may be round or elongated. In the case now under consideration, many exhibited a linear arrangement. They may be as small as a pin's head or as large as a pea, and, indeed, in some instances have acquired much larger dimensions. Duhot has recorded a case in which some of the tumors were as large as a walnut. W. Moser encountered a case of a boy in whom multiple mushroom-like growths existed from the size of a pea to that of a hen's egg or larger; they were not tender or painful.

Xanthomatous skin does not seem to be thickened when pinched up between the fingers. After attaining a certain size the lesions generally cease to grow. The eyelid is a favorite location. Cases in which the disease is limited to the eyelid are much more common than those in which the lesions are more widely distributed, and which have been called xanthoma multiplex. In young persons most of these cases are congenital; in adults they are associated with jaundice or diabetes. The lesions have been seen on the cornea, in the mouth, esophagus, trachea, spleen, lining membrane of the bile ducts, liver, heart, aorta, and in the abdominal muscles. Tendons and serous membranes have also been implicated. Adjacent spots may coalesce. Xanthoma of the cornea is extremely rare. Gaucher and Herscher described a case[1] in which the cornea was involved, and stated that they had only been able to find one other case previously reported. The patient was three and one-half years of age, and was probably syphilitic. There was double interstitial keratitis. The keratitis was prior to the ocular

Fig. 3.—Typical lesions of xanthoma.

xanthoma, the nutrition of the cornea had been reduced, and it had become a spot of least resistance. On the right cornea was a yellowish deposit of irregular shape and plane edges. There were characteristic tubercles of xanthoma on the cheeks. The nodules of xanthoma tuberosum are, as a rule, about the size and color of those of the plane variety, and round in shape, though they have been seen as large as a small apple. The large growths are due to an aggregation of tubercles, and are more irregular in form. In both varieties of xanthoma the color may vary from a light to a dark shade of yellow.

Xanthoma is more frequent in women than in men. The most usual site of commencement is on the inner canthus of the eyelid, and more particularly of the left eyelid. It begins as a macule. The coalescence of several patches sometimes forms a semicircle around one or both eyes. Subsequently other parts may be attacked. The disease is generally tardy in its progress. Large growths overhanging the eye have been known to interfere with vision. Korach and Hertzka have reported

1. Journal des Maladies Cutanées et Syphilitiques, 1900, p. 48.

cases in which the evolution occurred within a few weeks, involving the greater part of the body, accompanied by icterus and pruritus. Dr. George T. Jackson of New York observed a case in a boy of 5 which began when the patient was 3 months of age, and attacked all parts of the body except the hands, feet and scalp. Prof. McCall Anderson witnessed an apparently congenital case in a child 3 years of age.[2] Xanthoma, especially of the tuberous variety, is rare in children. Richter had as a patient a 9-month-old girl afflicted with generalized xanthoma, marked especially by tumors. The mother thought that the disease had followed the bites of insects when the babe was 3 months of age.[2] Most cases occurring in early life are hereditary or congenital.

Some cases of xanthoma have been described which seemed to be of hereditary origin. Török knew of a family in which it had affected three generations. Hilton Fagge mentions a mother and daughter who had xanthoma, and in whose family it had occurred for four generations. Hutchinson reports a case of xanthoma in two brothers and a paternal grandmother. Crocker had a case in a stout, country lad of 18, in which the lesions were symmetrically situated on the elbows and knees; an elder brother had the same disease on the elbows. Xanthoma is rather commonly associated with disease of the liver and jaundice. It has been known to develop during the course of diabetes or gout. Jonathan Hutchinson has described an interesting case. The patient had inherited gout, of which he had had several attacks, and of which physical evidence existed in enlarged bursæ and fusiform swellings in connection with numerous tendons. In consequence of a severe fright, jaundice supervened, after which xanthoma appeared on the eyelids. The patches were symmetrically arranged. Subsequently small streaks of the same disease appeared over the right olecranon process. The patient's father and maternal grandmother had had xanthoma of the eyelids. Under the title of xanthomatosis the case has been described of a woman, 35 years of age, who had slight mitral insufficiency, stationary for several years, rheumatism, hepatic colic with or without jaundice, but no gallstones. This patient had xanthoma planum of the eyelids and a small fibro-fatty tumor of the abdominal wall.

In the opinion of Besnier, xanthoma of diabetic origin manifests a tendency to spare the eyelids and locate itself in the mouth. This writer furthermore states that buccal xanthoma progresses rapidly, but may spontaneously disappear. Diabetic xanthoma runs a more rapid course than when the disease is due to other causes. A few cases are on record in which xanthoma preceded the glycosuria. Another case is mentioned in which sugar had entirely disappeared from the urine fifteen months before an eruption of xanthoma occurred. Sequiera had a case of diabetic type without glycosuria. The patient was a man, 45 years of age, in whom the disease had existed for six months without any impairment of the general health. He had never had jaundice, but there was slight enlargement of the liver. According to Malcolm Morris, jaundice never accompanies the xanthoma of diabetics. Up to the year 1900 but 30 cases of diabetic xanthoma had been reported. Several have been published since that date. An interesting case was studied by Sherwell and Johnston.[3] The patient was a diabetic woman, 40 years of age, who had xanthoma on the arms, elbows, knees and buttocks. In fact, no part of the body was totally exempt. It was present also on the palms, soles and scalp. The eyelids, an ordinary site, were spared. The lesions were painful when touched. It was difficult to handle objects, walk or lie down in bed. She had a sensation as if foreign bodies, such as peas or balls, were embedded in the skin. Antidiabetic diet had a remarkable influence on the eruption, which rapidly disappeared. Coincidently she lost the feeling of foreign bodies in the skin. In the course of two or three weeks she was able to use her hands, walk and lie on her back. When the patient first came under their observation, the eruption, when seen from the other side of the room, looked very much like confluent smallpox in the suppurative stage. Dr. Abraham has had a case of xanthoma in a diabetic woman, 32 years of age. The eruption had been in existence for four months. She was subject to biliousness. The lesions were painful when pressed. Women are much less liable to diabetic xanthoma than men.

Xanthoma diabeticorum, or the diabetic type as it is also called, differs in some particulars from the other varieties of the disease. The onset is more rapid in diabetic cases and the eruption may speedily vanish, as in Sherwell and Johnston's case. The lesions are of somewhat different aspect. They present some signs of inflammation, and consist of yellowish points on hyperemic bases.

The lesions of xanthoma usually remain for a long period or during life. In a few instances they have spontaneously disappeared without leaving pigmentation or cicatrices.

In cases of xanthoma multiplex the lesions are generally both plane and nodular. The spots are more common on the eyelids and flexures; the tubercles most frequently occur on the knuckles, elbows, knees and buttocks. The disease is commoner on the limbs than on the trunk. Lesions on the knees may be the source of discomfort or pain.

PSEUDOXANTHOMA ELASTICUM.

Under this title Balzer described a form of eruption which bears some resemblance to that of xanthoma, being of a yellow color. Microscopically, however, it seems to be due to fatty degeneration of elastic tissue. A second case has been reported by Chauffard, and a third by E. Bodin. In these three cases the lesions were found on the front of the abdomen, base of the neck, axilla and groin; the knees, elbows and eyelids were free from disease. The evolution was slow; there was neither jaundice nor liver trouble, but there was tuberculosis in every case. The lesions were small masses of granular substance constituted by swollen and segmented elastic fibers, etc. Bodin regards this species as only provisionally attached to true xanthoma.[4]

PATHOLOGY.

Xanthoma is a connective-tissue new growth undergoing fatty transformation. The lesion consists of irregular, uncircumscribed aggregations of large cells which have a clearly defined outline and possibly a cell wall with small nuclei, sometimes several in a cell, and with cytoplasma, characterized by closely massed fat globules. The cells occupy the spaces between the bundles of connective-tissue fibers belonging to the reticular layer of the corium, sometimes extending to the papillary layer. The epidermis shows slight atrophic changes. According to Touton, the fat is deposited in proliferated connective-tissue elements. In sections made by Prof.

2. Journal des Maladies Cutanées et Syphilitiques, 1903, p. 531.
3. Journal of Cutaneous and Genito-Urinary Diseases, Sept., 1900.
4. Journal des Maladies Cutanées et Syphilitiques, 1901, p. 122.

Joseph McFarland, there were scarcely any evidences of inflammation exhibited. Some writers, as Crocker, Chambard and others, believe that the disease originates in a chronic inflammation with proliferation of round cells. As these are not invariably present, however, Touton and others refuse to accept the inflammatory theory. All authorities agree that it is the fat in the cells that gives them their yellow color.

Pollitzer, following Unna, teaches that xanthoma of the eyelids is due to degeneration of muscular fiber embryonically displaced, and that it differs from xanthoma tuberosum and xanthoma diabeticorum in this respect. Clinically, I should regard the different forms of the disease as the result of a process identical in its nature, though differing in some histologic details perhaps, for, as in the case which I now report, we see plane and nodular lesions on the same person. Not infrequently the disease begins on the eyelids and spreads to other parts of the body.

ETIOLOGY.

In reviewing the course and associations of the disease, I have anticipated some of the chief points of etiology. I have spoken of the close connection which often exists between xanthoma and disease of the liver, gout and diabetes, and that it may be of congenital or hereditary origin. Xanthoma palpebrarum is more common in women than in men, contrary to what occurs in xanthoma of diabetics. It generally begins in middle life, and is most frequent in people of dark complexion.

TREATMENT.

When xanthoma is confined to the eyelids, or when the tubercles are not numerous, they may be removed by excision. Great care must be taken in order to avoid the occurrence of ectropion or epiphora. Cauterizing and curettage have sometimes succeeded. Kaposi used soft soap. Morrow, in a case of nodules on the soles and knees, effected an improvement by means of a 25 per cent. salicylic acid plaster. Dr. James C. Maguire made use of monochloracetic acid, applying it to a small spot at a time and gradually going over the entire diseased area. A 5 to 10 per cent. solution of mercuric chlorid in collodion has been recommended. Electrolysis has been used by Hardaway, Wende, Pansier and Leviseur. Dr. Willmott Evans treated a case by means of the *x*-ray. The disease affected both elbows, and was of seven years' duration. He subjected one elbow to ten exposures of fifteen minutes each with a very satisfactory result, the elbow becoming practically clear.

Wilson and Besnier advised constitutional treatment. The former gave nitrohydrochloric acid, with an occasional blue pill, followed by arsenic. Besnier administered phosphorus first, succeeded by arsenic, and reported a rapid removal of the growths by this method.

The diet and other measures which are of service in diabetes have exerted an excellent influence on xanthoma, due to that disease. Arsenic has also been given with asserted benefit.

TREATMENT AND PROGRESS OF THE PRESENT CASE.

The patient was first seen on Oct. 16, 1903. On account of his unsatisfactory general condition he was then ordered:

R.	Ferri lactatis ..... gr. 1 4	|016
	Strychninæ sulphatis .. .. .. gr. 1 100	|00065
	Acidi arsenosi . .. . gr. 1 100	|00065
	Salicini ..... gr. ii	|12

M. Ft. pil. No. i. Sig.: One such pill to be taken three times a day.

No local application was given, as the disease was so widely spread. On November 6 the boy's subjective condition was somewhat improved. On November 13 he reported that he felt better, and it was thought that he was a shade less pale. He was kept under observation, and on Jan. 22, 1904, was again brought before the class. At that date it was evident that he was losing ground. The anemia had increased. On March 23 he was thinner—a mere skeleton—and was having night sweats. An examination of the chest gave a negative result.

On April 23 the patient's abdomen was distended and very hard on the right side. He was very weak, had lost appetite, had abdominal pain, and sometimes vomiting. He was placed on:

R.	Acidi nitrohydrochlorici dil. ..... m. x	|60
	Tinct. gentianæ co. 3i	3|75

M. Sig.: One such dose to be taken after each meal.

He was also ordered:

R.	Pil. strychninæ sulphatis 1/60	|0011

M. Sig.: For one dose (before meals).

Xanthomatous deposit was probably taking place in the liver.

The boy had been watched most carefully by the clinical assistants. His father brought him to the dispensary at stated intervals. With the exception of some slight improvement at first, his condition gradually grew worse. At about the time of the last note one of the assistants visited the patient at his home—he lived in a distant part of the city—and found him in a feverish state, very much prostrated.

REMARKS.

This is a very interesting case, an excellent example of xanthoma multiplex. The exquisite symmetry with which the lesions were arranged, more particularly on the hands and arms, claimed attention, and is quite characteristic of the variety of the disease by which we were confronted. It was a case of xanthoma multiplex exhibiting patches, tubercles and nodules, both discrete and confluent. Although the eyelids are the commonest site of the eruption, and although they were typically involved in this case, yet it was not in this situation that the disease first made itself manifest.

The morbid process began at an early age in this patient. With the exception of the few congenital or hereditary cases, xanthoma develops, in most instances, after the age of 40. The lad was naturally of light complexion, which is also against the rule. The rather plentiful deposit of xanthomatous material on the mucous membrane is among the less usual manifestations. Although I have observed a number of cases of the disease, yet this was the first occasion in which I had seen it attack the mucous membrane.

The poor physical development of the lad and his unpromising systemic condition are to be specially noted. As a general rule, the prognosis of xanthoma is good as to life. The genesis of his case seems to depend on the renal involvement with an inactivity of the liver and anemia, as evidenced by the examination of the urine and blood. The stunted growth would seem to be only an interesting coincidence.

The evolution was rather rapid considering the large amount of surface covered. In this respect it somewhat approximates the cases observed by Korach and Hertzka. Its progress was accompanied by much itching. This symptom is more particularly distinctive of diabetic xanthoma, but no sugar was found in the patient's urine.

The pain elicited by contact with the lesions was a marked feature of the case.

Cases exhibiting multiple lesions are rare. The striæ so well marked on the hands are not unusual in cases affecting the palm. The case recorded by Duhot also illustrated this arrangement. In Duhot's case the generalization was very complete, but, unlike that which I here report, the face, neck and genital organs were spared.

The lesions consisted of tubercles and tumors; they were yellow and firm. The palms and phalanges were striated. Some tumors had spontaneously and entirely receded. In Duhot's case there was no diabetes, but hepatic antecedents were noted.

The coalescence of adjacent lesions was particularly observable in the case of my patient.

DISCUSSION.

Dr. A. W. Brayton, Indianapolis—Dr. Shoemaker has emphasized the extreme rarity of these generalized cases of xanthoma which justifies him in calling attention to them. I saw a case in Indianapolis several years ago, in a woman of 39. I think one-fourth of her body was covered to the same extent and with as great a variety of lesions as in this case. I reported that case briefly in the *Indiana Medical Journal*, April, 1900. It is the second case I have had knowledge of in which the lesions were so extensive. The urine was examined in that case with negative results. The patient has passed from my observation, but I think that if she is still living she can not recover. The lesions had been developing for three years, surrounding the eyes, involving most of the face, the knees and elbows, and particularly massive on the hands and arms and below the knees. On the shins the tumors were from the size of a wheat grain to a lima bean. On the palms the growths appeared as if strips of chamois skin were set in the "lines of life." The whites of the eyes were yellow; the urine was yellow, but gave no signs of bile pigments. The liver appeared normal. There was pruritus. Crocker states that four-fifths of the generalized cases have been associated with jaundice. The disease is rare. Ten years ago less than twenty cases of the diffuse form were known.

Dr. William Allen Pusey, Chicago—A very exaggerated xanthoma was shown some time ago before the Chicago Dermatological Society and which has recently been under my observation. The interesting point was that the patient, a boy about 16 years of age, was suffering from polyuria without sugar. The lesions were of the type of the ordinary xanthoma and did not present the picture of diabetic xanthoma. So far as I know no other case of xanthoma associated with diabetes insipidus has been recorded.

Dr. David Lieberthal, Chicago—Cases with such extensive distribution are not frequent. I wish to call attention to the fact that in this case, which is naturally one of infantile xanthoma, the eyelids are affected. In 1882 a report was made before the London Pathological Society by Startin and Mackenzie, of the published cases of infantile xanthoma, eight in all, and in none were the eyelids found to be the seat of lesions. About ten months ago, through the courtesy of Dr. L. Greensfelder, I had the opportunity to demonstrate a case of infantile xanthoma before the Chicago Dermatological Society. This was not the case mentioned by Dr. Pusey. It was a boy of 10 years, physically well developed, but morally defective, a kleptomaniac. The lesions were extensive, not only in the skin and subcutaneous layer, but tumors were also found on the tendons of Achilles. Dr. Greensfelder operated on the case to ascertain to what extent the tendons were affected, and it was found that their sheaths were free, but that the tendons themselves were diffusely infiltrated by the xanthomatous process. How shall we explain the development of fat in various localities normally free from it? There seems no doubt that there is an underlying, a severe, and probably an internal cause, especially when we consider Dr. Shoemaker's case, which shows a veritable cachexia. I would like to ask Dr. Shoemaker if lesions were found in the internal organs, inasmuch as there was not only extensive affection of the skin, but also lesions of the mucous membrane of the mouth and throat.

Dr. Edmund L. Cocks, New York City—In the Skin and Cancer Hospital of New York there was a case in a young woman similar to this boy's case, only the nodules of the lips and nose were larger. That case was gone over very carefully, but we could not find anything wrong except the condition of the skin. Dr. Bulkley used the *x*-rays and the nodules diminished almost one-third, although the striæ have not diminished to any great extent. I feel sure from the reports I have had of her case that she will recover.

Dr. Jay F. Schamberg, Philadelphia—Dr. Shoemaker's patient appears to have on the cutaneous surface every gradation of the xanthomatous process. On the eyelids are typical lesions of common xanthoma planum; on the extremities are seen characteristic lesions of xanthoma tuberosum, and on the back is an inflammatory nodule closely resembling those seen in diabetic xanthoma. The extent of the eruption and the pronounced effect on the boy's general health would suggest that he is suffering from a general disease of which the cutaneous lesions are merely conspicuous external manifestations; indeed, the clinical picture is quite analogous to a malignant internal neoplasm with multiple cutaneous metastases. What has the physical examination of the abdominal viscera disclosed, particularly in reference to involvement of the liver and spleen? It is the careful study of severe cases of this character that will doubtless throw light on the lesions of xanthoma that are so commonly seen in persons enjoying apparent health.

Dr. Edmund L. Cocks, New York City—I have carefully examined the internal viscera and find the liver is very much enlarged; in fact, we have liver dullness extending below the umbilicus up to and even beyond the fifth interspace. The spleen is also enlarged. I think Dr. Shoemaker mentions the examination of the blood, which shows marked anemia.

Dr. D. W. Montgomery, San Francisco—The boy's protuberant abdomen would signify that some of the abdominal viscera are affected.

Dr. M. L. Heidingsfeld, Cincinnati—I wish to record a case which I saw in November, 1902, in Evansville, Ind., in consultation with Dr. Sidney Eichel of that city. The individual was a cachectic white boy, aged 16 years, weight 68 pounds, height 4 feet 6 inches. Three years previously a ruptured compensation from a mitral insufficiency resulted in general edema, which was relieved by treatment, and jaundice and enlarged liver, which have continued to persist. The liver at the time of consultation extended below the umbilicus and almost completely filled the right half of the abdomen. The xanthomatous eruption began, shortly after compensation was ruptured, over the extensor aspects of the extremities, and was very generally distributed over the entire body in tuberous form, except around the knees and elbows, where the lesions were very closely aggregated together and took on the form of xanthoma planum. Urine until lately contained albumin, but at the time of examination was normal, excepting that it was reduced in amount; its specific gravity was 1.015. His sleep until lately was disturbed by frequent micturition. Appetite remained good, bowels regular, general distress slight. All organs except liver and heart apparently normal.

Dr. L. Duncan Bulkley, New York City—When did the first signs of this disease appear?

Dr. Shoemaker—I do not think he gives a clear history. Frank, how long have you had this?

The Patient—About ten months.

Dr. William L. Baum, Chicago—In hearing the result of the blood examination I think it would be well if some examination of the pancreas were made in this case, especially as to his digestion of fats. In view of the fact that in some cases of polyuria there is a relationship with xanthoma would point to investigation along the avenues of the pancreatic cells which might show some relationship with the central nervous system. This looks to me more like a secondary toxemic effect and it would be interesting to know what Dr. Shoemaker's record of the case might be at some future time.

Dr. Henry G. Anthony, Chicago—This case, although presenting unusual features, is not difficult to diagnose. The cases which present the greatest difficulty in diagnosis are those in which there is no elevation, the lesions consisting simply of yellow spots in the skin. This variety is recognized as a separate form by the *Pratique Dermatologique*. Dr. Pusey showed a case of this character before the Chicago

Dermatological Society; the spots had been present on the forehead seven years. We had a discussion in regard to the diagnosis. I thought it was xanthoma; others thought it verruca planum.

UNCINARIASIS IN THE SOUTH, WITH SPECIAL REFERENCE TO MODE OF INFECTION.*

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ATLANTA, GA.

In this paper I shall attempt to present some additional light on the mode of infection in uncinariasis or hookworm disease. The views as presented before this Section a year ago[1] have been confirmed, not only by my own observations, but also by those of physicians in different sections, who, after reading the article in The Journal, have written to me regarding the disease as it exists in their sections.

DISTRIBUTION AND PREVALENCE OF THE DISEASE.

It has been my fortune to see cases of the disease from all of the coast states in the south, from Virginia to Texas, inclusive, with the exception of Mississippi, but reports received from that state show that it is prevalent there as well. While my observations have necessarily been confined principally to my own state, yet the evidence indicates that the disease is equally as prevalent in all our southern states. I do not believe that there is any section of any extent in these states that is free from it. It seems as if the entire country was literally saturated with it. It is found on the highlands as well as the lowlands, and on the mountains as well as on the seaboard.

RELATION BETWEEN UNCINARIASIS AND GROUND ITCH.

I have previously called attention to the close relationship which I observed to exist between uncinariasis and ground itch, presenting clinical evidence that uncinariasis is always present in all cases which have had ground itch within eight years; that uncinariasis is rarely, if ever, present in those who have not had ground itch within that time; that of members of the same family, living under exactly the same conditions, those who have had ground itch within this time also have the uncinariasis, and vice versa; also that the severity of the disease and the number of parasites are almost invariably in direct proportion to the number of attacks of ground itch.

While the principal object of this paper is to report some experiments of placing the larvæ on the skin to artificially produce the disease, I wish first to make a few general remarks regarding the symptoms and diagnosis of uncinariasis.

SYMPTOMS.

No one set of symptoms can be put down as diagnostic of uncinariasis, as they vary with the amount of infection and with different individuals. For convenience, I have classified the disease under three types:

First. Mild cases, which have had only one or two attacks of ground itch, and therefore have only a small number of the parasites of the intestines, not sufficient to produce any diminution in the corpuscles and hemoglobin.

Second. The medium type of cases, which have usually had two or more attacks of ground itch, and have a much larger number of the parasites in the intestines, sufficient to produce a reduction of the corpuscles and of the hemoglobin, but which is not perceptible on inspection of the patient, but is readily shown by the blood examination.

Third. The severe type of the disease; those cases about which so much has been said in the past, and which have had numerous attacks of ground itch, and which usually have several hundreds of the parasites in the intestines and present all the symptoms of extreme anemia, which is readily recognized without the blood examination, and which is oftentimes so great as to interfere with the development of the individual.

We can not draw a sharp line separating these three types, but I make this classification for the sake of convenience in considering the prevalence of the disease, and also to draw attention to the fact that those cases which can be suspected from the symptoms of profound anemia are not so numerous as the other two types combined.

In cases of the first or mild type, there are practically no symptoms by which the disease can be suspected. There is no interference with the appetite and digestion which might not be attributed to other causes, no reduction in the hemoglobin, and the patient feels strong and vigorous, as the body is able to nourish a few of the parasites without taxing its reserve power.

In cases of the second type, there may be various symptoms of interference with digestion, and while the patient usually says that he feels fairly well and superficial inspection may not show any decided anemia, yet the blood examination will show the reduction in the constituents of the blood.

In the third or severe type, the patient presents all the appearances of profound anemia. The skin has a yellow parchment appearance, mucous membranes are blanched, the sclera shows clear white through the conjunctiva in which no blood vessels can be made out. The face is bloated and expressionless and the skin over the exposed parts often appears to be much thickened, and feels dry and rough. The patient may be greatly emaciated, but this may be hidden by edema. The patient is very weak, and if he attempts violent exercise quickly becomes exhausted and short of breath. There is a decided systolic murmur, and the blood examination shows a decrease of from 50 per cent. to 90 per cent. in hemoglobin, and the red corpuscles may be as low as 1,000,000, or even less. The appetite is capricious, perverted, and there may be nausea and headache. The perversion of the appetite may be shown in a fondness for meal, clay, sand, or other substances.

Many physicians have written to me regarding the habit of dirt eating as being the mode of infection of the disease. When I first discovered the disease in my section, this view naturally presented itself to me, as it had been mentioned in connection with the old-world parasite, but on careful investigation I found that children were sometimes falsely accused of eating dirt simply because they presented this appearance of profound anemia which is seen in those who acknowledge the habit of dirt eating. Also I found that those

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. The Journal A. M. A., Sept. 19, 1903.

who do eat dirt usually select a special kind of clay on the side of some bank, and which is remote from any source of infection with the larvæ. This fondness for dirt is simply the perversion of the appetite produced by the disease, and has nothing to do with the production of the disease.

The food is usually bolted down in large masses which may pass through the alimentary canal undigested.

In this severe type of the disease the patient sometimes becomes so weak that he is scarcely able to drag himself about the house, and there is general edema, which is especially marked about the feet, legs and abdomen. He may remain in this condition for some time, and then begin to gradually improve, or he may gradually get worse and worse until he dies. These cases have puzzled the physicians in the past, as they were unable to account for the cause of death. When this bloated stage is reached, life seems to hang by a mere thread, but many cases which have recovered from the disease give a history of having passed through this condition.

DIAGNOSIS.

A positive diagnosis of the disease can only be made by finding the eggs of the parasite in the stools of the patient.

In the mild type of cases there is absolutely nothing in the appearance of the patient that would lead one to suspect the presence of the disease, and there are no diagnostic subjective symptoms; in cases of the second type this is almost equally as true. At best, you may be able to detect a slight paleness of the mucous membranes, but of course this does not make a diagnosis.

The severe type presents all the symptoms which we may find in all cases of profound anemia, but these symptoms vary somewhat with the severity of the attack, and there is nothing positively distinctive about this anemia which separates the disease from the profound anemias due to other causes. If anyone should stake his reputation on his ability to differentiate the severe type of this disease from profound anemia due to other causes he would be sure to come to grief.

There is an important point on which I wish to lay great stress. Where one finds one case of the severe type of the disease, one will find a much greater number of the mild and medium types. The severe cases are far in the minority, and represent only a small proportion of the great mass of cases of all types of the disease. Usually one does not find more than one case of the severe type in one family, and yet all the other children may be infected, and not be suspected on account of having the mild or medium type and not presenting any pronounced symptoms. Too much stress has been laid on the severe type to the almost entire exclusion from consideration of the milder types, with the result that the physicians are not on the lookout for the disease unless they see these symptoms of severe anemia. The symptoms presented in these severe cases, however, are simply the conditions which would be found in any profound anemia due to other causes, and are not diagnostic of the disease.

Until recently all these cases of extreme anemia, delayed development, parchment skin, etc., have been called malarial cachexia, and treated as such, but now, as soon as a physician gains some knowledge of uncinariasis he is prone to call all these cases hookworm disease, and proceeds blindly to dose them with thymol, and then is surprised because he does not always get results. The pendulum always swings from one extreme to the other, but eventually it will settle on rational middle ground.

While it is true that the doctor who makes a snap diagnosis and calls every case of profound anemia uncinariasis, will be correct in the majority of instances on account of the prevalence of the disease, yet he will be surprised at the number of times that he is mistaken and his treatment of no avail. This being the case, no doctor is warranted in indiscriminately prescribing the large doses of thymol without first being sure of his diagnosis; and especially so in view of the fact that a positive diagnosis can be made with such ease and accuracy.

THE DISEASE NOT CONFINED TO THE LOWER CLASSES.

While this is a disease of the country and not of the city, and is most commonly found among the lower classes, yet I find it occasionally in the better classes and in the cities, and often in the most unexpected quarter. Every physician must be always on the alert if he would be sure that no case slips through his hands undiagnosed, and which may be disguised by an attack of some other disease.

This applies not only to physicians in the south, but also to those in other sections of the country who encounter patients who have lived in the south. It is the joy of every boy, whether rich or poor, to go barefoot in the summer and to paddle about in the mud, and many who live in the cities spend their summers in the country, and while there contract ground itch, and in this way have the mild or medium type of the disease.

PRECAUTIONS IN REGARD TO THE USE OF THYMOL.

Every physician in treating this disease must bear in mind that 5 grains is ordinarily considered to be the maximum dose of thymol, and that in administering 30 grains he may be giving a toxic dose. In the old world, death occasionally follows the administration of this large dose, and therefore, it behooves physicians in this country to be extremely cautious in the administration of this drug. The treatment should be modified to suit the individual case, and every precaution taken against bad results. No physician in this country wishes to be the first to have a death from the administration of thymol, and no physician is warranted in giving thymol without first making a positive diagnosis.

HATCHING THE EGGS OF THE UNCINARIA.

To hatch the eggs of the uncinaria, I have found that the best plan is to employ a Petri dish with a snugly fitting top. Place in this a small amount of soil, just sufficient to cover the bottom of the dish, and add to this soil the feces containing the eggs of the uncinaria. The feces should first be rendered semi-liquid with water, so as to facilitate thorough mixing with the soil. On adding a small amount of the feces to the soil and thoroughly mixing it, the odor of the feces will disappear, leaving only an odor of damp earth. The feces are added gradually until a faint odor of the feces remains, but this will disappear in a day or so (Fig. 1).

To facilitate the rapid hatching of the eggs, there should be just sufficient moisture in this mixture to keep the soil damp. If too much moisture is present, the lid of the dish may be left off for an hour or so to allow the excess of moisture to evaporate. It is necessary to replenish the moisture every two or three days by adding a few drops of water at a time. If there is

not too much moisture, and the soil is thoroughly mixed with the feces, all of the eggs will hatch in about twenty-four hours. Otherwise some of the eggs will not hatch until several days after the first larvæ appear. Figure 1 shows Petri dishes with soil containing larvæ.

OBJECT OF USING PETRI DISHES FOR HATCHING EGGS.

By employing these Petri dishes we can watch the hatching of the eggs and the development and habits of the larvæ. This is done by inverting the dish and placing it under the 2/3 objective of the microscope.

One can watch the eggs hatch and observe the larvæ traveling about in the soil by their sinuous motion, and in the same way working their way across the open spaces on the bottom of the dish. These open spaces may seem to the naked eye to be free from water, but with the microscope we can make out a thin film of

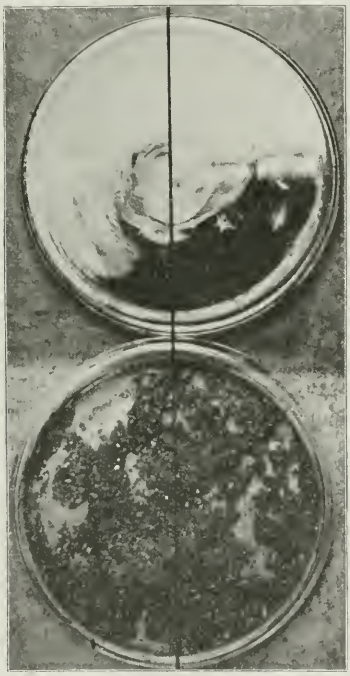

Fig. 1.—Petri dishes containing soil with larvæ of uncinaria.

moisture, just sufficient to preserve the vitality of the larvæ and favor their locomotion.

APPEARANCE OF THE YOUNG LARVÆ.

When the egg hatches, the small larva which emerges seems to consist principally of esophagus and stomach, the other end of the organism being short in proportion. At this time the larva is very sluggish under all conditions, and no amount of disturbance seems to arouse it. For the next three or four days it grows very rapidly, this growth being most marked in the posterior half of the organism. Also at this time the first sheath appears, and with it the organism becomes extremely lively at times, especially if disturbed. Whether it is necessary to disturb the larvæ to produce this animation I am at present uncertain, but I am sure that sometimes very little motility is displayed by the organisms while in the Petri dish, yet if placed on a slide they will begin squirming about at a lively rate. This rapid movement will last from a few minutes to half an hour or more, and then they will lie perfectly still for a corresponding length of time with their bodies perfectly straight, after which they resume their lively motions. When lying still, one who is not familiar with this trait would suppose them to be dead, but close observation will readily differentiate them from the dead larvæ.

When placed in a drop of water on the slide there is a tendency to migrate to the edge of the drop, where they squirm about as if trying to get beyond its confines. The larvæ may be kept alive in the Petri dish for three or four months. After keeping them for some time, however, I noticed that there was a diminution in the number present in the soil, and was somewhat puzzled to know what had become of them, as I was unable to find sufficient remains of dead larvæ to account for the decrease. Recently some of the internes at the Grady Hospital called my attention to the fact that on examining some cultures which I had left at the hospital, they had observed great numbers on the underside of the lid of the dish, and that in a good light they could faintly make out these larvæ with the naked eye. I found both these reports to be true. The precipitation of moisture can readily be seen on the under surface of the lid of the dish, and on examining this the larvæ can be made out; some moving around, while others are perfectly still in the resting stage.

SOME OBSERVATIONS OF THE LARVÆ.

If larvæ three days old are placed in a drop of water on the slide, it will be observed that while their motility is something wonderful as they thrash about in the water, yet they are unable to make any progress because the water does not offer sufficient resistance to their sinuous movements. However, if placed in a thin layer of soil (so that they can be easily seen with the microscope), their sinuous movements give them wonderful speed with the foothold which they gain by zigzagging between the grains of sand or particles of earth.

As they dart about it may also be noticed that when they encounter anything which blocks their progress that the head remains more or less fixed against one point, and the violent motion of the body gives the appearance as if it were trying to force its way. If the larvæ are in water their most vigorous efforts produce very little effect on the obstruction, but if there is sufficient soil against which they can brace the body, as it were, they sometimes brush aside the obstacle, or force their way through small openings.

Bearing these observations in mind it can readily be seen that it would not be easy for the larvæ to force their way into the ducts of the glands when they are applied to the skin in water, but if they are applied mixed with soil, their power of penetration would be greatly increased.

Ground itch nearly always starts between the toes. When a barefoot person steps in mud it is forced up between the toes where the skin is thin and tender, and the pressure of the adjacent toes holds the soil in direct contact with the skin, and the conditions are thus made favorable for the passage of the larvæ from the soil to the skin.

VITALITY OF THE EGGS AND DEVELOPMENT OF THE LARVÆ.

In determining how these larvæ get into the body it

is necessary for us first to know where they exist in the natural state. To ascertain this we begin with the passage of the egg from the adult worm. We find that this parasite is practically confined to the human family; that when matured it is located in the small intestines; that the eggs are discharged from the body in great quantities with the feces, and that these eggs hatch when mixed with damp soil. However, if these eggs become dried their vitality is destroyed; they are also killed by freezing. When the eggs do hatch we find that this takes place in about twenty-four hours if the weather is warm, but more time is required if the weather is cool.

As before stated, the larvæ are very sluggish when first hatched, but gradually become more active, especially if the temperature is favorable, and are extremely lively by the time the first sheath appears; but they again become sluggish and inactive if the temperature is lowered, and a freezing temperature kills them.

WHEN GROUND ITCH IS CONTRACTED.

From a consideration of these facts we would naturally deduce that, if they do gain access to the body by way of the skin, this must take place during warm rainy weather, or in places where the ground is constantly moist. If a careful clinical investigation of cases of ground itch is made, it will be found that it always occurs as a result of wading about barefoot in the mud, and especially if it has been raining for more that a day previously.

SYMPTOMS OF GROUND ITCH.

The first symptom of true ground itch is an itching, usually between the toes, and this becomes more and more intense until it is excruciating. Children often cry all night during an attack. The itching begins immediately after wading in the mud, and small hyperemic spots or macules are noticed at the points of irritation, and these macules appear to be slightly elevated, but hardly reach the distinction of papules. These macules rapidly change to vesicles, which may become confluent, forming large blisters, and at the same time there is usually considerable swelling in the underlying tissue. The vesicles are usually ruptured, presenting a raw oozing surface. This condition may last only a couple of weeks, or it may last several weeks; it may involve only a small area, or it may cover both feet, and the patient be unable to walk about for the time being.

CHANCES OF INFECTION.

The next point to be considered is, what are the chances for human beings to come in contact with the larvæ? If all the feces of people who have the parasite in their intestines were destroyed, then there would be no possibility of the eggs hatching, and reinfection or infection of others would not take place. From a study of the habits of the people we find in the country and in small villages that the feces, instead of being passed into receptacles and carried away, are deposited about indiscriminately on the ground, very often near the house and even in the yard. In many instances, if all the eggs passed in the feces of the people living in one house (usually most of the members of a family have the disease) should retain their vitality and hatch out, then the soil of such premises would be swarming with the larvæ, and everyone barefoot would be almost sure to come in contact with the larvæ every time they stepped on the ground. However, when we remember that all eggs and larvæ are destroyed when they become dried or frozen, we would not anticipate any danger of infection from the larvæ except when the ground is kept moist in warm weather, and therefore, the feces which furnish infection are only those which are passed just preceding rainy weather in the summer. Nature provides for the production of countless numbers of the eggs at all times, so that when a favorable time presents itself there is sufficient material for the propagation of the species.

PROPHYLAXIS OF THE DISEASE.

If we thus understand just what conditions are necessary for the completion of the life cycle of the parasite, and can interpose a complete obstruction or break in the chain at one point, then we can readily prevent the disease. As all the evidence points to the view that these larvæ pass into the system through the skin of the feet, and that this takes place only during periods of rainy weather or from damp soil; then if we protect the feet so that they can not come in contact with the soil, we can thus prevent infection. To attempt to change the habits of these people and to control the deposition of the feces is not a feasible undertaking, as any one who is familiar with the conditions well knows. It is much more practicable to teach the people that ground itch is not such a simple disease as they suppose, but that it has serious results, and if they once

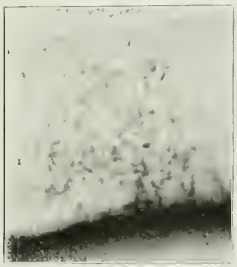

Fig. 2. Eruption on the wrist produced by larvæ of the uncinaria.

realize this they are more apt to see that the feet are protected in rainy weather. If this is thoroughly carried out, other precautions are superfluous.

EXPERIMENTS WITH THE LARVÆ ON THE SKIN.

Soil containing larvæ twenty-four hours old was placed on the back of the wrist of a patient and allowed to remain one hour. No effect was produced and no disturbance of the skin followed.

When these same larvæ were four days old the soil was again applied to the wrist, covering an area about two inches in diameter, and allowed to remain one hour. The soil was bound on the wrist with gauze bandage. Within a few minutes after being applied the patient complained of a slight itching, but I thought this might be due to the irritation produced by the grains of soil being bound on the wrist. However, within eight minutes after being applied he complained of a decided stinging sensation as if produced by very fine needles, and this persisted during the time the soil was in contact with the skin, but subsided somewhat afterward. On removing the soil the area covered by it was found to be decidedly reddened in spots, and these spots or macules appeared to be slightly elevated. The macules persisted, but the patient said that he did not experience any inconvenience during the balance of the day; the next morning, however, he found that he had scratched it during his sleep, and I found that the epithelium had been scratched from some of the spots, which were now so elevated as to resemble papules, and the entire area was decidedly swol-

len. The wrist was wrapped with gauze bandage so as to prevent the patient from scratching it.

The second morning the patient reported that the itching had been so severe during the night as to seriously interfere with his sleep, and on removing the bandage the area was found to be much swollen and covered with vesicles.

The third morning the patient reported that his sleep was again disturbed by the itching, but that it was not severe during the day. The swelling had increased and involved the back of the hand.

The fourth morning the swelling had extended to the fingers, and inflamed streaks appeared above the wrist, running around to the middle of the flexor surface of the forearm and slightly tender on pressure. Axillary glands were somewhat enlarged and tender. The epitrochlear was not involved. There was very little swelling above the wrist. The itching was still troublesome, but temporary relief was obtained by placing it in very hot water.

On the fifth day the vesicles were much enlarged and confluent. Some had ruptured and saturated several layers of the gauze bandage with the serum. The itching was still constant, but not so intense. The swelling of the hands and fingers greatly increased. No increase of tenderness of the axillary glands or redness of the middle of forearm.

On the sixth day the tenderness and swelling were less marked.

By the seventh morning the vesicles had begun to dry up, and from this time on the swelling subsided rapidly and was all gone by the twelfth day. (Fig. 2.)

With the exception of the disturbance caused by the itching and swelling, the patient said he felt all right. During all this time it was noticed that there was very little tenderness over the infected area.

On the eighth day the patient developed a severe pharyngitis, tongue heavily coated, pulse rapid, headache, aching of body and limbs, temperature 102, complete loss of appetite, very weak; said he felt very much like he had the grip.

Patient was in bed twenty-four hours and after that his condition returned to normal, except that his appetite was not very good and he complained of an uneasy feeling about the stomach. His appetite improved rapidly, but he complained for three or four weeks of his digestion being bad, and during this time the patient said he would be waked early every morning by a dull, sickening ache about the stomach. After the fourth week all these symptoms disappeared.

I was in doubt as to whether this pharyngitis had any connection with the infection. However, I recall that in working with the parasite found in the dog, that in administering the larvæ in capsules to a patient, that one of the capsules broke in his mouth and for several days afterward he was troubled with a severe tonsillitis and pharyngitis.

At the time the soil was placed on the wrist of the patient the stools were carefully examined, and twice a week thereafter. The examinations were negative until the middle of the seventh week, when the eggs of the uncinaria appeared in the stools. This was the middle of April, and the patient was still passing the eggs the first of June. The preliminary report of this case was presented before the meeting of the Georgia Medical Association in April.

Following this experiment a small bit of soil containing larvæ, also a drop of water with larvæ were placed at different points on the skin of the patient to determine whether any difference could be noticed in the effect of the larvæ under the two conditions. In eight minutes the patient complained of the stinging sensation at the point where the soil had been placed. The soil was immediately removed and the skin was found to be reddened and the itching continued. Thirty-five minutes after the drop of water was placed on the skin the stinging sensation was felt at that point. It took nearly five times as long for the larvæ in the water to gain a foothold. It was also noticed that the eruption appeared only around the edge of the drop where the water had begun to evaporate and had deposited a thin layer of sediment, and this had acted apparently as so much soil in giving the larvæ a foothold. This is in accord with previous conclusions that the larvæ would not pass readily from water into the skin.

Again, on a patient who applied for circumcision a small bit of soil containing larvæ was placed on the prepuce. The patient seemed to have an idea that it was some medicine preparatory to the operation, as nothing was said to him about it, and in four minutes he remarked that the prepuce felt as if a fly was crawling over it, and a minute or so later said that it felt as if needles were sticking in it. On removing the soil the slightly elevated macules were present as in the other cases. After circumcision the prepuce was hardened, infiltrated with celloidin and sectioned, but I failed to find the larvæ. I was unable to account for not finding the larvæ, and the experiment was repeated recently with like result on the patient, and the tissue is now being infiltrated with paraffin, and report will be made later.

To obtain some idea as to how rapidly the larvæ migrated toward the skin, some soil containing larvæ was placed on the skin and allowed to remain four minutes and then removed and spread out on a slide and examined under the microscope. No larvæ were found in the soil, and the skin was then placed under the low power and was found to be covered with the larvæ at the point covered by the soil.

The larvæ used in the experiments which were successful were from four days to four weeks old.

This is the first report of a successful attempt with the parasite in this country to produce the disease artificially, and demonstrates that the work of Looss holds good with the *Uncinaria americana*, and confirms the views previously presented by me as to the mode of infection of the disease.

DISCUSSION.

Dr. H. B. Ward, Lincoln, Neb.—It is worthy of note that the time observed for the development of the larva in this species is almost the same as the time which was found for the development of the European form. The correspondence is all the more striking that we now believe there is a considerable difference between the two species; in fact, it is unfortunate that recent investigators are giving entirely different generic names to the two forms, European investigators agreeing that there is considerable difference between the European and the American form. It is difficult to explain the absence of larvæ from the skin in the experiment cited, and I should like to ask Dr. Smith whether he made sections of considerable areas, and whether he found in those sections no trace whatever of the larvæ and no modification of the skin. It is hard to believe that in the case of the skin manifesting the after-symptoms mentioned the larvæ should not have been in it. The European form was detected under experimental circumstances in the skin of a dog and also in the skin of man in a case of a member that was to be amputated and was experimented on immediately preceding the amputation.

Dr. Claude A. Smith—In response to Dr. Ward's remarks I can not say just why I failed to find the larvæ in the sections of the skin. The sections presented a decided engorgement of the blood vessels with a tendency toward exfoliation of the outer layers of the epithelium. I was surprised not to find the larvæ, but I feel that this will be an easy matter in the future; just as at first I was unable to infect the skin with the larvæ. I first tried to infect the skin of a dog with the larvæ of the dog parasite, which are much more vigorous than the larvæ of the human parasite, but did not succeed. Now I find that I have no difficulty whatever in infecting the human skin with the larvæ of the human parasite. Any one can do this with the larvæ three or four days old if they will add just sufficient moisture to make sure of the contact of the soil with the skin. In making one of the experiments I found that some of the damp soil had accidentally dropped on the skin in places not intended to be inoculated, and no result followed, as there was not sufficient moisture to bring the soil in close contact with the skin. You will thus see on how small a point can depend the success of an experiment. I may find that the failure to find the larvæ in the first case

was due to some faulty technic in preparing the sections. However, as I had time to examine only one specimen before leaving home, I was hardly ready to make a report on this part of the experiments. The principal part of my paper was to report the artificial production of the disease by placing the larvæ on the skin, the finding of the eggs of the parasite in the stools being proof of the success of the experiment, in view of the fact that the patient did not have the disease previously.

LINEAR NEVI.

A FEW CLINICAL AND PATHOLOGIC CONSIDERATIONS IN REFERENCE TO NEVI IN PARTICULAR AND TO DERMATOLOGY IN GENERAL.*

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Inasmuch as the entire subject of nevi is still a dermatologic dark Africa, and linear nevus forms an intricate and obscure division, I will endeavor to confine myself in this paper to a few brief, chiefly histo.ogic considerations, and their application to linear nevi in particular and dermatology in general. So many anomalies, e. g., pigmentations, albinism, hirsuties, angiomata, teratomata, keratomata, atheromata, port-wine stains, defects, etc., are included under the technical term nevus, that it is unfortunate that its original lay character should have acquired scientific value. Additional confusion has attended this unfortunate interchange of terms, by the fact that identical lesions escape classification if their distribution is general instead of limited, and that their development need not be coincident with birth, but months or even years after. Linear nevi not only share in the confusion which attaches itself to nevi in general, but that due to a verbose redundant terminology, replete with almost every variety of dermatologic phrase or term, such as nevus congenitalis, zoniformis, herpetiformis, linearis, papillaris, lichenoid, ichthyotic, eczematous, keratotic, pigmented, piliferous, hystrix, nigricans, papillomatous, verrucosus, etc., to suit almost every variety of clinical condition. This unfortunate redundant terminology has been rendered permissible by the great clinical variations which exist in individual instances; at the same time the general characteristics of the affection are so clean cut and definite, and stamp it so individually and unmistakably, that any great digression in nomenclature appears unpardonable. Additional latitude is likewise afforded by an equally variant histology, and though this special feature of the affection has not as yet been extensively elaborated, enough has already been produced to demonstrate that in this distinctly one affection many varieties of pathologic lesions are readily found, making its pathology when strictly interpreted as complex and unintelligible as the clinical history. With all this, nevus linearis is a dermatologic affection, *sui generis*, possessing a complete entity, and for the most part a very easily recognizable identity. With these characteristics it serves an interesting and instructive example of the foibles and weakness of present dermatology, namely, the tendency to individualize and thereby complicate, rather than generalize, and thereby simplify single types in classification; and secondly, the tendency to give to dermatologic histopathology a diagnostic rather than mere confirmatory value. In other words, there are many cases in dermatologic literature, which are reported as special and distinctive types of affection, by authors who doubtless could readily find a place for them in the already overelastic noso.ogy, if less attention were directed to individual traits and more to general description.

According to Morrow,[1] the distinguishing characteristics of linear nevus are: 1, Its linear disposition in the form of continuous or broken bands or streaks following the long axis of the limb or transversely on the trunk; 2, its unilateral disposition (with some exceptions); 3, papillary or verrucose character, constituted by a hypertrophy of the epidermal and papillary structures; 4, congenital origin, usually present at birth or several months afterward, rarely not before adolescence; 5, sensory disturbances, such as itching, and usually resulting from external irritation; 6, the affection may increase in extent, remain stationary, regress or undergo degenerative or malignant transformation. These features of the affection, gathered from the cases from

Fig. 1.—Case 1. Linear nevus, showing marked spontaneous regressive changes. Dendriform lesions. Photo Jan. 16, 1901.

the literature and from Morrow's own cases, present variations, and are by no means constant. In fact, the character of the affection is so distinctive that it requires but few of Morrow's characteristics to form a tripod on which the diagnosis can unmistakably and securely rest.

The following three cases, which were presented to the Cincinnati Academy of Medicine, Jan. 28, 1904, are briefly reported:

Case 1.—(Fig. 1.) W. M., male, aged 20 years. The lesions are firm, hard, papular, somewhat elevated and keratotic, sharply circumscribed in character and brownish red in color. They are sharply limited to the right half of the body, and are distributed in linear form directly over the great sciatic nerve, from its point of origin at the ischio-sciatic foramen, along its entire course, down the posterior aspect of the thigh, to its division into the internal and external popliteal branches. From this point it is distributed in broken segments along the internal popliteal nerve, over the posterior aspect of the calf of

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1. Morrow: New York Med. Jour., 1898.

the leg, and also along the external popliteal nerve over the external and anterior aspects of the leg, near the fibula. The second distribution is over the right half of the penis and scrotum, which are richly covered with a large number of linear filaments, none of which, however, transgress the median line. The third distribution is over the right aspect of the forehead and nose and consists of a few relatively faint linear filaments, that are sharply arrested at the median line. According to statements of both the intelligent mother and patient, the congenital lesions were not present at birth, but developed a few years later, and have persisted ever since, with relatively little change. The only subjective symptom has been an occasional pruritus, but not very annoying in character. The objective disfigurement, coupled with the fear that the lesions might terminate into something more serious, induced him to seek medical attention. He maintains that his case was never thoroughly understood nor any medical relief afforded until the present diagnosis was established four years ago. Figure 1 shows the condition one year later. During that year the case showed marked retrogressive changes, the lesions having spontaneously disappeared over the middle third of the thigh. The linear distribution and dendritic or branching character of the lesions are well marked in this photograph.

Fig. 2.

Since then there has been a gradual and spontaneous recurrence of the lesions until the distribution at the present time corresponds closely to the distribution as observed when the patient was first seen. It is noteworthy to mention that the lesions always recurred exactly over their former site.

Case 2.—(Fig. 2.) J. S., aged 38 years, male, presented himself for the first time July 30, 1902, when the accompanying photograph was taken. The nevus in this case is situated over the left antero-lateral aspect of the scalp, covering a relatively large, irregularly shaped area, not corresponding to the distribution of any particular artery, nerve, metamere, or line of Voight. In this case the presence of the nevus dates to the birth of the patient, and was yellowish in color and smooth in character. It has remained without material change, with the exception that it has grown decidedly warty in recent years.

Case 3.—H. C., aged 10 years, female, presented herself four years ago, March 12, 1900, with a nevus, present from birth, showing no material change, and with a distribution over the left side of the neck, as recorded by the accompanying photograph (Fig. 3). The lesions for the most part were small, papular and sharply circumscribed, smooth, non-elevated in character, reddish-brown in color, and scattered irregularly over the affected area. A few were dark and pigmented; on the forehead and scalp the lesions were yellowish in color and preserved a linear arrangement, but were so closely grouped that they formed an irregular, diffused, sharply defined area about the size of a silver half-dollar. Some of the lesions at the time were successfully removed by electrolysis. On Jan. 23, 1904, patient presented herself for the second time, when the next accompanying photograph was taken. (Fig. 4.) At this time a material change was noted. The former smooth, yellowish patch on the forehead had become rough and warty, and was studded with several papillomatous prolongations. The lesions over the neck and cheek had greatly multiplied in number and now extended down over the chest in great numbers as far as the nipple. The new lesions for the most part were small, sharply defined, darkly pigmented papules, having individually a close analogy to common moles, or, on the whole, a more striking resemblance to the cutaneous metastases of a pigmented sarcoma. The unilateral character was still sharply maintained and the median line was not transgressed.

If we group these three cases together, the most striking characteristic common to all is congenital origin.

Fig. 3.—Case 3. Linear nevus of sharp unilateral character, with multiform lesions. Photo March 12, 1900.

Even this character requires in Case 1 the more recent and liberal interpretation of congenital lesions, which the most conservative (Besnier included) are nowadays willing to grant, and that is that their visible appearance need not date from birth, but months or years later. By far the vast majority of cases reported in the literature are present at birth or shortly afterward. Among those who report a later development are Leven[2] (fourth week), Dyer[3] (sixth week), Ransom[4] (sixth month), Lanz[5] (first year), Werner[6] (first year), Buri[7] (second year), Köbner[8] (second year), Phillipson[9] (second year), Hagen[10] (third year), Gerhardt[11] (third

2. Leven: Dent. med. Woch., 1897, No. 41.
3. Dyer: Jour. Cutaneous and Genito-Urinary Diseases, vol. xvii.
4. Ransom: Jour. Cutaneous and Genito-Urinary Diseases, 1896, xlv, p. 141.
5. Lanz: Dermatolog. Zeitschr., vol. i, No. 2, 1894.
6. Werner: Arch. f. Derm. u. Syph., vol. xxxiii, p. 341.
7. Burie: Monatsh. f. prakt. Dermat., July 1, 1899.
8. Köbner: Arch. f. Derm. u. Syph., vol. xxxiii, p. 393.
9. Phillipson: Monatsh. f. prakt Derm., vol. ii, 1890, p. 338
10. Hagen Münch. med. Woch., 1897, No. 19.
11. Gerhardt: Jahrb. f. Kinderheilk., iv, 1871, p. 270

year), Fox[12] (tenth year), Touton[13] (sixteenth year), Dyer[3] (seventeenth year), Hallopeau and Jeanselme[14] (twentieth year). Jadassohn[15] (p. 372) states that the lesions of this affection are due to general causes, that it is impossible to give to it an anatomic ensemble, and, therefore, the term nevus is an indispensable one.

The next most noteworthy feature of the cases is the unilateral distribution of the lesions which, though extremely well marked in two of the cases, is not so apparent in the third (Case 2), because the median line is not approached.

Most of the cases in the literature possess a distinctly unilateral character, the lesions in most instances rarely transgressing the median line anteriorly or posteriorly. The most prominent exceptions are reported by Dyer[3]

Fig. 4.—Case 3. Showing great multiplication of lesions in short time. Photo Jan. 23, 1904.

(3 cases), Pringle[16] (1 case), Spietschka[17] (1 case) Gerhardt[11] (1 case), Ransom[4] (1 case), Köbner[18] (1 case).

The next most salient characteristic is its linear character and disposition,[19] or rather lack of disposition along nerves, lines of Voight, lymph-vessels or other structure.

The disposition along structural elements is likewise apparent only in Case 1, and here closely follows, in rather remarkable manner, the great sciatic nerve and its branches.

These variations in form and distribution conform with the general report of cases. Among those who report a nerve distribution are Saalfeld,[20] Jadassohn[21] (4 cases), Köbner,[18] Simon,[22] Barensprung,[23] Lommel,[24] Etienne[25] (3 cases), Brocq,[26] Campana[27] (11 cases). Among those who maintain a line of Voight distribution are Hagen,[10] Phillipson,[28] Peterson,[29] Galewski,[30] Pecirka,[31] Buri.[7] Meissner[32] reports a distribution along lymph vessels. Lanz,[5] Abraham,[33] Pringle[16] and others are opposed to nerve and line of Voight distribution, or any particular form in general. (Kaposi[34] states in his text-book "that there is a close relationship between nerves and linear nevi can not be denied from their oft-distinct zoster-like unilateral distribution, and their parallel course over the nerves of the extremities, but an absolute proof is still wanting." He believes that their presence can be more easily accounted for by developmental error than by innervation influences, and that the term "nerve nevi" is merely conventional and without neuropathic importance.) Galewski[35] reported a case of nevus linearis, with a line of Voight distribution, before a congress of German scientists, at Nuremburg in 1893, and Saalfeld[20] in discussion questioned the character of the distribution, and Galewski

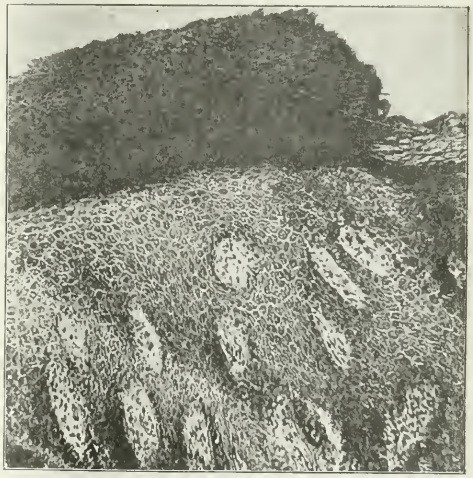

Fig. 5.—Case 1. Chief pathologic change is heaped up layers of imperfectly keratinized epithelial cells.

in reply admitted that he could not state in the case in question, whether the distribution followed the lines of cleavage, nerves or Voight's lines.

The remaining so-called distinguishing characteris-

12. Fox: Brit. Jour. Derm., 1902, p. 56.
13. Touton: Vehr. d. Dent. Derm. Gesell., Fifth Congress, p. 418.
14. Hallopeau and Jeanselme: Annal. de Dermatol., 1894, p. 1273.
15. Jadassohn: Arch. f. Derm. u. Syph., vol. xxxiii, p. 359.
16. Pringle: Brit. Jour. Derm., 1896, p. 330.
17. Spietschka: Arch. f. Derm. u. Syph., vol. xxvii, p. 27.
18. Köbner: Arch. f. Derm. u. Syph., 1888, pp. 393 394-933.
19. A pronounced linear character, is well marked only in Case 1, and is at best only faintly indicated in the two remaining cases.
20. Saalfeld: Alleg. med. Centralz., 1892, No 102.
21. Jadassohn: Arch. f. Derm. u. Syph., 1888, p. 917.
22. Simon: Arch. f. Derm. u. Syph., 1872.
23. Barensprung: Charité Annalen, 1863, vol. III, No. 2, pp. 91-95.
24. Lommel: Munich med. Woch., 1903, No. 36.
25. Etienne: Nouv. Icon. d. l. Saltpel., 1897, Abst. Brit. Jour. Derm., 1898, p. 28.
26. Brocq: Annal. de Dermatol., 1894, p. 791.
27. Campana: Giorn Ital. d. Mal. Ven. e delta pella, October, 1896.
28. Phillipson: Monats. f. prak. Derm., vol. II, p. 337.
29. Peterson: Arch. f. Derm. u. Syph., 1892, pp. 919 930.
30. Galewski: Monats. f. prak. Derm., vol. xvii, p. 402, Soc.
31. Pecirka: Monats. f. prak. Derm., vol. xiii, 1891, p. 170.
32. Meissner: Derm. Zeitsch., vol. II, No. 5.
33. Abraham: Brit. Jour. Derm., 1902, p. 182.
34. Kaposi: Hautkrankheiten, 1893, pp. 590-591.
35. Galewski: Vehand. d. Dent. Dermat. Gesell., Fifth Congress.

tics of the affection also showed some clinical variations. Stability of the lesions were only marked in Case 2; in Case 1 they constantly recurred and retrogressed, and in Case 3 there was an extensive and rapid development in four years' time. Sensory disturbances were entirely absent in two cases, and only slightly (mild pruritus, not constant) present in Case 1. The individual lesions, though for the most part warty and papular, presented wide differences in size, consistency, arrangement and location, even showing almost every degree of variation in one patient (Case 3).

The variations in stability, above mentioned, are frequently encountered in the literature, and reference to specific examples seems superfluous. Some marked instances in the clinical appearance of the lesions are instanced by Selhorst,[36] Mendes da Costa,[37] and Thibierge,[38] who report lesions which closely resemble comedones or acne. Köbner[8] describes a case with xanthoma-like lesions. Jadassohn[39] reports that two of his cases were incorrectly diagnosed pityriasis versicolor. Touton[13] reports a case under the name "neurodermatitis linearis chronica," which is pronounced linear nevus by Jadassohn and Galewski. Robinson,[40] on the other hand, reports a case "nevus linearis," which is pronounced by Lutz keloid or papilloma. Fox[41] records an apparent case under the name localized ichthyosis. Brocq[26] a case as lichen simplex chronicus. Hallopeau[14] reports one as nevus linearis lichenoides, which he would have diagnosed, on account of its late appearance (twentieth year), lichen planus, had not the slight prodromal itching ceased entirely. Fox[12] reports the lesions of one case as probable myomata. Fox,[42] in another case occurring in the scalp, states that many cases of so-called white moles and congenital alopecias are probably "nevi linearis."

From the foregoing brief clinical descriptions, and the superficial survey of the literature, the very complex, diverse clinical nature of this affection is readily apparent. And yet in spite of its multifold nature, its burdensome nomenclature, the endless variety of lesions, their obscure and variegated distribution, and their varying stability and instability, there is something to the clinical ensemble that is clear, distinctive and clean-cut, and readily gives the affection an unmistakable identity. It is strange to state, that however diverse its clinical history, its histopathology presents a still more diversified character. There is scarcely an element of the skin, epidermis, dermis or glandular element that is not involved in some form of pathologic change; stratum corneum, rete spinosum, papillæ, lymph and blood vessels, sebaceous and sudoriferous glands, pigment cells, hair and their follicles are all variously and unequally involved in some form of change. Pathologic variations and differences exist not only in separate individual cases of this distinctly one affection, but often in one and the same case, so wide in range and sweeping in character as to almost precipitate us in an abyss of histologic agnosticism. Not only is there a marked lack of analogy of the lesions for each other, but there exists at times the most striking analogy for affections totally different in character: warts, moles, adenomata, sarcomata, clavus, false and true keloid, xanthoma, etc., are so closely imitated in histologic structure that a discrimination is deceptive, if not impossible.

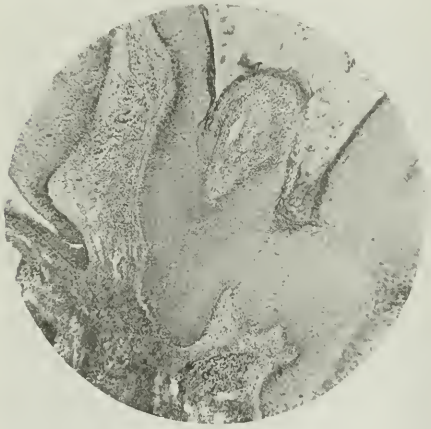

Fig. 6.—Case 2. Chief pathologic change of this case is a papilliomatous structure.

Fig. 7.—Case 3. Adenoma of the sebaceous glands from yellowish lesion of the scalp.

In Case 1 the chief pathologic change (Fig. 5) is a hyperkeratosis, consisting at times of a single heaped-up layer of only partially keratinized epithelial cells which, for the most part, retain a fairly well-developed nucleus; at times there are several successive layers of these partially keratinized cells of varying thickness and showing different degrees of keratinization. The papillæ of the skin and the interpapillary processes of the rete show a moderate amount of elongation under the hyperkeratotic area, and the involved papillæ show a moderate amount of leucocytic infiltration, commensurate with the corresponding inflammation from simple me-

36. Selhorst: Brit. Jour. Derm., November, 1896.
37. Mendes da Costa: Nederland Tijdsch. v. Geneesk, Deel, No. 7, Abst. Brit. Jour. Derm., 1897, p. 207.
38. Thibierge: Annales, 1896, p. 1298.
39. Jadassohn: Arch. f. Derm. u. Syph., loc. cit., 1888, p. 933.
40. Robinson: Jour. Cutaneous and Genito-Urinary Diseases, vol. iv; Monats. prak. Derm., 61, p. 536.
41. Fox: London Derm. Soc., Oct. 13, 1897; Brit. Jour. Derm., November 1897.
42. Fox: Brit. Jour. Derm., 1898, p. 21

chanical pressure. The general histopathologic appearance bears a very close resemblance to ordinary clavus, from which, as far as microscopic evidence shows, it is practically indistinguishable.

In the *Journal of Cutaneous and Genito-Urinary Diseases* (Vol. xviii, p. 495), there is a photogravure, in an article on "Leucopathium Unguium,"[43] representing a single layer of imperfectly keratinized hyperkeratosis, taken from this particular case. Touton[13] reports a case of almost identical histologic structure under "Dermatitis Linearis Chronica," which Jadassohn and Galewski, in discussion, call "nevus linearis."

In Case 2, the chief histopathologic change (Fig. 6) in the yellowish-white, slightly papillomatous, hair-denuded lesion of the scalp (lesions which Fox[44] states are probably often reported as congenital alopecias, or white moles), was a papillary hypertrophy, hyperkeratosis and acanthosis, in most respects identical and indistinguishable from the histologic structure of common and venereal warts. In other respects there were no important or characteristic changes.

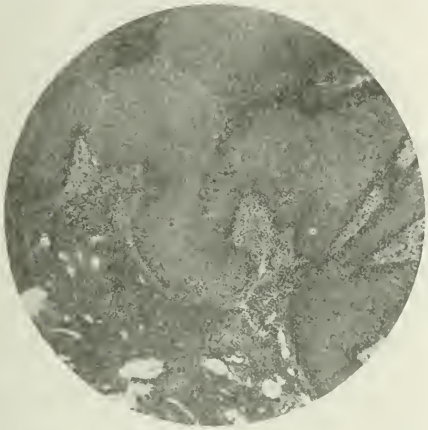

Fig. 8.—Case 3. Papillomatous structure of warty excrescences.

In Case 3 the most interesting and varied pathologic changes are encountered. The yellowish-white, hair-denuded scalp lesion, which is analogous in size, color, location and distribution to the similar lesion in Case 2, showed a very extensive adenoma of the sebaceous glands, which consisted of huge masses of lobules, closely crowded together and occupying almost the entire cutis. (Fig 7.) The structure and nuclei of the sebaceous cells were well maintained. The other changes were of slight character and not of noteworthy mention, except a few papillomatous excrescences, which had only recently made their appearance, and which showed the same warty papillomatous structure as Case 2. (Fig. 8.) This latter applies merely to the excrescences, and not to the adenomatous base from which they spring. This structural dissimilarity between clinically similar lesions is more striking, by reason of the fact that the lesion in Case 2, according to the patient's history, was originally smooth like that of Case 3, and the papillomatous masses had also likewise been secondarily acquired. This observation refutes Jadassohn's[45] dictum that lesions which preserve the same clinical characteristics in "nevus linearis" also maintain the same histologic structure.

Jadassohn[44] reports a similar adenoma of sebaceous glands in two cases of nevus linearis, and states that doubtless many cases reported in the literature, under the names of sebaceous adenomata, etc., can be properly classed with the linear nevi. Pollitzer's[45] case, which is reported under the name of "adenoma sebaceum," can probably be correctly quoted as an example of such incongruity. Bandler[46] reports two cases, in both of which the lesions were located on the scalp, and in both of which there were adenomata sebacea, in all respects similar in histologic structure to Case 3. Moeller[47] states that adenoma of the sebaceous glands is one of the forms of histologic change.

The lentiginous lesions of Case 3 presented various forms of histologic structure, the firm, glistening, yellowish-red, slightly elevated lesions showed a dense connective tissue hypertrophy which extensively invaded the entire cutis and pars papillaris, filling these structures with a dense meshwork of connective tissue fibers, which closely enveloped the few remaining hairs, vessels and glandular elements (Fig. 9.) In general, the histologic appearance closely resembled and was practically indistinguishable from false or true keloid.

The slightly elevated, oval-shaped, hairy lesions, which in gross appearance resembled ordinary pigmented moles, presented the characteristic histologic structure of these lesions, a moderate cellular infiltration of the papillæ, pigment accumulation and hypertrichosis. (Fig. 10.)

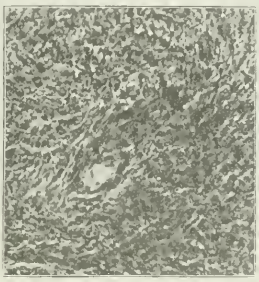

Fig. 9.—Case 3. Keloid-like structure of fibro-connective tissue, from a glistening yellowish-red lentiginous lesion.

The small round, darkly pigmented lesions, which were rapidly multiplying on the face and particularly on the neck and chest, showed an extensive spindle-shaped invasion of the pars papillaris (Fig. 11) connective tissue, numerous thin-walled capillaries, and a marked asymmetry of structure and arrangement that closely resembled and was practically indistinguishable from sarcoma cutis. (Fig. 12.) In this particular case, then, the various lesions show the most marked variety of histologic structure, varying in analogy from sebaceous adenoma to common and venereal warts, false and true keloid, moles and sarcoma, and if Case 1 is included, the histologic analogy also showed clavus.

Other histologic anomalies of linear nevi encountered in the literature, include "Adenoma of the Sudoriferous

43. Heidingsfeld: Jour. Cutaneous and Genito-Urinary Diseases, January, 1903.

44. Jadassohn: Loc. cit., vol. xxxiii, pp. 362-363.

45. Pollitzer: Jour. Cutaneous and Genito-Urinary Diseases, vol xl, p. 475.

46. Bandler: Arch. f. Derm. u. Syph., xlix, July, 1899, No. 1.

47. Moeller: Arch. f. Derm. u. Syph., vol. lxii, No. 1, 1902, p. 55.

Glands," by Peterson,[29] Elliot,[48] Beirer.[49] Selhorst[36] reports his case as histologically indistinguishable from acne vulgaris, which affection it also resembles clinically. Meissner[32] reports the histologic changes of his to consist largely of proliferated and infiltrated lymph vessels. Köbner[50] reports the histologic structure of his case, similar to that of xanthoma, and containing the yellowish-brown pigment of the latter affection, and styles it a xanthoma multiplex nevus. Although lesions contain an abundance of connective tissue and vascular elements, he objects to classifying the affection with the fibromata, because he regards the latter as invariably springing from newly formed and not pre-existing tissue. The lesions in a case reported by Fox[12] are myomatous, though they apparently lack histologic confirmation. Bertamini[51] reports spherical concretions on

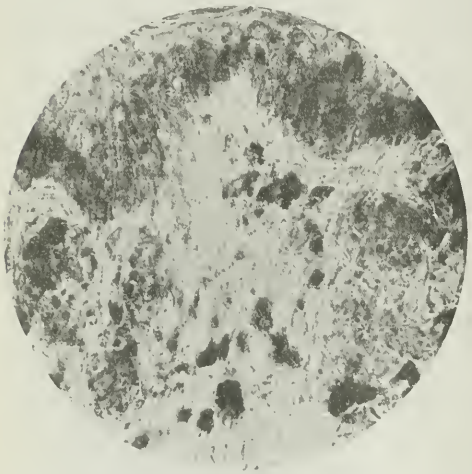

Fig. 10.—Case 3. Pigment accumulation from a small mole-like lesion.

the surface of the skin, involving the sweat-duct orifices, and containing bodies resembling psorosperms.

It is evident that linear nevus presents clinical and histologic variations of such complex and diversified nature that if each be given special or undue significance the resulting confusion would readily permit an uncertain and doubtful classification of cases. It is this highly developed feature of present-day dermatology which encourages flagrant excesses and causes an unnecessary and unfortunate multiplication of disease. Peterson[29] utters the incrimination when he states in reference to this very condition that "it is an example of how many different forms are still gathered together under the collective name of nevus: it is high time to break the frail and elastic bonds which loosely hold together the papilloma, fibroma, adenoma, pigmented moles, etc., under a congenital mask, and name each in accordance with its histologic structure." It is the converse of this proposition which is true. The present demands that the frail and too elastic bands be not ruptured, but strengthened and reinforced. It is their frailty and inelasticity that permits in great measure the unnecessary disparity in the existing classification, and to base its nomenclature on histologic structure would precipitate the affection into an inextricable state of chaos.

Brocq[26] reports an apparent case, with a distribution over the small sciatic and external saphenous nerve, under "Lichen Simplex Chronicus." Hallopeau and Jeanselme[14] report a case which, on account of its extreme late appearance (twentieth year), they would have diagnosed "lichen planus," had not the slight prodromal itching ceased later entirely. Robinson[52] reports an apparent case as "lichen planus," and Lutz calls a case presented by Robinson "keloid," or "papilloma," and takes exception to the term nevus unless applied too strictly to vascular lesions. Touton[13] reports a case as "neurodermatitis linearis chronica," which Jadassohn and Galewski pronounce "nevus linearis." Spiegelberg[53] describes a typical case under "Congenital

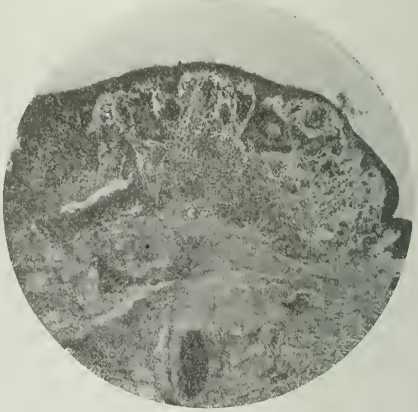

Fig. 11.—Case 3. Extensive cellular infiltration and epithelial proliferation, resembling sarcoma, from one of the rapidly multiplying pigmented lesions.

Papilloma," and another under "Localized Ichthyosis." Flittner[54] describes a case under "Ichthyosis Cornea," Leven[2] under "Dermatitis Linearis Neuropthica," and Lommel[24] reports two apparent cases under "Chronic Zoniform Eruption," and Bertamini[51] a case as "Linear Disease."

This affection well illustrates that reformed dermatology of the future should strive for a simpler and more collective classification. It also aptly illustrates that the efforts of Phillipson[55] and others[56] to establish a reformed dermatology on purely histopathologic genetic basis is hopeless and insuperable.[43] Jadassohn, Unna[57] and Peterson have all made vain efforts to establish linear nevi on a purely histopathologic basis. Unna[57] states that he "strove to establish the conception of nevi on a series of purely anatomic considerations. The discovery that new growths pass through a very peculiar development, in which the first and last stages

48. Elliott: Jour. Cutaneous and Genito-Urinary Diseases, 1893, vol. xi, p. 168.
49. Beler: Arch. f. Derm. u. Syph., vol. xxxi, No. 3.
50. Köbner: Arch. f. Derm. u. Syph., 1888, 404.
51. Bertamini: Arch. f. Derm. u. Syph., vol. lxii, pp. 35-39.
52. Robinson: Jour. Cutaneous and Genito-Urinary Diseases, 1893, p. 286.
53. Spiegelberg: Munich med. Woch., 1896, No. 30.
54. Flittner: Arch. f. Derm. u. Syph., 1870, p. 653.
55. Phillipson: Arch. f. Derm. u. Syph., vol. xlviii.
56. Torok: Allg. Diagnos. d. Hautkr. Veg. auf Path. Anat., Wiesbaden, 1895.
57. Unna: Histopathologie der Haut., 1894, p. 1145.

differ so materially in histopathology, revealed that this was an utterly impractical measure." Heis[58] also states that if nevi lineares are topographically similar and clinically and histopathologically different, they are not an entity, and can not be collectively grouped with nevi, and this very affection will form the starting point for an entire new study of the nevus question.

My personal impressions lead me to believe that these differences virtually exist, and though their explanation is not forthcoming, it is both dangerous and fallacious to establish solely for such reason new types of affection. Any three or more characteristics, as tabulated by Morrow, or gleaned from carefully reported and well-observed cases, is a sufficient tripod to rest a secure diagnosis. The affection exquisitely demonstrates the unreliable aid of the microscope, yet Unna admits that he would have diagnosed one case a chronic eczema had not the organism been absent. Magnus Moeller[47] reports a case, the diagnosis of which wavered between linear nevus and lichen planus, until firmly established by the microscope, and Bertamini[31] reports a case whose

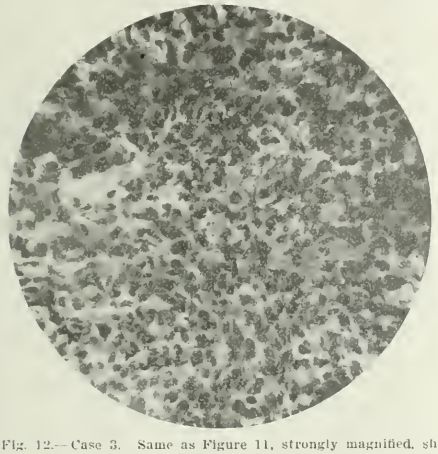

Fig. 12.—Case 3. Same as Figure 11, strongly magnified, showing character of cellular infiltrate.

clinical diagnosis was lichen planus, and the histologic linear nevi. I do not believe that our present histopathologic knowledge, in spite of assurances to the contrary, has advanced to such a degree that the exact nature of a disease can be readily determined by mere pathologic examinations. If the greatest conflict of opinion arises at times from the mere description of a cell (Plasma Cells, Unna, Marschalko,[59] Neisser,[60] Jadassohn, Almkoist,[61] et al), it is not suprising that an utter lack of uniformity should attain in the histologic considerations of general conditions, attributable to more than a varied location, duration, secondary changes, therapeutic influences and technic. In the effort to give histopathology its greatest degree of importance, it is being robbed of much practical value by imparting to it too much intricate detail. With all its classic interest and all its intrinsic worth, nevus linearis clearly illustrates that it possesses at best mere confirmatory value.

58. Unna, Monats f prak. Derm., xii, p. 296, xx, p. 477. Report of Deut. Naturforch.
59. Marschalko: Arch. f. Derm. u. Syph., xxx, p. 3.
60. Neisser: Arch. f. Derm. u. Syph., xxxi, p. 387.
61. Almkoist: Arch. f. Derm. u. Syph., lvili, p. 91

To briefly recapitulate, linear nevus is a dermatologic affection, for the most part easily recognized as a type of *sui generis*, possessing an unmistakable identity Great variations in clinical appearance, location, duration, distribution, development and secondary changes have permitted an endless amount of unnecessary confusion in classification, and an unfortunate redundant nomenclature. It also possesses an exceedingly varied pathology. Great disparity in histologic structure exists between lesions that are clinically similar; great disparity exists between lesions in close proximity from the same patient; a deceptive histologic resemblance often exists between lesions of linear nevi and types of dermatologic affection, totally different in character. The affection aptly illustrates some foibles of present-day dermatology, namely, the tendency to individualize and thereby complicate, rather than generalize and thereby simplify single types in classification; and secondly, to give to dermatologic pathology an inflated diagnostic rather than a mere confirmatory value.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART II—THE SERVICE AS IT IS TO DAY

(*Continued from page 547.*)

(A) ORGANIZATION OF THE BUREAU.

The Bureau of Public Health and Marine-Hospital Service forms a part of the Treasury Department, and is presided over by a surgeon general.

For executive administration, the bureau is divided into six principal divisions, each presided over by an assistant surgeon general, as follows:

Division of Marine Hospitals and Relief, Division of Domestic Quarantine, Division of Foreign and Insular Quarantine, Division of Sanitary Reports and Statistics, Division of Personnel and Accounts, Division of Scientific Research. There is also a Miscellaneous Division, presided over by an assistant surgeon.

DIVISION OF MARINE HOSPITALS AND RELIEF.

To this division are sent all matters relating to the marine hospitals, 22 in number, owned by the service, and to the patients, numbering 58,000, treated annually in these hospitals, and in some 122 relief or contract stations. The purveying depot, a large building located in New York, is under the direction of this division, to which are also referred all matters relating to hospital supplies, including subsistence, drugs, hospital furniture, surgical instruments and appliances, plans and specifications for hospital construction, and the conduct of the sanatorium for consumptive patients at Fort Stanton, New Mexico.

DIVISION OF DOMESTIC QUARANTINE.

This division has in charge all matters relating to the national maritime quarantine stations, embracing 19 complete disinfecting stations and 18 inspection stations. At the former are hospitals, barracks, disinfecting machinery, steamers and small boats, all requiring constant care and attention. This division also must see to the expenditure of appropriations for new stations, involving purchase of lands, construction of piers and buildings, said construction being generally under the supervising architect of the Treasury on plans approved by the bureau and the department but occasionally the bureau attends to this construction itself

All matters relating to the quarantine regulations and their interpretation, matters relating to interstate quarantine and suppression of epidemic diseases, as well as quarantine on the Mexican and Canadian borders, are handled through this division.

DIVISION OF FOREIGN AND INSULAR QUARANTINE AND IMMIGRATION.

To this division is assigned the management of the national quarantine stations in Hawaii, Porto Rico, and the Philippine Islands, the supervision of officers detailed for duty in the offices of the United States consuls in foreign ports who, with the consuls, sign the bills of health; and all matters pertaining to the medical inspection of immigrants.

DIVISION OF SANITARY REPORTS AND STATISTICS.

This division is charged with the preparation of the *Public Health Reports*, published weekly by the bureau, and all matters of a statistical nature are referred to this division.

DIVISION OF PERSONNEL AND ACCOUNTS.

This division has supervision of all matters relating to the personnel of the service, examinations for admission to the corps of commissioned officers, examinations for promotion, appointments and resignations, appointment of boards for the physical examination of officers of the Revenue-Cutter Service. This division has also charge of the bookkeeping of the service.

DIVISION OF SCIENTIFIC RESEARCH.

To this division are referred all matters relating to the hygienic laboratory, as well as requests for scientific investigation of special diseases, as, for example, the recent investigation of the so-called spotted fever in the Bitter Root Valley, Montana. The initiatory steps for special investigations of this character are taken in this division, but any prolonged or technical work connected therewith is turned over to the laboratory.

Requests for special investigations of water pollution or local causes for the spread of typhoid fever are referred to this division.

The officer in charge of this division examines all current literature relating to scientific medicine or sanitation, and keeps a card index of the same.

MISCELLANEOUS DIVISION.

This division has charge of the mailing of all bureau publications, and certain miscellaneous duties relating to the reports of necropsies from the marine hospitals, the medical examination of claims for benefits on account of injuries received by the crews of life-saving stations, certain matters relating to the annual report, etc.

(To be continued.)

TRAVEL NOTES.

V.*

ITALY AND THE GREAT ANTIMALARIAL CAMPAIGN.

(Continued from page 549.)

LEWELLYS F. BARKER, M.D.
CHICAGO.

BERLIN, June 25, 1904.

The medico-chirurgical division of the R. Instituto di Studi Superiori at Florence has a strong faculty, though not all the members of the faculty live in Florence, some of them holding professorships also at Pisa, Siena, Modena, Genoa or Cagliari. Grocco is the distinguished clinician there; he has an immense consultation practice, drawing patients from great distances in the country round. Guido Banti has the chair of pathologic anatomy and Eugenio Tanzi that of psyschiatry. Ottone Barbacci, who has written so many thorough collective reviews for the *Centralblatt f. allgemeine Pathologie*, lectures here on pathologic anatomy, though he is professor in Siena. Gino Galeotti, too, who contributed the much-commented-on article in the last volume of the *Zeitschrift für physiologische Chemie* on the precipitation of albumins with metals, bringing the whole process under the "phase rule" of the great New Haven physicist, Gibbs, lectures here on general pathology, though his regular chair is at Siena.

The insane asylum under the direction of Professor Tanzi lies some distance outside the city. Excellent work is being done there, both in the wards and in the laboratory. Dr. E. Lugaro, the editor of the very progressive *Rivista di patologia nervosa e mentale*, is one of the most active members of the staff. I enjoyed much seeing the original preparations on which his publications regarding experiments on the spinal ganglia and posterior roots of the spinal nerves are based. Just now Lugaro is analyzing all the cases of dementia precox (in the sense of Kraepelin) which have been met in the asylum; his article should form a valuable contribution to our knowledge of this remarkable disease.

It is to be hoped that in the revival of all interests now noticeable all over northern Italy that Florence will regain some of its former intellectual prestige. Its past history would indicate that there must be something extraordinary in the local conditions there. In how far, however, the *genius loci* was responsible for Dante, Giotto, Fra Angelico, Benevenuto Cellini, Michael Angelo and Savonorola, it is hard to guess. Whether or not the city that did so much to distinguish itself in the golden age of Italian art will, in the upswing of Italian science, attain to a high place, who can say? With the modern tendency of universities and research laboratories toward the largest cities, the chances are perhaps against it.

The physician traveling in Italy need not go to Venice to see universities and hospitals, but he will scarcely be able to resist visiting the city for its own sake. And if he arrange to arrive there at night and the weather favor him, he will have memory traces the stamp of which he may hope to be indelible. To step from the bustling railway station into a gondola, to lean back on the black leather seat, to glide through the quiet canals with the moon shining on the facades of the old palaces, to listen to the weird cries of the gondoliers' *a-oel* or *sia stali* as they suddenly turn the corners of the narrow, twisting channels on the way to the hotel is an experience to treasure for a lifetime. With the charm and mystery of St. Mark's, the Palace of the Doges, the treasures of the Academy of Fine Arts and the School of San Rocco one can do without other medicine for awhile. Almost by accident, however, one afternoon we wandered into the center of medical Venice. Near the famous church of Santi Giovanni e Paòlo, on the north side of the same square, opposite the fine equestrian statue of Bartolommeo Colleoni, rises the rich facade of the Scuola di San Marco, dating back more than 400 years and known to every visitor of Venice on account of the singular reliefs (in perspective) of two lions. On entering the building we found that it, together with the adjacent Dominican monastery, is used as a city hospital. It is interesting to see how this fine old structure, with here and there a magnificent carved ceiling, has been transformed to the uses of an immense charity clinic. The attendant who accompanied us, and busied himself to see that we missed none of the points of interest, finally led us to a human *Sehenswürdigkeit*. It turned out to be something we had scarcely expected, a mere handful of man, curled up like a ball, reputed to be 104 years old. We spoke to him, but he was dull of sense and there was scarce noticeable reaction: his eyes were motionless and dim; there was little left of him but skin, bones and a few gristly cords. The scene recalled Stevenson's dying Paumotuan, "the human tragedy reduced to its bare elements, a sight beyond pathos, stirring a thrill of curiosity."

* The previous articles in this series have been as follows: "Travels as a Means of Post Graduate Medical Education," by Dr. Nicholas Senn, July 23, page 261; "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30, page 328; "Spain and Ramon y Cajal," by Dr. Lewellys F. Barker, Aug. 6, page 403; "Leprosy in the Hawaiian Islands," by Dr. Nicholas Senn, Aug. 13, page 462.

There is no university in Venice and no medical school proper. The Royal School of Obstetrics situated here and visited by about fifty students, is incorporated as a part of the University of Padua. Professor Paolo Negri is the director.

(To be continued.)

VI.

FATHER DAMIEN, THE LEPER HERO.

NICHOLAS SENN, M.D.

CHICAGO.

S. S. SIERRA, July 18.

"Nothing is more delightful than the light of truth."—Cicero.

There are heroes and heroines, men and women, who in times of danger do not hesitate to sacrifice their lives in attempts to save others. Heroism consists in acts of unselfishness and courage of the highest type, under conditions of impending danger, or calling for a degree of self-sacrifice from which the average mortal instinctively shrinks. Untimely death and self-imposed deprivation of the comforts of life for the benefit of others who are in danger or distress exact from heroes the highest and noblest qualities of man—undaunted courage, unselfish charity and unconquerable love, and boundless humanity toward mankind. Such a combination of the highest virtues is, indeed, rare, and when found entitles the hero to profound respect, highest admiration and permanent gratitude of all nations, and more especially the one benefited by his sacrifices. The world looks to the battlefield as the arena for the exhibition of heroism in its truest, grandest and noblest sense. Military heroism has from time immemorial been immortalized in song and prose. Heroism in war signifies courage and patriotism, but lacks humanity and the greatest of all virtues, charity. The soldier knows that his bravery will be recognized, and that, in the event of his survival, he may confidently expect that a grateful nation will reward him for his valiant services.

Sudden, painless death in the heat and tumult of battle is, in itself, an honor, a sufficient inducement for many to seek it when imbued with the justness of the cause for which they fight and stimulated by the fire of a burning patriotism. Heroism in the cause of humanity, stripped of the excitement and glories of war, brings out the best attributes of man. Heroism rendered at the altar of humanity, with no expectation of renown or reward, among the sick and dying, under conditions attended by vastly more danger to life and health than the risks of war, gives testimony of the highest type of a hero or heroine.

Such a hero was Father Damien, the subject of this sketch. During his life devoted to the welfare of exiled lepers, his motives were often misunderstood and his noble soul experienced many a pang when he was maligned, as was not infrequently the case. We can say of him:

"Glory comes too late when paid only to our ashes."—Martialis.

Father Damien is no stranger to the medical profession.[1] (Fig. 1.) His heroic labors among the banished, maimed and disfigured lepers of Molokai, and his glorious death from the disease he fought so courageously, have made him a hero in the estimation of the medical profession and in the eyes of the entire world—a hero whose name will live long after the disease he fought and from which he died will have become extinct. As a humanitarian, his memory will go down to the future side by side with that of Henri Dumont; as the leper hero, it will never die. The whole life of Father Damien from the cradle to the grave was an exemplary one, and his work was characterized by unselfishness and an ardent devotion to his manifold and trying duties. How it was possible that statements to the contrary could have been made during his lifetime is a mystery that admits only of one explanation—he, like other great men, had enemies whose envy was aroused by the marvelous success in everything he attempted. His entire career as a priest and friend of the lepers breathes a spirit of true, earnest Christianity which those who knew him best never questioned. The malicious attacks on his character were made by men who were too cowardly to visit the leper settlement and observe his work among the thousand unfortunates whose pains he soothed and to whose spiritual needs he ministered with an unparalleled zeal and untiring devotion, whose dying he consoled, and whose dead he buried in coffins and graves often made by his own hands. As a true minister of the gospel, he served his God and leprous congregation with a devotion and faithfulness that knew no limits, by day and night, in sunshine and storm.

Father Damien's name in the world was Joseph de Veuster. He was born at Tremelo, near Louvain, Belgium, Jan. 3, 1840. His parents were honest, hard working, devout peasants, who raised a family of seven children, four of whom entered the service of the church—his older brother, Pamphile, and two sisters. The earliest desire of his boyhood was to become a priest, in which vocation his older brother preceded him. The parents being poor, he struggled with the greatest difficulties to realize his desire. He finally entered the College of the Fathers of the Sacred Hearts of Jesus and Mary, and entered holy orders at the age of 19. The splendid health which he enjoyed throughout his long student life was gained during his boyhood days, spent in hard work on the farm. The cloister life made him abstemious, and exhibited an irresistible attraction for the rigors of austere penance. Early piety and a tender affection for his parents, as shown in all his letters, laid the foundation for a successful priestly career. When he entered the cloister he was the very embodiment of health, strength and activity. Endowed with great mental power and applying himself closely to his studies, his progress was rapid, and when he left the institution he was well prepared for his chosen life work. Although serious, he was not ascetic. In a letter to his parents during his theological studies, in commenting on the uncertainty of life, he says: "The thought of the uncertainty of to-morrow must, no doubt, cause bitter grief to a sinful soul, but for us, Christians or religious, who look on ourselves as exiles here below, and who long only for dissolution of our body that we may enter our true country, there is, it appears to me, only joy and blessedness in the thought that each moment we get nearer to the last hours of our life." His splendid health, his love for an abstemious life, and es-

Fig. 1.—Fr. Damien de Veuster, at 33 years of age, when starting for the leper settlement.

pecially his burning desire to serve his Lord and his church where he could accomplish the most, awakened in him during his early novitiate days an ardent desire to consecrate himself to missionary work in the islands of the Pacific. I have no doubt but that this desire was often included in his daily prayers. The prayer was answered sooner than he possibly could expect. Mgr. Maigret, vicar-apostolic of the Hawaiian Islands, made a request for sisters and brothers to assist him in his missionary work. His brother, Pamphile, was selected, but took typhoid fever, and Damien begged to take his place. He was then only in minor orders, but the request was granted. What a source of pleasure it must have been for young Damien to learn that he was permitted to enter on work in one of the roughest of the Lord's vineyards so early in life! He made the long journey in a sailing vessel from Bremen to Honolulu around Cape Horn, and was ordained priest on his arrival, at the age of 24. On foot and horseback, across mountains and valleys, from place to place, he brought to the natives the glad tidings of the gospel, and by his great modesty, genial manners and a willingness to assist them in their worldly affairs, soon won their confidence, respect and love. The name Kamiano, the Hawaiian for Damien, soon became a household word throughout the islands. His first station as priest was in Hawaii Island, but it was destined that his life should be sacrificed in the spiritual and worldly betterment of the unfortunate inhabitants of the leper settlement. Before Father Damien came to the settlement the government, after establishing segregation, only concerned itself in the temporal well being of the unfortunate outcasts. The many Protestant ministers in the islands never dreamed of extending their work to where it was most needed. The Catholic Church, ever alert to enlarge its field of usefulness, and to reach the poor, miserable and unfortunate, and bring them within its fold, came to the rescue of the outcasts. Occasional visits to the settlement to render the much needed spiritual assistance were made by Fathers Raymund, Albert and Boneface from 1871 to 1873. A lay brother completed a little church in 1873. At a meeting of priests held at this time in Mani, presided over by the bishop, it was decided to supply the settlement with a resident priest. The bishop called for a volunteer. Every one of the three priests assembled was ready to serve.

Fig. 2.—Kalawao leper settlement, Molokai, established by the Hawaiian government in 1865, showing also Father Damien's church.

Father Damien emphasized his claim for preference in the following brief, forcible speech: "My Lord, remembering that I was placed under the pall on the day of my religious profession, thereby to learn that voluntary death is the beginning of a new life, here I am, ready to bury myself alive among these unfortunate people, several of whom are personally known to me." Such language could not fail in securing for him the cherished position. He sailed directly for the settlement, where he landed May 10, 1873, penniless, and even without a change of linen. The only available shelter he found to protect him from rain and the burning rays of the sun was a hospital pandanus tree, in the shadow of which he lived for some time. The very presence of this saintly priest had of itself a marvelous effect on the morals of the exiled. In a letter to his provincial two days after reaching the settlement, he writes: "You know my disposition. I want to sacrifice myself for the poor lepers. The harvest is ripe." The heroism of this humble priest made a deep impression not only on the lepers, but the entire population of the islands. He commenced to work with a will. The time left between his priestly offices was occupied in improving the worldly condition of his charges. Beside his clerical duties, he did the work of a carpenter, mason, gardener, etc. It is said that he made more than 1,500 coffins for his dead out of the rough boards furnished by the government. On an average he officiated at 200 funerals a year, where he often was priest and sexton at the same time.

He built little frame houses among them—one for himself, with only two small rooms. I found here a wooden bathtub made by himself which gave testimony to his skill as a carpenter. No leper ever entered this, the plainest of all houses in the village. A chair, table, bed and a few plain pictures representing Bible scenes and the life of saints, his saddle and bridle, well worn, and a few religious books were about everything he left behind him at the time of his death. He built another church (Fig. 2), doing most of the work himself, and took great pleasure in rendering its interior attractive by the simplest but tasty decorations. He erected schoolhouses and orphan asylums, established a choir and organized a music band, and placed them under the direction of his faithful helper, Brother Dutton. I listened to the music of this band playing national and sacred songs. Every member of the band was a leper; some had lost a number of their fingers, others played the cornet with lips half destroyed, ulcerated and distorted. It was a scene it would be impossible to forget. Father Damien became a physician and a druggist, and his place in these functions is now filled by Brother Dutton. Although the settlement had a resident physician at the time of my visit, the little but well-stocked dispensary was crowded with patients, and Brother Dutton was busy in washing and dressing wounds and dealing out simple remedies.

In describing leprosy, Father Damien writes to his brother: "Leprosy, so far as is known, is incurable. It seems to begin by a corruption of the blood. Discolored patches appear on the skin, especially on the cheeks, and the parts affected lose their feeling. After a time this discoloration covers the whole body; these ulcers begin to open chiefly at the extremities. The flesh is eaten away, and gives out a fetid odor; even the breath of the leper becomes so foul that the air around is poisoned with it. I have had great difficulty in getting accustomed to such an atmosphere. One day at the Sunday mass I found myself so stifled that I thought I must leave the altar to breathe a little of the outer air, but I restrained myself, thinking of our Lord when He commanded them to open the grave of Lazarus, notwithstanding Martha's word, *'Jam foetet.'* Now my sense of smell does not cause me so much inconvenience, and I enter the huts of lepers without difficulty. Sometimes, indeed, I feel some repugnance when I have to hear the confessions of those near the end, whose wounds are full of maggots. Often, also, I scarce know how to administer extreme unction, when both hands and feet are nothing but raw wounds."

Let those Protestant ministers who complain of small salaries listen to how Father Damien managed his financial affairs: "I have not a penny of income—yet, *nihil mihi deest*, I want for nothing. I have even alms to give away. How is this to be explained? That is His secret, who promised to give a hundredfold to those who gave up all to Him." What better proof could be furnished of his childlike, Christian faith? When Father Damien took charge of the leper settlement he took a census, and found that it contained 600 lepers, 80 of whom were very ill in the hospital. Vice ran high. The poor exiles sought solace in the excessive use of a domestic al

cohol, held dances, card playing and sensualities of all kinds. This is the way in which Father Damien proceeded to improve the morals of the people: "Kindness to all, charity to the needy, a sympathizing hand to the sufferers and the dying, in conjunction with a solid religious instruction to my listeners, have been my constant means to introduce moral habits among the lepers." It is no wonder that under this kind of precept and teaching the influence of Father Damien increased from day to day in improving the bodily and moral condition of his people. Protestants, entirely neglected by their preachers, and non-believers, soon felt the effect of the religious teaching and example of the only spiritual adviser in the settlement and were not slow in embracing the Catholic faith. This is what one leper had to say of Father Damien, and he was only the spokesman for all: "We are especially satisfied with our pastor. He overwhelms us with his solicitous care, and he himself builds our houses. When any of us is ill, he gives him tea, biscuits and sugar; and to the poor he gives clothes. He makes no distinction between Catholics and Protestants." On the occasion of a visit of the princess regent to the settlement, one of the Honolulu papers, in referring to Father Damien's work, commented on it in the following most beautiful language: "This young priest, Damien by name, who has consecrated his life to the lepers, is the glory and boast of Hawaii. He resuscitates the saintly heroism of the bloody arena of the ages of old—nay, he does even more. Would it not be a great favor to be thrown a prey to the wild beasts rather than to be condemned to live in the poisonous atmosphere of a leper settlement? And Damien—Damien, the soldier of Christ—has lived now several years in the midst of the banished lepers of Molokai!" Are there any more witnesses to be heard to prove that the charges made against Father Damien by a jealous Protestant minister who never saw the leper settlement were utterly without foundation? I believe not, for "by their fruits ye shall know them." The spiritual and worldly care of the poor lepers remains to-day in the hands of devoted priests, brothers and sisters of the Catholic Church. I could not finish this brief sketch of the leper hero without referring briefly to one of his faithful co-laborers who shared with his master the heavy burdens of the early missionary work, and who remains at his post to-day.

A HEROIC BROTHER.

During my visit to the leper settlement I became very much interested in a man of medium size, spare build, dressed in a blue cotton suit decidedly worse for long wear, a pair of cheap spectacles hanging loosely over nearly the end of a sharp-pointed nose. He was the master of the school for boys and leader of the band. His facial expression, bearing and attitude were enough to indicate that he was a tireless worker. It was Brother Dutton, so long associated with Father Damien in the care of the lepers. He showed us the different institutions, and spoke most enthusiastically, but in great modesty, of his work. In speaking of Father Damien tears filled his eyes and his lips trembled. He had not visited the little house in which Father Damien lived since his death, although separated from his school only by a narrow street. The man's whole soul seemed to be in his work, and I presume the great grief caused by the loss of his beloved priest prevented him from entering the little house where they had spent so many hours together in consultations and prayer for fear of increase of mental anguish. Nobody knows the early history of his life. He never speaks of the past. It was rumored that he was disappointed in love during early life, but no proof to this effect has ever been furnished. It is known that he served during the civil war, and that for gallant service he was promoted from the ranks to major. He was a Protestant, and joined the Catholic Church twenty-one years ago, and has been a most devoted member of that church since. A friend has this to say of him: "His superb sacrifice in going to Molokai was made from no weak or unworthy motive. He was supremely grateful to Almighty God for the gift of the true faith, and simply wished to make the best return in his power, and so, like the brave soldier he had long proved himself to be, he quietly made the decision to devote his life to the most laborious and, humanly speaking, the most distasteful charity in the whole range of the Catholic religion." Soon after Father Damien's death Brother Dutton discovered some sores on his legs. He finally believed that he was suffering from leprosy, and was happy in the thought that in a short time he would have the great privilege to die of the same disease as his master and join him in heaven. The doctor's examination took away this hope, and he remains at his post, free from the loathsome disease after an uninterrupted service of twenty-three years.

How many faithful, devoted and unselfish servants the Catholic Church has!

THE LEPER PRIEST DIES OF LEPROSY.

When Father Damien left his native country he bade his relatives and friends good-bye with the firm conviction that he would never meet them again on earth. When he consecrated himself to the cause of the lepers he did so with the expectation that he would sooner or later share the fate of his flock. It was his desire and hope that he might be spared for a long time for the benefit of the cause he had made his lifework. He took every precaution to escape contagion by excluding the lepers from his house and by observing the utmost cleanliness of his person, and by inculcating the same as far as he could on the inhabitants of his leper villages. With all care, however, he could not escape the unusually prolific sources of contagion in performing his priestly functions, more especially in administering the sacrament and extreme unction. The manual labor of the roughest kind which he did for the lepers, to make them more comfortable, could not fail to produce frequently cuts, punctures and abrasions, by which the danger of inoculation was greatly increased. What he had feared occurred before he had expected it. After twelve years of ceaseless self-sacrificing toil among the lepers he discovered accidentally that he had himself become a victim of the terrible disease. In his sermons he always addressed his congregation, "We lepers." Now he could say so in truth. In taking a foot bath one evening in hot water he noticed that he had blistered one of his feet without having felt any pain. He knew only too well what this meant—the first symptom of the anesthetic form of leprosy. The physician who examined him later confirmed what had become to him already a conviction. In writing at this time to the bishop, he said: "From henceforth I am forbidden to come to Honolulu again, because I am attacked by leprosy. Its marks are seen on my left cheek and ear, and my eyebrows begin to fall. I shall soon be completely disfigured. I have no doubt whatever of the nature of my illness, but I am calm and resigned and very happy in the midst of my people. The good God knows what is best for my sanctification. I daily repeat from my heart, 'Thy will be done.'" It

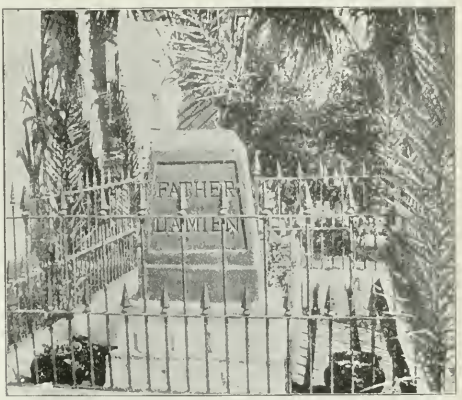

Fig. 3.—Father Damien's grave.

was very fortunate, indeed, that Father Damien contracted the macular instead of the tubercular form of the disease, and that the palmer side of fingers and hands remained clean, permitting him to perform his spiritual functions until a few days before his death, which occurred April 15, 1889.

So ended the precious life of one of the greatest benefactors of the human race—the hero of charity! The greatest heroism of Father Damien was exhibited during his illness, as he persisted in working with hands and heart until a few days before his death. What could touch the human heart more than to see a leper priest render manual work and spiritual consolation to a congregation of lepers, the blind leading the blind, the lame supporting the lame! His heroic death has silenced the vile tongues. The surviving lepers can not be comforted; they will carry their grief over the loss of their faithful shepherd to their graves. The entire population of the Hawaiian Islands—in fact, the whole world—mourns his death. He has gone to his well-earned reward. His mangled remains sleep under the shadows of the pandanus tree which first sheltered the robust, devoted young priest awaiting a glorious resurrection. (Fig. 3.)

Volumes have been written in praise of Father Damien. Monuments have been erected to his memory, charitable institutions have sprung up to immortalize his heroic charity; but if that humble priest could speak to his admirers he would say, "I have only done my duty, praise God. Send greetings and extend a helping hand to my leper friends."

(To be continued.)

Clinical Notes.

A CASE OF CARBOLIC ACID GANGRENE.

E. DUNSTER KREMERS, M.D.
HOLLAND, MICH.

Introduction.—I am able to report this case through the kindness of Dr. A. Leenhouts, under whose care I saw the patient. This report is added to an already long list of cases, not because of its rarity or its unusual features, but because some physicians are still unaware of the danger in using carbolic acid as a dressing and in the hope that through their physicians' knowledge the laity may understand how to avoid the needless destruction of fingers and toes by this poison.

History.—G. H. R., age 15, male, schoolboy. The patient has always been a strong, healthy boy. On July 4, 1904, he was washing dishes and cut the little finger of the right hand by a piece of glass. There had been a case of tetanus in the town and, on the following morning, the boy's sister, fearful of "blood poisoning," applied a rag soaked in carbolic acid solution. She had been using a solution as a wash on an infected arm and had seen no ill effect. The solution was made weak in the proportion of about three drops of the liquefied acid to fifty drops of water. Twenty-four hours later this rag was removed and the skin of the finger "looked funny." The patient thought that the antiseptic was failing in its work and accordingly a stronger solution was made and the bandage bound very tightly. The next morning the finger was "all white" and was massaged.

Treatment.—July 8 Dr. Leenhouts was consulted and applied a wash of boracic acid, hoping to restore the circulation. July 11 the finger became black and began to be tender, and July 13 the patient went to bed feeling badly and with evident fever. At this time the finger was entirely bluish black with a well-marked line of demarcation about one-half inch below the metacarpo-phalangeal joint. Above this there was a line of redness and swelling.

Operation.—Under chloroform anesthesia the finger was amputated at the metacarpo-phalangeal articulation. No pus was found; a healthy flap was secured and united by silk sutures. July 14 the temperature rose to 103 degrees, at evening was 101 and the following day normal. There was no further trouble and the wound healed by first intention. Urine examination was negative.

Comments.—The strength of solution used in this case was probably about 5 per cent., because water will take up only that much. It was applied for about forty-eight hours and caused the patient no pain or discomfort. The tight constriction of the finger undoubtedly assisted in the production of complete gangrene, but probably the first application would have been sufficient.

TREATMENT AND ETIOLOGY OF PNEUMONIA.

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Including those cases mentioned in my article, published in THE JOURNAL, July 9, 1904, I have had up to date, July 30, thirty-seven successive recoveries of uncomplicated cases of pneumonia which were treated according to that article. My experience during the season just passed covers over two hundred cases, and careful observations lead me to believe there is a factor preceding the active physical signs of pneumonia which, by careful examination, can be detected in many cases prior to the stage of engorgement.

Unfortunately, it is impossible to get a positive history as the anesthetic properties of alcohol are a mask for reliable record. However, in those cases that have come under my care at an early date I have frequently been able to detect tenderness, from a mild to a severe degree, in the region of the gall bladder, with a corresponding amount of pain in the same region which may extend to the left and upper lobes of the liver. The tenderness and pain are invariably relieved as soon as the physical signs of pneumonia develop. Those cases that are preceded by severe gall bladder pain and bilious vomiting, I have invariably noticed, are followed by troublesome tympanites.

Just what relation, if any, these preliminary symptoms have to pneumonia I am unable to state at the present time. I would not be surprised if time would prove that microbic invasion of the gall bladder may become an etiologic factor in pneumonia. If any practical knowledge can be demonstrated from these theoretical views, we have accomplished all that theory is entitled to.

GONORRHEAL INFLAMMATION OF STERNO-CLAVICULAR ARTICULATION.

IN ONE CASE COMPLICATING FRACTURE OF CLAVICLE.

R. L. LARSON, M.D.
CHICAGO.

CASE 1.—John S., aged 20, came to me a few weeks ago with the following history:

History.—Three days previous he fell off a horse's back, striking on his left shoulder, apparently receiving only a slight contusion of the soft parts around the shoulder girdle. He paid no attention to it until great soreness and tumefaction ensued.

Examination.—I found well-marked evidences of simple, oblique fracture of the clavicle at its middle point. At the junction of the middle and inner thirds there was a hard, bony swelling, which he stated was the result of a fracture about a year ago, for which he was treated at the Alexian Brothers' Hospital. There was good union at this point.

I noticed a prominent swelling at the sternal articulation of the clavicle, which I did not think was concomitant with the recent fracture. The patient stated that he had an uncured urethritis of some three weeks' standing, and that this sternal swelling had appeared some three days previous to the accident. It was very painful and he was unable to use his arm to any great extent. The recent accident only spurred him on to see a physician.

Examination of the urethral discharge distinctly demonstrated the presence of gonococci

Treatment.—Along with the surgical treatment of the fracture I administered the necessary treatment for his gonorrheal urethritis. With three-inch width strips of adhesive plaster I applied a Velpeau bandage, and maintained the upper extremity and clavicle in good position.

Results.—Within four or five days the sternal swelling disappeared, and in twelve days the urethritis vanished, and then there only remained the subsequent treatment of the clavicle. At the end of the fourth week the patient wished to return to work as barn hostler and I very reluctantly freed him from his bonds. I had contemplated having him tied up for at least six weeks, considering the injury of a year before and his recent complication.

Now that five or six weeks have elapsed, I had the opportunity to examine this young man, and I find excellent motion in all the joints concerned.

CASE 2.—A case of interest in this connection occurred about two years ago.

History.—A young man, aged 21 years, came into the hospital during my service with a prominent swelling of the sterno-clavicular articulation. The chief surgeon suggested immediate removal of the sternal end of the clavicle. His diagnosis was "rapidly-growing osteosarcoma" of the clavicle.

Now the boy gave a distinct history of an uncured gonorrheal urethritis for the past two weeks. Microscopic examination showed gonococci. An *x*-ray picture showed slight shadow of circumscribed swelling at sterno-clavicular junction. The "tumor" had steadily grown for the past week. I argued in favor of gonorrheal synovitis.

Treatment.—Despite an interne's hopes and suggestions the boy was placed on the operating table next morning and everything made ready for operation. When I removed the antiseptic compresses from the region of the neck and chest the swelling was found reduced at least 60 per cent. of its original size on the day previous. It originally was larger than a hen's egg, well defined, around and posterior to sterno-clavicular articulation. No operation was performed outside of manipulation from the hands of the curious.

Suggestions were offered that the use of the *x*-rays had occasioned this wonderful change, and they were used daily for ten days. The patient then left the hospital, he and his friends holding the vague idea and opinion of a surgeon's skill in the use of the *x*-rays and magnetic touch.

63 East Chicago Avenue.

A CASE OF TETANUS TREATED BY SUBDURAL AND INTRASPINAL INJECTIONS OF ANTITOXIN. DEATH.

C. W. WILLE, M.D.

Assistant Surgeon Public Health and Marine-Hospital Service.

BALTIMORE.

Introduction.—The interesting phenomena which happened during the progress and treatment of a case of tetanus which occurred recently in my service[1] impels me to place the notes of the case on record. I believe the interests of the profession are best served by collating the material from all cases, whether successful or not.

History.—A male negro, 24 years of age, was admitted to the U. S. Marine Hospital, Baltimore, at 4 p. m., June 16, 1904. He complained of stiffness of the muscles of the lumbar spine, with rigidity of the muscles of the back of the neck. He noticed the beginning stiffness eighteen hours previous to admission to hospital, and ascribed his condition to the free drinking of ice water throughout the day.

Examination.—On admission he had considerable rigidity of the muscles of the lumbar spine and of the back of the neck. The neck was arched backward and there was slight opisthotonos. The jaw was stiff so that the mouth could not be opened as widely as formerly. On inquiry, the patient admitted that while working about a stable he ran a nail into the sole of the right foot just five days prior to the onset of his symptoms. He stated that the wound gave him no further trouble.

Later Symptoms.—Two hours after admission there was noticed a decided increase of the rigidity of the muscles of the back, with some beginning stiffness of the muscles of the abdomen and flexors of the left thigh. The patient was sweating profusely, especially over the upper portion of the chest, neck and face. His skin was cool; temperature, 36.6 C.; pulse, 55 beats to the minute, full and strong. Heart action was tumultuous; no murmurs. There was now some difficulty in swallowing, and beginning stiffness of the sternomastoid muscles.

Three hours after admission there had developed, in addition to the tonic contractures mentioned above, an intermittent clonic spasm affecting especially the lumbar spinal and abdominal groups of muscles. These spasms arched the patient considerably. They were not typical of tetanic convulsions, being shorter in duration and occurring with greater frequency. The patient had an unnatural wrinkling of the skin of the forehead, due to the involvement of the occipitofrontalis muscle. There was no involvement of the risorius muscles. The muscles of the chest—that is, the intercostals, the pectoral and serratus magnus muscles—were only slightly rigid, and there was no embarrassment of respiration. The urine was normal, and there were involuntary evacuations of the bowels. All mental faculties were preserved, and there did not appear to be any hypersensitiveness to outside influences.

Treatment and Result.—Chloral was pushed in gram doses at half-hourly intervals during the six hours following admission. It produced drowsiness, but failed to have any effect on the spasms. Under chloroform, seventeen hours after admission, the skull was trephined over the parietal eminence, and 20 c.c. tetanus antitoxin were slowly injected under the dura. The wound was closed without replacement of the button of bone. At this time, 5 c.c. of cerebrospinal fluid were withdrawn in the ordinary antitoxin syringe by lumbar puncture, followed by the slow introduction of 10 c.c. antitoxin into the spinal canal. This latter procedure was thought advisable in order to get the more immediate effect on the toxin-locked ganglion cells which control the involved spastic abdominal and spinal muscles. The wound of entrance was laid open and packed. There was no shock incident to the operation, the patient reacted rapidly, and for three hours was free of spasms. As the effects of the anesthetic wore away, the convulsive movements returned, the patient dying of asphyxia within five hours after operation.

Remarks.—The points of interest to be noted in this case are the short period of incubation, which was exactly five days; the extreme rapidity of the course of the disease—forty-two hours—the marked involvement and apparent selection of the lumbar spinal and abdominal groups of muscles, and the comparative freedom from involvement of the muscles of the limb through which the tetanus organisms and toxin made their entrance. The negative evidence deduced from this case would advise, I believe, an early recourse to the use of antitoxin administered subcutaneously or along the sheath of the nerve trunk supplying the injured location as a preventive measure, or subdurally or intraspinally as a curative procedure.

1 In the service of Surgeon H. R. Carter

Diphtheria in Healthy Throats.—M. Geirsvold of Christiania states in *Tidsskrift f. d. Norske Lacgeforen*, No. 23, 1903, that he found diphtheria bacilli in the throats of 9.2 per cent. of 967 presumably healthy school children examined. The investigations were conducted in the schools during the period from May 28 to June 20, and 87 children were found to shelter the bacilli, in pure cultures in 22. In a later series in the fall he found them in 3.4 per cent. of 178 children. None exhibited any clinical symptoms. He remarked that this proportion is probably below the actual number, and that the children too young to go to school and adults also probably show a similar proportion, consequently strict isolation on the bacteriologic findings is impracticable.

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RESPONSIBILITY AND CRIME.

It was left to President Roosevelt, in a recent memorandum, clearly to enunciate a characteristic, common-sense view of the plea of insanity in extenuation of crime. He said:

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

With this view we know some of our psychiatric friends will take exception. Much has been said and written that appeals to our sympathy with a view to preventing the insane criminal from suffering the regular penalty of the law. In some specific instances this plea has been urged with such publicity and under such unwarranted circumstances as to have brought much obloquy on scientific psychiatry. It has become a popular by-word that such and such a criminal will "play the insanity dodge" and escape the punishment due him.

In this direction we have gone too far. Sentiment and metaphysics on a substratum of scientific truth have woven a structure of words that has for a time overwhelmed our common sense. The President does us a service in so graphically striking to the root of the matter. To the general physician it seems the time has come to take a less assailable position on this question of responsibility in crime. The following propositions, then, seem to afford a nucleus for such a common-sense view:

1. A person under trial for crime, if not sufficiently insane to require isolation in an asylum, should be held legally and fully responsible for all his acts. The plea that he became suddenly insane at the time of committing his criminal act, while scientifically true in many cases, should not be permitted to secure him immunity from punishment.

2. Either he should be judged exactly as would be a sane and mentally responsible criminal, or else, under laws most urgently needed, he should be committed to an asylum especially equipped for such cases for the remainder of his life, on the ground—well sustained by many tragedies—that it is not possible to predict when he will again be seized by an insanely criminal impulse.

At present it is too easy for "influence" to release from the asylum the criminal who has been adjudged "insane." There is little doubt that the adoption of these propositions would, like magic, reduce the proportion of criminals who plead insanity as an excuse for crime.

As a matter of fact, while supported by the scientific arguments of respected psychiatrists, the "insanity plea" is chiefly used by shrewd but not too scrupulous criminal lawyers to extricate undeserving criminals from well-earned punishment. The alternative of life commitment to an asylum renders certain the escape from punishment of every really insane criminal. The time has come, we believe, for the organized profession to ask legislatures to amend the criminal laws along the line suggested. It is certain that this course will insure to the profession a large share of public approval.

THE PRODUCTION OF ANTITOXIN BY AUTOLYSIS.

The discovery of the remarkable property of the animal body to produce antitoxins in response to the injection of toxins has opened up an entirely new field of investigation in physiology. Very extensive experiments have been carried out by a large number of investigators in the hope of discovering the mechanism and the exact location of the production of these antibodies, but very little is as yet definitely known. Several theories have also been advanced to explain this process, but none of them is entirely satisfactory. It has been shown, for instance, that antiabrin and cholera immune bodies are present in the spleen and in the bone marrow of an animal, in the process of immunization, before they can be found in any other part of the body. It has also been shown that an emulsion of brain tissue has antitetanic properties, and substances having antitetanic properties have been isolated from normal spleens and adrenal bodies. These facts seem to speak in favor of the view that antitoxins are produced in a limited number of organs, and perhaps in different organs according to the nature of the toxin injected.

In consideration of the facts that antibodies are, with very few exceptions, specific substances, and that they appear only as a result of the injection of toxins, it has been held by Buchner, Metchnikoff and others that they result from the transformation of toxins by the organ cells. According to this theory, they are not produced from substances that are normally found in the body, but from substances that are injected with the toxin. According to Ehrlich's side-chain theory, on the other hand, antibodies are nothing more than receptors of the normal cells, which are produced in excess and given off to the blood in consequence of repeated injections of small doses of toxins.

Although these two theories are very different from one another, they both suppose that the production of

antitoxins calls forth an increased activity of the tissue cells. Blum[1] has now raised the question whether antibodies could not be produced by an increased breaking down of the tissue cells in consequence of the injection of toxin, instead of being the result of an increased and special activity. This breaking down of tissues would lead to autolysis of the dead cells, which might give rise to substances having protective properties against the toxin that has been injected. In favor of this view he points out that the injection of toxin during the process of immunization is followed by fever, leucocytosis and loss of weight. He also carried out a number of experiments in which he showed that tetanus antitoxin is produced by the aseptic autolysis of animal lymph glands *in vitro*.

Beef lymph glands were collected under aseptic precautions, chopped fine and mixed with toluol, and then covered with twice their weight of physiologic salt solution and placed in the incubator for one to seven months. Half a c.c. of the liquid of some of these mixtures protected white mice against ten times the minimum fatal dose of tetanus toxin.

The antitoxin contained in these fluids is largely retained in a porcelain filter when the fluid is filtered. It can be precipitated with ammonium sulphate, and in other respects behaves like the antitoxin in immune serum. It can not be said, however, that the antitoxin produced by autolysis of lymph glands is identical with that produced in the animal body by the injection of toxin, but the fact that the two behave very similarly toward various chemicals (ammonium sulphate, acids, alkalies) suggest this possibility.

1. Hofmeister's Beitrage, 1904, v, 142.

THE PHYSICIAN HIMSELF.

The recent wide spread of the cult for Dante and the study of details relating to his life and position in Florence have brought out some facts that can not fail to be of extreme interest to physicians Dante, as is now well known, was a member of the Guild of Physicians and Apothecaries in Florence. This does not mean necessarily that the great poet knew anything either of medicine or of pharmacy. As has been recently called to renewed attention by Julia Cartwright in her book, "The Painters of Florence," "by the laws of Florence painters and sculptors belonged to the Guild of Physicians and Apothecaries, which was one of the seven major or higher class of trades, and each artist was required to matriculate in this body before he could practice as an independent artist." She adds: "This close connection between painting and medicine dates back to very early days, and receives further illustration from the fact that St. Luke was the patron of both doctors and artists."

Very few communities have realized the true relationship of art and literature and the well-being and proper educational development of their citizens, as did the Florentines of the times just before and after Dante. This placing of the artists and literary men, then, in the Guild of Physicians and Apothecaries, is something much more than mere chance, or some fortuitous necessity of municipal distribution of civic influence. These people of the early Renaissance, at a time when probably artistic ideals were closer to the heart of the generality of the people than has ever been the case since, felt that the physician by his profession should be a leader of those whose influence makes for the uplifting of life. Something there was evidently of the idea, too, that his presence and his power of suggestion must be able to raise people above themselves and the physical ills to which they were liable, as the artist and the literary man accomplish similar purposes for those in health.

There is surely in this story of the old medieval town and its principal guild, that of the physicians and apothecaries, a lesson that the modern profession may well take to heart, for it serves to show, first, how broad must be the interest of the physician in everything that relates to the esthetic side of life if he would not fail of the high aims of the brotherhood; and second, how closely he must feel his fellowship with the artist and the literary man himself; how much he must cultivate the higher things of life and art and letters in order to occupy that position with regard to his patients that is properly his. The idea may seem far-fetched to a practical generation, but it is by such an ideal that the physician will secure not only success, which is not the sole aim in life, but also that supreme satisfaction which comes from ever-increasing self-development, and that exercise of faculties which constitutes the only real happiness of life.

CO-EDUCATION AND RACE SUICIDE.

Co-education in the higher institutions in this country is still on trial, at least if we can judge by the variances of published opinions. Of late the utterances against it have been rather more prominent and positive. It has been alleged also that the higher education unfits women physically for the duties of motherhood and that, much against their will in many cases, they remain childless or comparatively unfertile, or suffer excessively in fulfilling the functions of reproduction after marriage. The question of co-education as a factor in race suicide, so called, which is at present somewhat engrossing the public mind, has been raised. Dr. G Stanley Hall, whose extensive studies of adolescence, as well as his experience as an educator, render his opinions worthy of serious consideration, claims that the effect of co-education is bad; that it de-feminizes the female and feminizes the male, and generally interferes with the laws of nature so as to reduce the ratio of both marriage and offspring. On the other hand, experienced educators like President Angell of Michigan University, see only good in co-education, or at least a vast preponderance of good over evil

Leaving aside the purely social aspects of the subject as not capable of being fully discussed here, there still remains several points of medical interest. It is difficult to obtain definite, trustworthy statistics of the frequency or infrequency of marriage and of the fecundity of college-bred women; but one thing may be admitted as probable, that the ratio of marriages is somewhat less among female graduates of the higher institutions than among the female population generally. A woman's chance of marriage rapidly diminishes with age, and the completion of a full college course leaves the female graduate at a period of life with appreciably diminished marriage expectancy. Moreover, married women who wish to devote themselves to the higher studies probably think less of marriage as an object in life than do others, and this also may affect the statistics. A rather extensive study of alumni records would be required to afford a basis for conclusions, and we doubt if this has been made. As far as the effects of co-education are concerned, moreover, a comparison is needed of the data from exclusively female institutions like Vassar, Bryn Mawr, Wellesley and others, with those of co-educational schools, and it is possible that the result might be favorable to the latter. The claim made by President Angell that co-education affords special advantages for the selection of lifemates is also to be considered. In looking over the alumni records from one large co-educational institution and taking into account those graduates only who may reasonably be inferred to have completed the reproductive period, the average number of children was about four, where any data were given. The corresponding study of one exclusively female institution gave a lesser figure. If Dr. Hall's assertion is a statement of a rule, the exceptions are altogether too numerous to prove it.

Still another point needs mentioning. It is quite possible the concentration required by the higher studies may often have a deleterious effect on the proper development of the adolescent female. This is a rather serious matter. Girls are often more ambitious in their studies than boys, and therefore more liable to receive damage from this cause, and it may be that the competition between the sexes in co-educational schools may aggravate this possibility. The subject taken altogether is an important one, and careful research, if it is possible, as to the physical effects of the higher education in women is desirable. Apart, however, from the general effect of the higher education on the female organism, the influence of co-education by itself as a factor in producing physical race degeneration is not yet satisfactorily proved.

NEO-MALTHUSIANISM IN AUSTRALIA.

Neo-Malthusianism seems to be a popular theory in Great Britain's southern dependencies of Australia and New Zealand. According to recent statistics, the birth-rate has fallen in Australia to a figure far below that known in any other country and one that leaves little margin, if any, for the increase of population. In 1893 the ratio was 19.17 per 1,000, while ten years later, in 1903, it was only 14.90 per 1,000. It is thought certain that the decline is still continuing, and at this rate it will not be so very long before the problem of a diminishing population will have to be met. Australia is not a crowded continent, there is abundant room for a larger population even with the unfavorable climatic conditions that exist over a large part of its territory, but, like New Zealand, which is following in the same path, it is a country of social experiments. Immigration has been practically checked by labor laws, etc., and present conditions do not favor its revival. With lessening population and a public debt, the greatest of that of any community, some $278 per capita, a ratio which is not likely to be decreased according to present appearances, England's southern empire would not appear to be in a very good way. Social experiments evidently come high and the experience of Australia is not encouraging. Population, as Mr. Kidd truly says in his "Social Evolution," is the rock on which all socialistic systems split, but this apparent attempt on so large a scale to meet the problem in Australia and New Zealand is likely to place them at the very top, or perhaps we should say at the bottom, of the list of decadent populations. The star of empire appears to be waning somewhat over England's southern dependencies.

HEMORRHAGE INTO THE ADRENAL GLANDS IN INFANCY.

Although little is known concerning the function of the adrenal glands, and scarcely more with regard to disease of these organs, there is reason to believe that they fulfill a not unimportant purpose in the economy, probably through the generation of an internal secretion. Whether this latter is effective directly, through the agency of its vasoconstricting principle, or indirectly, by neutralizing substances circulating in the blood, is not yet known; but that it is in some way profoundly concerned in the body-metabolism is clearly shown by the results of destruction of the adrenals either by disease or by experimental means. The effects of partial lesions of the glands are not obvious, perhaps because even a small residuum is capable of supplying sufficient secretion for the needs of the organism. Hemorrhage into the adrenal glands has not rarely been observed in still-born children, and less commonly in early infancy. In some instances, especially of the first group, it is probably due to mechanical conditions attending parturition, while in others, particularly of the second group, the underlying cause is some infectious process, although this may not always be obvious. In the latter, acute abdominal pain and vomiting set in suddenly in a child previously in apparent health, and the temperature becomes elevated above the normal. A purpuric eruption sometimes appears, and there may be hemorrhages from mucous membranes. Convulsions supervene, and death takes place in the course of a few hours. Three cases of this character, one occurring in a male infant three days old, one in a boy two months old, and the third in a girl seven months old, are placed on record by Mr. Frederick

Langmead,[1] who notes the resemblance of symptoms to those attending acute specific diseases of malignant type.

PORTAL THROMBOSIS WITH HEMORRHAGIC INFARCTION AND NECROSIS OF THE LIVER.

Acute thrombosis of the portal vein is characterized clinically by the occurrence of severe abdominal pain and copious hypostatic hemorrhage from the organs whose vessels unite to form the portal vein. When such acute obstruction is complete, death results rapidly from loss of blood; but if the obstruction is only partial, ascites, enlargement of the spleen and recurrent hemorrhage develop. The condition is usually dependent on disease of the walls of the portal vein, and this may be associated with other morbid states of the liver or in the vicinity of the portal vein. The most important etiologic factor in this connection is syphilis, involving either the liver or the vein itself. Among other causative influences are cicatricial processes in the transverse fissure secondary to chronic peritonitis, compression by tumors, enlarged glands or gallstones, atheroma and sclerosis. Acute thrombosis of the portal vein does not give rise to any considerable alterations in the liver, because the hepatic artery still suffices to maintain the nutrition of that organ. When, however, emboli are carried into the branches of the portal vein, a condition results that has been designated atrophic red infarction. In order that this may occur, there must be interference with the supply of arterial blood to the liver, together with disturbance in the venous circulation of the body. There is another form of infarction of the liver, namely, the anemic-necrotic, which may be attended with true hemorrhage into the liver tissue. It is a condition secondary to thrombosis, and it is dependent on obstruction of the circulation in the hepatic artery. An unusual case of this character has recently been reported by Dr. F. Steinhaus.[2] This was an instance of mixed autochthonous and traumatic portal thrombosis, with secondary alterations in the liver in the form of extensive necroses and true hemorrhagic infarction, developing in a coachman who had been kicked in the right hypochondrium by a horse. The changes in the liver are attributed to complete connective tissue obliteration of the interlobular branches of the portal vein, which was probably the seat of a primary circumscribed endophlebitis, causing extensive alterations in the smaller and smallest branches and necrosis of the liver tissue before the injury, as extensive cirrhotic changes with excessive proliferation of biliary passages seemed to indicate that the entire process had existed for some time. The blow in the right hypochondrium, it is reasoned, gave rise to acute necrosis of the fatty tissue of the pancreas, and fresh thrombosis of the right suprarenal vein, with hemorrhage into and necrosis of the adrenal body, as well as fresh thrombosis of the larger branches of the portal vein. The case must be looked on as an evidence of the etiologic significance of traumatism with relation to acute necrosis of the fatty tissue of the pancreas, as well as to thrombosis of the portal vein.

1. Lancet, May 28, 1904, p. 1904.
2. Deutsches Archiv für klin. Medicin, vol. lxxx, Nos. 3-4, p. 364.

SURGICAL SCARLATINA.

Since Sir James Paget, in 1684, presented a clinical lecture on the subject of scarlet fever as a sequel of operations, the possibility of such an occurrence has been generally recognized, and frequently discussed, diagnosed and reported. Numerous epidemics in hospitals have been recorded, besides isolated cases, as well as experimental inoculations. It has become evident to all, however, that in the earlier days particularly much confusion has existed between true scarlet fever and scarlatiniform rashes, such as may result from septic infection or from drug intoxications, particularly carbolic acid. Still there are undoubtedly instances of true scarlet fever following shortly after an operation. The possible explanations suggested have been that in surgical scarlet fever we have to do with a wound infection by the unknown virus of scarlet fever, or that the resistance of the body is lowered by the operation so that a latent infection with scarlet fever is enabled to develop; or that the recorded cases are merely the outcome of coincidence, favored perhaps by the great exposure of hospital patients to contagious diseases. It is apparent that the exact status of surgical scarlatina is a matter of great importance from the standpoint of the searcher for the etiology of scarlet fever, for if it can be shown that the infectious agent is such that it is likely to enter an operation wound we would be able to add considerably to our scanty store of information on this subject. The relation of streptococci, which are so important as factors in the mortality of scarlet fever, and so frequently found in the disease that not a few have considered them the specific cause, is raised prominently by the known tendency of streptococcus infections in wounds to lead to not only local but general erythematous eruptions. Indeed, some writers have considered this close analogy of scarlet fever as seen after operations with other better known infections, to indicate that the same infectious agent may in one person cause erysipelas, in another puerperal fever, phlegmon, lymphangitis or scarlet fever. Dr. Alice Hamilton,[1] reporting a series of ten cases of a condition such as is described in the literature as surgical scarlatina, considers the questions: Is this disease really scarlatina, and if so, what is the relation between the injury and the disease? The possibility that ordinary septic infections, erysipelas, etc., can have the same cause as scarlet fever, would seem to be ruled out by the fact that the latter is followed by an immunity, while the former is not; and also, we might add, that immunity to scarlet fever does not protect in any way against ordinary streptococcus infections. Analysis of the 174 cases of surgical scarlatina that have been reported led to the view that in many of the cases what had been reported was really septic infection with eruption, and not scarlatina. This is probably the explanation of the belief that surgical scarlatina differs from the ordinary form in having a shorter incubation, little or no angina, a rather early desquamation, and the onset of the eruption in the wound or some other unusual region. There seems to be no convincing proof that there is a special form of "surgical scarlatina," but rather that the *bona fide* instances of scarlet fever

1. American Jour. Med. Sci., July, 1904, p. 111.

in the wounded have been merely coincidences, and not that the wound serves as an infection atrium for the disease.

THE LYMPH GLAND METASTASES IN CARCINOMA OF THE STOMACH.

The question of the situation and appearance of the lymph gland metastases in carcinoma of the stomach is of both medical and surgical import. From the medical standpoint it is important to know how frequently and how early we may expect metastases at a distance which might be of aid in the diagnosis of the condition, particularly as certain French observers have laid some stress on enlarged clavicular glands in this connection. From the surgical standpoint the matter is of much greater importance, as a knowledge of the lymph-gland distribution of stomach carcinoma is absolutely essential if the surgeon is to know how much tissue is to be removed with the affected portion of the stomach in order that there may be no recurrences.

Up to the present the most important work on this subject has been contributed by Cuneo, but this author confined his studies to the glands in the immediate neighborhood of the stomach, and did not study those at a distance. Quite recently, Renner[1] has tried to fill the gap in our knowledge in this direction. This author attempts to answer several important questions, namely, whether a macroscopic test is sufficient to distinguish a cancerous from a non-cancerous gland; whether there is a definite relation between the seat of the tumor and the group of glands affected; whether the secondary growths are due to direct extension or metastasis, and whether in operative cases, which subsequently come to autopsy, infected glands can still be demonstrated. The first query the author answers very decidedly in the negative; he shows that while on the one hand glands which appear to be enlarged contain no carcinoma, on the other very small and apparently non-implicated glands may be full of new growth. He therefore advises the removal of all glands in the neighborhood of the operative field. As far as a correspondence between the situation of the growth and certain groups of glands is concerned, the author shows that this exists to a certain extent; thus in fifteen cases the glands draining the seat of operation were carcinomatous, while in four cases they were not. The evidence of transmission of the growth was practically all in favor of transmission by metastasis, as only in rare cases was there any sign that direct transmission had taken place. The study of operative cases at autopsy showed that in fifty per cent. of the cases there was no regional glandular recurrence.

The general result of the study was to show that the glands of the lesser curvature are those most frequently infected, next the suprapancreatic, and then the subpyloric. In the limited number of cases investigated there was no case showing metastases to the clavicular or cervical glands, so that enlargement of these glands is probably of little diagnostic value, and occurs so late that operative interference at the time of its discovery would be out of the question.

1. Mitthellungen aus den Grenzgebieten der Medizin und Chirurgie, vol. xiii, No. 2, 1904.

Medical News.

COLORADO.

Academy Will Build.—The Denver Academy of Medicine will erect a two-story-and-basement building, at a cost of $20,000, to be used exclusively for physicians.

Sisters Buy Sanatorium.—The Sisters of Mercy of Manitou have purchased the Montcalm Sanatorium in that city and will remodel the building and equip it as a hospital at an expense of about $5,000.

July Deaths.—During July 769 deaths and 32 stillbirths were reported in the state, equivalent to an annual death rate of 15.65 per 1,000. One death was due to scarlet fever, 6 were caused by diphtheria, and 19 by typhoid fever.

Health Appointments.—Health Commissioner Dr. William H. Sharpley, Denver, has appointed Dr. J. W. Jordan, county physician; Dr. J. William Dillon, assistant county physician; Dr. William C. Mitchell, bacteriologist, and Dr. Frank R. Coffman, medical inspector.

Contagious Diseases.—The State Board of Health reports that during July 126 cases of typhoid fever were reported, an increase of 93 over June; 64 cases of diphtheria, an increase of 5; 64 cases of smallpox, an increase of 25, and 52 cases of scarlet fever, an increase of 7.

Consumptives Are Being Cured.—The Jewish National Hospital Association for Consumptives, of Denver, at its annual meeting reported that up to the beginning of the year 169 patients had been admitted to the hospital, of whom 4 had died, and 151 had been discharged cured, but of course these "cured" patients are obliged to remain in the Rocky Mountain zone.

GEORGIA.

Physician Loses by Fire.—The house of Dr. James I. Wilson was destroyed by fire, July 11. The loss was $7,000; insurance $5,500.

New Hospital Opened.—The new King's Daughters' Hospital, Atlanta, erected at a cost of $12,000, was formally opened July 18.

Lengthened Course Deferred.—The senate acted on the amendment to the medical bill requiring medical students to attend four full terms in full separate years, after considerable discussion. The vote stood 16 to 16, and the matter, on motion, was tabled.

Personal.—Dr. and Mrs. W. Simpson Elkin, Atlanta, have returned from Europe.——Dr. William D. Jennings, Jr., has succeeded Dr. Ernest C. Morris as city physician of Augusta.——Dr. Joseph H. Redding, Waycross, was seriously injured in a runaway, August 12.

Tuberculosis Bill Passed.—Senator Jordan's bill providing for a tuberculosis commission composed of one member from each congressional district and ten members at large, to investigate consumption in the state and make reports on progress at stated intervals, has passed the senate.

ILLINOIS.

Smallpox at East St. Louis.—On August 19, Dr. Elvin F. Baker, Jacksonville, inspector of the State Board of Health, reported that there had been 68 cases of smallpox, with 8 deaths, in East St. Louis, during July.

Personal.—Dr. Ed. P. Sloan, Danvers, has returned from Europe and located in Bloomington.——Dr. James W. Morgan, Moline, has sold his practice to Dr. James M. Wood, Kewanee, and will retire from active work.——Dr. Daniel W. Young, Paris, was seriously injured by a fall on an iron picket fence, August 8.

State Board Establishes Laboratory.—The State Board of Health has secured quarters in Springfield for a laboratory, which is being equipped with the chemic and biologic apparatus necessary to the work of the board, with especial reference to water examinations, the prevention of communicable diseases, and the search in the campaign against tuberculosis.

Chicago.

Granted New Trial.—Dr. Anna Beatrice Schultz, who was convicted and sentenced to an indeterminate term in the penitentiary for alleged implication in diamond robberies in Pittsburg and Chicago, has been granted a new trial by the Supreme Court, and has been released under heavy bond.

Personal.—Dr. Alfred C. Croftan has been appointed physician-in-chief to St. Mary's Hospital; and Dr. A. J. Ochsner, surgeon-in-chief.——Dr. Frank Billings has returned from Mackinac.——Dr. and Mrs. Frank L. Mueller were seriously injured in a collision between their trap and a Lincoln Avenue car, August 15. Dr. Mueller suffered a fracture of the left clavicle and scapula, and Mrs. Mueller was internally injured. ——Dr. Norman D. Curry has returned from Europe.

Rauch Park.—The obituary notice of Dr. John H. Rauch, which appeared in THE JOURNAL of March 31, 1894, contained the following paragraph: "The public park system of Chicago, the water supply, the drainage canal of the city, and a multitude of public works recommended by him, will perpetually remind the coming medical historian that in this age lived a wonderfully energetic and capable sanitarian." The health department now urges that in selecting names for public parks one be chosen for Dr. John H. Rauch, the father of the park system of Chicago.

A Healthful Summer.—No such healthful summer appears of record in the history of the city as this of 1904, says the Health Department Bulletin. The average August death rate of the last decade was 1.84 per 1,000 of population, and the lowest during that period was 14.53 in 1901. For the first twenty days of August the rate was 12.67, and for the week ended August 20 the 437 deaths reported represent an annual rate of only 11.62. These figures show a reduction of 20 per cent. from the previous lowest, and of 31 per cent. from the previous August average. The deaths numbered 437, of which 108 were from intestinal diseases; 59 from consumption; 34 from violence; 29 from Bright's disease; 26 from cancer, and 25 from pneumonia.

KENTUCKY.

Hospital Opened.—The new Deaconess Hospital, Louisville, was formally dedicated August 4. The building contains 26 rooms, with accommodation for 36 patients.

Oil the Mosquitoes.—Dr. Fred D. Cartwright and the health authorities of Bowling Green have put oil on the various ponds and marshy spots about the city in an endeavor to do away with the mosquito evil.

Personal.—Dr. W. E. Gardner, Glendale, has been appointed second assistant physician at the Central Kentucky Asylum for the Insane, Lakeland.——Dr. Robert E. Brennan, Louisville, sailed for Naples August 10.——Dr. Hugh R. Manning, chief clerk at the Louisville pension agency, has resigned, and has accepted the position of chief of clinic of the Hospital College of Medicine.

LOUISIANA.

A Third of Million for Tulane.—Under the provisions of the will of the late Alexander Hutchinson (referred to in THE JOURNAL of May 14), who died in New Orleans, Dec. 7, 1902, Tulane University will receive $333,475, to be employed in the upbuilding of its medical department.

Personal.—Dr. Felix A. Larue, New Orleans, has been reappointed a member of the State Board of Medical Examiners.—— Dr. Louis A. Mereaux, New Orleans, has gone to Europe.——Dr. John N. Thomas has been reappointed resident physician of the Mississippi River Quarantine Station.

Majority Vote Necessary for Quarantine.—At the quarterly meeting of the State Board of Health it was announced that there was no cause for alarm concerning yellow fever in Mexico, and that there was a full understanding with the health officer of Texas. A resolution was adopted providing that no quarantine be imposed by the Louisiana State Board of Health unless by a majority vote of its members present at that meeting.

Object to Publication of Names and Deeds.—The Orleans Parish Medical Society has adopted the following resolutions:

Resolved, That it is the sense of the Orleans Parish Medical Society that it is inconsistent with the highest ideals of the medical profession for members to permit the appearance in the daily press of articles bearing on their personal attainments or achievements.

WHEREAS, The frequent appearance in the daily press of articles dealing with the professional attainments of members of this society would seem to indicate a growing disregard for medical ethics;

Resolved, That copies of all articles appearing in the daily press of this city relating to members of this society shall be placed by the secretary in a scrapbook, which shall be kept on the president's desk for the inspection of members. The book shall be indexed, and any member whose name shall appear therein will have the privilege of attaching thereto a written explanation.

MARYLAND.

Personal.—Dr. B. Curtis Miller, resident physician of the Western Maryland Hospital, Cumberland, for eight years, has resigned.

Typhoid Fever.—The last report of the typhoid epidemic at Mt. Savage, Allegany County, is 135 cases. Physicians say the epidemic is under control. At New Creek, near Keyser, there are 32 cases. Two deaths have occurred.

Baltimore.

Suit for Long Service.—Dr. Adolph G. Freedom has brought suit against the estate of John Moan for $7,000 for professional services. He alleges attendance from Nov. 24, 1900, until death, March 14, 1904, in all not less than 1,700 visits, including 400 dressings of a cancerous foot, and frequent night work.

Personal.—Dr. Page Edmunds has returned from Europe.—— Dr. R. A. Ravenscroft, surveyor of the port of Baltimore, who has been ill with typhoid fever for some weeks at the Maryland General Hospital here, has recovered and returned to his home at Accident.——Dr. Alexander D. Maconachie left, August 25, for a trip to California and Yellowstone Park, stopping at the principal cities of the West.

MISSISSIPPI.

Infirmary Burned. The South Mississippi Infirmary at Hattiesburg was destroyed by fire, recently. All the patients were removed without casualty. The loss was $10,000, with an insurance of $5,250.

Must Not Spit in Public Places.—Secretary John F. Hunter of the State Board of Health has promulgated an order of the board forbidding expectoration in any public place or building or in any public conveyance.

State Association Election.—The Mississippi Medical Association has elected the following officers: Dr. Thomas J. Mitchell, Jackson, president; Drs. W. C. Spencer, Verona, Henry Christmas, Tehula, and Charles M. Murry, Ripley, vice-presidents; Dr. J. J. Haralson, Forest, secretary, and Dr. John F. Hunter, Jackson, treasurer.

NEW JERSEY.

Vital Statistics of 1903.—The yearly report of the State Board of Health records 31,319 deaths and 37,639 births during the year. Consumption is accredited with 3,019 deaths, and pneumonia with 2,421.

Gloucester Health Board Legal.—The city solicitor of Gloucester has declared that the present board of health is legally constituted. The right of certain members to serve who were not members of the city council was questioned, as this was a requirement of an ancient ordinance. An act was provided in 1896 whereby any citizen appointed by the council could serve as a health officer.

NEW YORK.

Memorial Hospital Open.—The Memorial Hospital, Canandaigua, was opened for public inspection August 18. It will soon be ready to receive patients.

Sixty Years a Practitioner.—Dr. William R. Wells, Mount Morris, who was graduated from Castleton (Vt.) Medical College in 1844, celebrated his 85th birthday August 16.

Typhoid in Port Chester.—A large number of cases of typhoid fever have developed in this town and its vicinity. The state and local health boards believe the epidemic to be due to either impure milk, ice from ponds containing impurities or the contamination of the water supply by Italians living on the outskirts of the town. The health officer of the town has ordered the discontinuance of natural ice. There have been about fifteen cases so far this month, twice as many as developed last month.

New York City.

Contagious Diseases.—For the week ending August 13, 1904, there have been reported to the sanitary bureau 328 cases of tuberculosis, with 153 deaths; 211 cases of diphtheria and croup, with 23 deaths; 95 cases of measles, with 8 deaths; 86 cases of typhoid fever, with 18 deaths; 50 cases of scarlet fever, with 2 deaths; 9 cases of varicella; 1 death from smallpox, and 24 deaths from cerebrospinal meningitis.

Personal.—Dr. John Van der Poel sailed on the *Campania* for Queenstown August 20.——Dr. Menas S. Gregory has been appointed acting superintendent of Bellevue and Allied Hos-

pitals during the vacation of the superintendent, Michael J. Rickard.——Dr. William R. Pryor is at St. Vincent's Hospital in a precarious condition.——Dr. Russell Bellamy was seriously injured by being thrown from his pony during a game of polo at Van Cortlandt Park.

High Death Rate Among Infants.—Because of the unusual high mortality among babies the health department is taking active measures to lower it by sending circulars of instruction on the proper care and feeding of babies; when asked for physicians and nurses are sent to further instruct and aid the mothers in caring for their children. Where there exists several cases of diarrhea in the same family the board of health requests that it be notified in order that they may determine the cause and act accordingly.

Device for Street-Car Ventilation.—Dr. Walker, of the health department of Brooklyn, has devised a simple method for ventilating street cars without causing a draft. He had two openings made in the deck-sash of a car about ten inches apart, into which were fitted slats to deflect the intake of air to the roof of the car. Between these openings a shingle was extended from the side of the car so the wind would strike against it when the car was in motion. The principle on which he proceeded was that air would strike the front of the shingle and be deflected into the car, while dust, cinders, etc., would fall to the ground. Simultaneously the forward motion would create a vacuum in the rear, which would suck out the vitiated air of the car through the rear slats. The cold, fresh air introduced would sink toward the floor and the heated, the vitiated air would rise and pass out. He had rags and refuse burned in the car until the atmosphere was rendered absolutely unbearable. The car was then set in motion at a speed of fifteen to eighteen miles an hour, and within two minutes and a half the air within was fresh and pure.

PENNSYLVANIA.

Typhoid at West Chester.—Several cases of typhoid have appeared in West Chester. Dr. James C. Mewhinney, Spring City, county medical inspector, concludes that the outbreak was sporadic.

New Bill to Protect Health.—The State Board of Medical Examiners will secure the introduction into the next legislature of a bill giving the board power to recall and cancel any license issued by it whenever it appears that the holder is not a fit individual by lack of proper education, moral character, or for the practice of illegal work.

Smallpox Throughout the State.—Statistics of the State Board of Health show that the total number of cases in the state during July was 94, with 2 deaths. Up to August 13 19 cases and one death had been reported. In June there were 60 cases and 9 deaths, and in the previous month 274 cases and 21 deaths. There were 550 cases and 33 deaths from the disease in May of last year, 506 cases and 33 deaths in June, 359 cases and 63 deaths in July, and 448 cases and 62 deaths in August.——Four cases of smallpox, all in one family, were reported in Pottstown August 16. The board of health immediately quarantined the home.

Still Fighting Smallpox.—Dr. Benjamin Lee, secretary of the State Board of Health, in view of the sporadic cases of smallpox throughout the state, and to prevent the outbreak of another epidemic with the advent of cold weather, has distributed the following circular notice to every school board throughout the state:

> You are authorized to address a communication to the parent or guardian of every child of school age in your district to the effect that no child will be permitted to enter school who can not present a certificate of successful vaccination, signed by a reputable physician. The penalty for failure, neglect or refusal to comply with the law is a fine of not less than $5 or more than $100, or imprisonment for a period not exceeding 60 days.

Dr. Lee asserts that had the law in respect to vaccination been obeyed five years ago, the record of 20,286 cases and 1,585 deaths from the disease since that time would have been almost entirely prevented.

Philadelphia.

Talks on Consumption.—Dr. Augustus A. Eshner delivered the tenth of a series of plain talks on health arranged by the director of public health, Dr. Martin, August 18. The final lecture of the series will be delivered by Dr. Edith W. Cadwallader, August 25, on the "Connection Between Dirt and Disease."

Pure Food Crusade and Soda Fountains. The pure food commissioners have directed their attention to the dispensers of impure fruit syrups in soda water. The so-called fruit syrups were analyzed and found to be substitutes. Many of them, Chemist Lowall stated, contained materials injurious to health. Twenty dealers who conduct these fountains in the southern section of the city, were arrested and held in $500 bail for court.

Health Report.—The general health of the city continues good and the mortality is below the seasonable average. Typhoid fever, however, continues its high standard, 109 cases, with 11 deaths being recorded for the week, as compared with 100 cases and 11 deaths for the previous week. The deaths from all causes reached a total of 420, a decrease of 21 over last week and a decrease of 2 over the corresponding period of last year. The total number of cases of contagious diseases reported was 181, with 21 deaths, as compared with 194 cases and 16 deaths for the preceding week.

SOUTH CAROLINA.

Medical Scholarships.—The governor has appointed seven young men to scholarships in the Medical College of the State of South Carolina, one from each congressional district.

UTAH.

Has Appendicitis.—Dr. Arthur J. Holmquist, resident physician at Helper, has been taken to St. Mark's Hospital, Salt Lake, suffering from appendicitis.

State Society.—At the annual meeting of the Utah State Medical Society, the following officers were elected: Dr. Philo E. Jones, Salt Lake, president; Drs. Robert S. Joyce, Ogden, and John F. Critchlow, Salt Lake, vice-presidents; Dr. Walter S. Ellerbeck, Salt Lake, secretary, and Dr. James N. Harrison, Salt Lake, treasurer.

Communicable Diseases.—The State Board of Health, in its monthly report for May, records 49 cases of scarlet fever in 11 localities, with 3 deaths; 105 cases of smallpox in 13 localities, with no deaths; 24 cases of diphtheria in 8 localities, with 5 deaths; 215 cases of whooping cough in 27 localities, with 21 deaths; 26 cases of measles in 8 localities, with no deaths; 345 cases of pneumonia in 17 localities, with 23 deaths; 17 cases of tuberculosis in 6 localities, and 16 deaths, and 4 cases of chicken-pox in 2 localities, with no deaths.

WEST VIRGINIA.

Hospital Opens.—The Grafton City Hospital, founded by Dr. Rawley H. Powell, was formally opened August 7.

Smallpox.—Amos has had 25 cases, with no deaths.——One case is reported at Pasco, and precautions have been taken to prevent the spread of the disease.

Personal.—Dr. Samuel L. Jepson, Wheeling, has been elected a trustee of Washington and Jefferson College.——Dr. Edward F. Wehner has resigned as superintendent of the Harrison County Hospital, Clarksburg, and has been succeeded by Dr. J. Wilson of Baltimore.

Buys Historic Homestead.—Dr. M. H. Crawford, ex-surgeon U. S. Navy, lately resigned, has purchased the famous Falling Spring Farm near Shepherdstown, the old Morgan homestead, where Gen. Daniel Morgan encamped before marching his company to the relief of Boston. It has been in the Morgan family over 100 years.

GENERAL.

The American Confederation of Reciprocating Examining and Licensing Medical Boards will meet at the Hamilton Hotel, St. Louis, October 25.

The American Association of Life Insurance Examining Surgeons will hold its next annual meeting at Portland, Ore., July 10, 1905. The membership is now said to number 1,000.

Meetings at St. Louis.—The American Electrotherapeutic Association will be in annual session at the Inside Inn, World's Fair, St. Louis, September 13-16, and the International Electrical Congress will convene at the Coliseum, September 12-17. The American Obstetrical and Gynecological Association will meet at the Monticello Hotel, September 12-15, and the fifth annual meeting of the American Roentgen Ray Society at the Louisiana Building, 911 North Vendeventer Avenue, September 9-13.

Marine-Hospital Service Examination.—The next examination of candidates for assistant surgeonships in this service will be held at the Bureau, 3 B Street, S. E., Washington, D. C., Oct. 3, 1904, at 10 a. m. Candidates must be between 22 and

30 years of age, graduates of reputable medical colleges, and must furnish testimonials from responsible persons as to their professional and moral character. The examinations are: 1, physical; 2, oral; 3, written; 4, clinical. On appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. Assistant surgeons receive $1,600. The tenure of office is permanent. Other particulars have been given in The Journal previously. For further information, or for invitation to appear before the board of examiners, address the Surgeon-General at the above address.

CANADA.

Infant Mortality in Ontario.—Last year the deaths from infantile diarrhea and cholera infantum in the province of Ontaria numbered 790 in all, a little over 2 per cent. of the total mortality of the province. From all causes there are about 6,000 infants who die in Ontario each year. Dr. Hodgetts, the provincial health officer, has prepared a set of rules to govern mothers in taking care of their offspring during the summer months.

New Brunswick Medical Society.—The twenty-fourth annual meeting of this society was held at St. John, July 19 and 20, Dr. J. Douglas Lawson presiding. Drs. G. M. Woodcock and Daniel McCann, Bangor, and Augustin S. Thayer, Portland, attended as official representatives of the Maine Medical Association. The following were the officers elected: President, Dr. A. R. Myers, Moncton; vice-presidents, Dr. E. T. Gaudet, St. Joseph, and Dr. G. N. Pearson, Sussex; secretary, Dr. L. R. Murray, Sussex; treasurer, Dr. G. G. Melvin, St. John. The next annual meeting will be held in St. John.

FOREIGN.

Cleansing of Cups and Glasses in Restaurants.—The medical chamber of the Breslau district recommends that all the dishes be numbered, and be sterilized by heating for one minute to 50 C. (122 F.) in a 2 per cent. soda solution.

Tribute to Huchard.—The fourth and last volume of Huchard's great work on "Heart Disease," has just been published, and he has recently been made an officer in the French Legion of Honor. His friends seized the occasion to present him with a portrait medal, it bears the device he long ago adopted, "In corde spes, vis et vita." After publishing a number of works on neuropathology, his attention has been directed principally to cardiac affections, on which subject he has published many monographs. He is now 60 years old, and founded both the *Revue clinique et thérapeutique* and the *Journal des Praticiens*. He has long been connected with the Necker Hospital.

The International Congress of Dermatology in September.—A scientific exhibit and also an exhibition of drugs and instruments, is being arranged for this congress which, as already announced, meets at Berlin September 12 to 17. Communications have been promised on "Syphilitic Affections of the Circulatory Apparatus," by von Düring, von Hansemann, Jullien, Lang, Renvers and Thomson Walker; on "Cutaneous Affections in Case of Anomalies in the Metabolism," by L. Duncan Bulkley, Radcliffe Crocker, Jadassohn, von Noorden and Pick; on "Epitheliomata," by Darier, Fordyce, Landgrer, Mibelli, Riehl, Rona and Unna. The general review of leprosy will be presented by Neisser. Special pains are being devoted to assembling a large number of interesting cases for inspection before the sessions. Dr. O. Rosenthal of Berlin is the secretary general.

Seventy-fifth Anniversary of the Brazilian Academy of Medicine.—The Academia Nacional de Medicine enters on the seventy-sixth year of its existence in a new and commodious building erected by the government at Rio for the meetings of scientific societies and preservation of their collections and archives. Its diamond jubilee was celebrated June 30, with much ceremony, and a number of invited guests, including the minister of the interior and other representatives of the government, with ladies, added to the brilliancy of the festival. The themes for the prize competitions for 1905 were announced. They include fevers endemic in Rio, malaria, surgical treatment of aneurisms, of appendicitis, etiologic rôle of alimentation in Rio, organization of hospital services, indications and contraindications for surgical intervention in obstetrics, parallel study of abdominal and vaginal routes for gynecologic operations, etc. The prizes are a gold medal or diploma. Besides these, the Alvarenga money prize was declared open to competition by any unpublished work on any subject connected with some branch of medical science. Before the festival meeting adjourned a portrait bust of a former president, the late Dr. Silva Araujo, was unveiled.

Radium and Longevity.—We have read with interest the experiments which demonstrated that the larvæ of the meal worm, etc., exposed to the action of the radium rays, were stunted in their growth and remained undeveloped. This fact is interesting from another point of view, as Curie has recently pointed out. Danysz exposed a number of the larvæ of meal worms to the action of radium last year. At the end of a few weeks most of the larvæ had been killed by the rays, but a few had escaped by retreating to the farther end of the vessel, and they are still alive, but they are still larvæ. The control larvæ passed through their various phases of larval and winged growth, and died of old age, and generations of their descendants have been born and died, but the radium larvæ still persist in their larval stage. Only one of the radium larvæ is alive at date of writing, a venerable patriarch, who has survived three times the normal span of the existence of his kind. Curie remarks: "Imagine a young man of 21 living to be three times the normal period of human existence, retaining at the age of 210 years his youthful appearance at 21! Yet this is what has been observed in the Methuselah meal worm in Danysz' experiment under the influence of the radium rays."

Treatment of Yellow Fever with Antivenin.—Bettencourt Rodrigues of S. Paulo, Brazil, has been treating a number of cases of yellow fever with polyvalent anti-ophidic serum (anti-bothropic and anti-crotalic serums), and believes that they displayed marked therapeutic value. His communication was received with consternation and incredulity in the local medical association, the physicians there generally denying the truth of his three premises, namely, that there is a close relationship between the venoms and microbian toxins; 2, that there is a close analogy between the symptoms of snake bite and those of yellow fever, and, finally, the resemblance and almost absolute identity of the pathologic anatomic findings in the intoxication of yellow fever and in snake-bite poisoning. The *Revista Medica de S. Paulo* of July 15 contains his long array of well-sustained arguments to support these premises, and also the counter arguments of his opponents. The latter insist that the recovery of all of the 24 patients treated was due to the exceptional mildness of the epidemic in question, as shown by the recovery of large numbers without any treatment, also by the fact that the anti-ophidic serum in other epidemics in other hands did not give such good results. The discussion is an interesting contribution to the literature of the new science, "serology."

LONDON LETTER.

New Buildings of St. Bartholomew's Hospital.

The foundation stone of the new building of St. Bartholomew's Hospital has been laid by the king. The hospital now contains 740 beds. During the last fifty years more than 7,000,000 persons have been treated. About 500 students work within its walls. The rapid advance of medical science in recent years has compelled the governors to contemplate the entire rebuilding of the hospital as funds become available. So valuable have been the endowments of the hospital that the governors have not found it necessary for 150 years to appeal to the public for funds. The most pressing necessity is the construction of a new out-patient department at a cost of $500,000.

The Profession Asks the Teaching of Hygiene.

A large and influential deputation, composed mainly of physicians, waited on Lord Londonderry, president of the Board of Education, to urge the importance of teaching hygiene in elementary schools. The deputation was organized in support of a petition prepared by a committee of physicians and signed by 14,718 of them. It urged the government to include in the curricula of the public elementary schools and to encourage in the secondary schools such teaching as may lead children to appreciate healthful bodily conditions as regards cleanliness, pure air, food and drink. At present such teaching is only optional. Among the deputation were Sir W. Broadbent, Sir T. Barlow, Sir V. Horsley, Sir M. Foster, Prof. Sims Woodhead, and Dr. D. Griffiths, president of the British Medical Association. Lord Londonderry made a sympathetic reply, but pointed out that there were great difficulties in the way of carrying out the proposals, the principal being the fact that a body of teachers capable of giving the needed instruction does not exist.

Fried Fish as a Cause of Typhoid Fever.

In a report to the London County Council Mr. S. F. Murphy, the health officer, describes an outbreak of typhoid fever due to fish. Since 1899 at least four outbreaks in London have been attributed with much probability to the eating of fried fish. In the provinces two outbreaks have been ascribed to this cause. Two special features were found in the London outbreaks—multiple attacks in particular houses and an exceptional age incidence, persons between 3 and 25 being attacked in unusual proportion. These features occurred in association with two facts—poverty and the eating of fried fish. In December, 1903, a group of attacks occurred in the borough of Holborn, which were believed to be due to the eating of fried fish obtained in two particular shops. Every other source of infection was excluded. In several instances the subjects stated that the fish had a disagreeable odor, and even that it made them sick. The cause of contamination of the fish appears to have been imperfect removal of the entrails, which is liable to occur in cheap fish.

Opticians and Spectacle Prescribing.

A burning question in medical politics just now is the proposal of the "Company of Spectacle Makers," one of the ancient guilds of the City of London, to grant diplomas in sight testing to opticians. This proposal was severely condemned at the recent meeting of the British Medical Association, and the Ophthalmological Society of the United Kingdom has now done likewise, and passed a resolution that "While approving of any measures which tend to increase the efficiency of opticians in their technical work it considers that it would be misleading and dangerous to the public to countenance any proposal to certify as competent to advise and prescribe for defects of vision anyone who has not had an efficient medical and surgical training. A diploma such as the Company of Spectacle Makers proposes to grant may lead the public to believe that its possessor is competent to diagnose and treat diseases of the eye. Errors of refraction often occur in association with diseases of the eye. The mere correction of the former by means of spectacles would ignore a condition which might destroy sight or endanger life. Moreover, many errors of refraction can be accurately measured only after the use of a drug which should be used only by a medical man, since its indiscriminate use is calculated to excite one of the gravest diseases to which the eye is liable. Finally, on general grounds, it is dangerous to encourage the public in the belief that affections of any organ can be safely treated by any one unacquainted with its anatomy and physiology and with the various morbid conditions to which it is liable."

Correspondence.

Club Practice in New Zealand.

Whangarie, New Zealand, July 7, 1904.

To the Editor:—In a recent issue of The Journal I noticed remarks on club practice. Permit me, as one who has passed through the experience, to express myself. I am now in a country in which there are many of these friendly societies. They are in some respects a very good thing for the workingman, and can even provide for an old age pension.

In Auckland there are about 3,000 lodge members; many of these are married and have children: every child under the age of 18 comes on the physician's list. Take, for example, a man 31 years of age who joins the Manchester Unity of Odd Fellows: he pays £3 10s. ($17.50) per year; this covers all fees; 6 shillings ($1.50) goes to the chemist, 14 shillings ($3.50) goes to the doctor. The first fee of £3 10s. ($17.50) also acts somewhat as an insurance to the member. If he is unable to follow his usual occupation, then he receives £1 ($5) per week. If it is an accident, then he receives also from the employers' accident insurance, half his usual wages.

All the Auckland lodges united, and now have their own dispensary. They called for two medical officers, each to receive £500 ($2,500) per year, and to divide the work; confinements, £2 2s. ($10.50) and all venereals extra. But with the contract I was asked to sign, and the work taking one's time early and late, I found a medical man was doing an injustice to himself, to his patients and to the medical profession. The medical officer had but little time he could spend on each patient. Some days my consultations and visits in a radius of 3½ miles would total such a number that they would average each as low as 9 pence (18 cents). I resigned, and the place was filled by a Chicago man.

There is another system of club practice which is very commendable. In one mining district the miners have a fund formed by deducting a weekly 9 pence (18 cents) from the wage. Then, in each case where a medical man is required, he is called and paid from the fund; it is unnecessary for me to say the medico is only called when he is really required—not, as in the other form of club work, called for anything and everything.

There has been some effort among the members of the medical profession to combat the growth of lodge work; for example, to limit the membership to those receiving an income less than £200 ($1,000) per year. This was unsuccessful. I found that I was attending as a lodge member one of the members of the upper house of parliament, and many others with good incomes.

The consultation fees in general practice are 5 shillings ($1.25) in the country, 7s. 6d. ($1.87½) in the city, £1 1s. ($5.25) in case of consultants. P. M. Keller, M.D.

Perforation in Typhoid.

Owatonna, Minn., Aug. 9, 1904.

To the Editor:—The matter of perforation in typhoid cases has been discussed very extensively of late, both in society meetings, and in the medical journals. In your editorial of August 6 you have also referred to the symptoms. As the question of operation hinges on the diagnosis, of course for the time being that becomes the most important feature. There is one symptom that I have noticed to be invariably present, both in perforation from typhoid and from gastric ulcer, that I have never heard spoken of. During an experience extending over something over 33 years I have seen perhaps some six or eight of these cases, but have never seen a case in which the pulse was not greatly accelerated—running from 160 up to such a rate that it was not susceptible of being counted. Another feature is that one may pour all of the stimulants and heart tonics into the patient that one pleases, and they produce no more effect than so much water. In most cases that I have seen the respiration has also been accelerated, but not in proportion to the pulse. The respiration is also superficial in character. I have also noticed quite a sudden drop in temperature. Theo. L. Hatch.

Diagnosis of Scarlatina.

Philadelphia, Aug. 8, 1904.

To the Editor:—I was very much interested in your issue of August 6, page 397, *in re* Schamberg's differential diagnosis between scarlet fever and "scarlatiniform erythema," of which teachers and text-books in my student days said nothing. Several years ago I was called to see a young lady, about 17 years old, with sore throat, temperature about 100, a somewhat rapid pulse, muscular soreness and a universal red eruption, which I declared to be scarlatinous. The mother and daughter both laughed and the former said: "Doctor, she has had this several times before, and Dr. ——— and Dr. ——— have pronounced it each time to be scarlet fever." There was later on some desquamation. My patient and I agreed to disagree, though she followed my directions as to treatment, and she recovered, but forgot to pay the bill. E. W. Holmes.

A Request to State Examining Boards—University of Michigan Has Two Departments of Medicine.

Ann Arbor, Mich., Aug. 18, 1904.

To the Editor:—Please permit me through your columns to request the state medical examining boards to distinguish in their reports of examinations between the Department of Medicine and Surgery of the University of Michigan and the Homeopathic Medical College of the University of Michigan. These are two distinct schools, with different requirements for admission, and with essential differences in the courses offered.

Victor C. Vaughan.

Queries and Minor Notes.

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

ALBUMIN ESTIMATION METHODS AND ERRORS IN PERCENTAGES.

DR. L. F. SCHMAUSS, Mankato, Minn., writes: I have frequently been surprised in reading reports of cases of Bright's disease at the amounts of albumin given, ranging from a trace to 30, 40, 50 or even 70 per cent. Even a casual glance will show that this is a mistake, that there is something radically wrong. This becomes more apparent when we consider that the white of egg (almost a semi-solid) contains only 22 per cent. of solids, 95 per cent. of which, or 20.5 per cent. of the total, is albumin. Blood and milk, comparatively thick fluids, contain only from about 25 to 12 per cent. of solids respectively. Even cream shows only about 34 per cent. Again, blood, with a specific gravity of 1055 to 1060, has less than 25 per cent. of solids: milk with a specific gravity of about 1030 shows only about 22 per cent., and saccharin urine, with a specific gravity of 1030 to 1060, generally yields only 3 to 6 per cent., practically never over 10 per cent. of sugar. Now then, when we consider these facts, can a nephritic urine, a thin, watery fluid, with a specific gravity ranging from 1010 to 1030 (most of this due to the ordinary urinary constituents—urea, uric acid, etc.) show, or contain, 30 or 40 or 50 or 70 per cent. of albumin? I can not understand how such result can be reached and be continually reported by many different authors. Because of the latter fact it can not be due to a typographic error. Dr. G. M. Edebohls, in "The Cure of Chronic Bright's Disease by Operation," *Medical Record*, Dec. 21, 1901, says in one place: "The amount of albumin in the urine is at present 40 to 50 per cent., as against 50 to 70 per cent. prior to the operation." Dr. A. H. Ferguson, page 12, THE JOURNAL A. M. A., July 4, 1903, says: "Urine albuminous 50 per cent.; eighteen days after operation only about 0.5 per cent." The same author, in an article in THE JOURNAL, April 16, 1904, gives the percentage of albumin present in the urine of two of the cases, as 36 and 35 per cent. respectively. These same proportions are given in a similar article, describing the same cases in the *Medical Standard* of August, 1904. These are only a few prominent instances of the many which I have observed. June 6, 1904, I wrote to Dr. — as follows: "Dear Doctor: Having myself operated a case of chronic Bright's disease, I always read with interest the reports of such cases: in going over your valuable article . . . I noticed the percentage of albumin given as 36 and 35 per cent. respectively. I have seen such percentages, and even up to 50 or 70 per cent. (an impossibility, of course,) given on other occasions. Now either these various writers have made a mistake, wrote 30 or 50 or 70 per cent. instead of 0.30, 0.50 or 0.70 per cent., or the printers committed such an error, or, I am in error, and so is Simon's "Chemistry," Von Jaksch, Esbach, etc. Simon's "Chemistry," for instance, says: "The average amounts of albumin present in acute cases of albuminuria is 0.1 to 0.5 per cent., rarely over 1 per cent., though it may rise to 1 per cent." This corresponds with my findings. While interne at Cook County Hospital, Chicago, I examined many specimens of urine containing albumin. In none did I ever find so much present as in the case I have operated on. This urine, when boiled, would become almost solid on addition of nitric acid coagulation would occur to the top of the urine. But 1.5 per cent. was the highest I obtained—according to Esbach's method, the one most commonly employed. As I understand it, the figures 1 to 7 on this instrument do not mean 10 to 70 per cent., but 0.1 to 0.7 per cent., or from 1 to 7 per 1000, which is the same. Now, Doctor, this is a very important matter from a scientific standpoint, and I would be very much obliged to you if you would kindly write me a few lines to help clear this up, or, stating by what method you estimate the percentage of albumin. . . ." I regret that I did not receive a reply from Dr. — —, hence I have to look elsewhere for this information, which, I am sure, will also interest other readers of THE JOURNAL.

ANSWER.—Your criticism of the percentages of albumin given by various writers is both just and timely. There is no standard in general use, and in consequence there is great difficulty in interpreting the statements of medical writers. The estimation of dry albumin is not possible for any one except a chemist, and in consequence various means of proximate estimation have been devised. Probably the usual percentage is based on a rough estimate of the amount of precipitate as compared with supernatant liquid in a newly precipitated mixture—say, after standing a minute. Figures based on this method have the same value as such statements as "large amounts," "considerable," etc. In our opinion the next most frequent method of estimation is by the centrifuge. The usual reading is given as "percentage," whereas it should be "volume percentage." Purdy demonstrated that this is fairly accurate if the machine had arms 6¾ inches long and was swung for three minutes at the rate of 1,500 revolutions per minute. Furthermore, if the volume percentage be divided by 10 it would give the grains of dry albumin per fluid ounce. For example, 10 per cent. "volume percentage" equals 1 grain of dry albumin to each ounce of urine. A large number of the percentages published are based on estimation with the Esbach albuminometer. Your criticism of a frequent erroneous reading of this instrument is timely. The figures 1 to 7 are intended to show grams per liter. A urine which precipitated to 7 should be read as 7 grams to 1000 c.c., or 0.7 of 1 per cent. A much more accurate method, and one not much more difficult, is Brandberg's modification of Robert's method. The principle of this test is a determination of the weakest dilution of the urine which will give a Heller's reaction in 3 minutes. We would suggest to writers that they qualify their statements of percentages by specifying the method used.

THE RIGHTFUL PRECEDENCE OF THE FAMILY PHYSICIAN

E., of Illinois, writes: I wish to submit a question in regard to medical ethics. A child was bitten by a dog and brought to my office, but I was temporarily absent, and the child was taken to a drug store and another physician summoned, who came and dressed the injuries. I have been the family physician since the family came here, and that evening the mother saw me, related the story of the case and told me of the treatment, which I approved, and she said she wished I could see the wounds, and asked if I would go over to the other physician's office with her the next morning, and then, as she passed my office, she called and asked me to go with her that I might see the extent of the wound and judge of its appearance and danger. Now it was not a question of treatment or anything except that I might see the wound. Was there anything unethical in my going over with her? The attending physician took it as a serious offense, refused to further touch the case and acted terribly insulted. His conduct was not to be excused even if I were in the wrong, but I want your opinion as to the ethical right or wrong of my going to his office under the circumstances.

ANSWER.—As before noted in this column we can not undertake to act as arbiter of the disputes of physicians. In order to render judgment in an individual case both sides must be heard—circumstances often change shape when viewed from another point or through other eyes. Assuming then, that our correspondent states a somewhat hypothetical case, there is but one answer as to the proper course to be pursued. Our correspondent had a perfect right to see the case, and the other physician had no justification in professional custom to become offended at the presence of the family physician. In fact, among medical men who find pleasure in the niceties of conduct, one who in an emergency is called to a case in the absence of the family physician always retires from attendance on the case when the family physician returns. Judged by such a standard the physician of whom our correspondent complains erred twice: First, in keeping the case after the family physician was at hand, and second, in finding any fault with the mother's request that the family physician be present at the dressing of the wound.

USE OF THE HOLLOW RING PESSARY.

W. asks for a few pointers on the use of the hollow ring pessary. He says it is a pessary filled with air, looking "for all the world" like an old-fashioned doughnut, and wishes to know its name, mode of application, how long can it be left in, etc.

ANSWER.—There is a hollow rubber ring pessary, already inflated with air (Meyers), a hollow rubber ring pessary to be inflated by means of a tube (no name), and a solid, soft rubber ring pessary (Meyers). They are sometimes useful in a prolapse of the uterus that is not held in position by a hard rubber pessary, although the latter is to be preferred, when serviceable, on account of greater cleanliness. The soft rubber pessary is put in place by first narrowing it by pressure between the thumb and forefinger, carrying it into the vagina and up to the vault, then by bimanual manipulation seeing that the uterus is in place and the rubber ring encircling the cervix. Daily douches should be recommended while the pessary is worn, and it should be removed and cleansed at least once a week, as it has a great tendency to become foul.

MEMBRANOUS DYSMENORRHEA.

D. B. C., of California, writes: I have a case of membranous dysmenorrhea in a young married woman, aged 22. She has suffered from this since she first menstruated at 14 or 15 years of age. At times the membrane is complete, while at other times it comes away in strips. Her suffering at these times is very severe. Her health between her menstrual periods seems normal. On examination the pelvic organs appear normal in size and position, and as far as I am able to ascertain free from inflammation. She is, however, of a nervous temperament. Will you kindly give me, in THE JOURNAL, the cause, prognosis and treatment of this disease? I have used acetanilid, gelsemium, morphin, etc., but with only partial relief. Would pregnancy be likely to relieve this most painful condition?

ANSWER.—Membranous dysmenorrhea is thought by some to be a result of endometritis; by some, a monthy abortion; and by some, a monthly casting off of membrane is thought to be normal and an event which gives trouble only when inflammation is present or when an abnormally large piece is passed. It should be mentioned that some think that neither of these conditions account for all the cases. The prognosis is not good as to a ready cure. Pregnancy might help the case, but these cases have little tendency to become pregnant, and if they do become pregnant, abortion is apt to follow. Probably the most reliable treatment would consist of curettage and correction of anteflexion, if present. In some cases a second curettage has had to be done, a few months later. The beneficial effect of diet, out-of-door life, baths, douches, etc., should not be overlooked.

A GENERAL UTILITY DOCTOR.

"Speaking of letter heads," writes a correspondent, "I send you one to publish in your Queries and Minor Notes columns that shows that we have one physician here who covers the whole field." The letter head has in the left upper corner:

"Local Surgeon ——— ——— R. R. Co.
Local Adjuster ——— ——— Acci. Insurance Co.
Medical Examiner ——— ——— Insurance Co.
Medical Examiner ——— ——— Insurance Co."

On the right upper corner:

"President ——— Telephone Co.
Cap. Stock $10,000, ———, Ill.
President ——— Irrigation Co.
Cap. Stock $200,000, ———, Texas.
President ——— Chemical Co.
Capital Stock $25,000, ———, Ill.
Director ——— Crude Oil and Gas Co.
Capital Stock $1,000,000, ———, Ariz."

A page advertisement in a local literary magazine informs us that the same physician is "Oculist, Physician and Surgeon." That "All Diseases of the Eye Treated and glasses fitted by the most approved method," that he gives "Special attention to all static electrical and x-ray work." The doctor is said to be a member of his county, state and national societies.

ADRENALIN IN HYDROCELE.

DR. B. T. BENNETT, Trenton, Tenn., writes: I noticed in THE JOURNAL, June 4, 1904, page 1496, an editorial on injections of adrenalin in serous cavities. I have a case of hydrocele I want to try it on if you will kindly tell me if I should use the 1-1000 without dilution and the amount to use.

ANSWER.—We hesitate to advise the use of this powerful drug in the case mentioned. Several cases of anemic necrosis have occurred in its use elsewhere, but no data are to be had as to its employment in hydrocele. If every other surrounding circumstance is favorable, and if our correspondent is still of a mind to try the measure, 10 to 20 minims of a 1 to 5000 solution may be cautiously injected and the results noted before any repetition. The preliminary withdrawal of the fluid in the hydrocele should not be complete, a small portion being left to mingle with the injection.

GO TO THE WORLD'S FAIR.

DR. W. W. KEEN, Philadelphia, writes from Colorado Springs concerning the educational exhibit at St. Louis as follows: No such exhibit of educational methods and means of instruction in medicine (especially by Germany) has ever been made. It impressed me greatly and especially should stimulate all our medical schools and teachers to imitation and to surpass what they have done if possible. If you have not already done it I hope you will urge your readers, and especially all teachers of medicine, to visit the Fair, especially the education building, and particularly the German and the Japanese exhibits. Next to Germany Japan has done the most. What she is doing in war she is doing in medicine.

ANSWER.—A continued article on the Fair appeared in THE JOURNAL July 16 and 23.

STATE BOARDS THAT RECIPROCATE.

SEVERAL CORRESPONDENTS: The following states provide for reciprocity in their laws or else have authority to so provide vested in their state examining boards: Wisconsin, Indiana, Michigan, Ohio, Iowa, Kansas, Illinois, Nebraska, Kentucky, Pennsylvania (eclectic), Maryland, Georgia, Oklahoma, New Jersey and Maine. The method of reciprocity is not the same in all. Some of these reciprocate on the basis of Qualification 1, some on the basis of Qualification 2 and some on both. These "qualifications" appeared in THE JOURNAL, August 13, page 481.

DEALER IN MEDICINE AND SURGERY.

An Indiana physician has the following "corner grocery-store" announcement on his letter heads: "Dealer in Medicine and Surgery. Specialties: Diseases of Women and Childbirth."

TEXT-BOOKS ON URINALYSIS.

DR. J. A. C., Greenfield, Ill.: Among the best works on urinalysis are those by Purdy, von Jaksch, Tyson and Ogden.

Marriages.

W. J. SPENCE, M.D., Camilla, Ga., to Miss Louise Callaway of Albany, Ga., August 12.

ETHAN ALLEN GRAY, M.D., to Miss Elise Marie Baumann, both of Chicago, August 17.

L. H. CARPENTER, M.D., Grundy Center, Ia., to Miss May Erwin of Pecatonica, Ill., July 30.

SAMUEL M. JENKS, M.D., Madison, S.D., to Mrs. Harriett Van Erman of Faribault, Minn., August 15.

NICHOLAS TRIGANT BURROW, M.D., Norfolk, Va., to Miss Emily Sherwood Bryan, at Cambridge, Md., August 9.

CARL L. BRIMI, M.D., Cooperstown, N. D., to Miss Elizabeth Manke of Minneapolis, Minn., at St. Louis, Mo., June 28.

WILLIS LE BARON HALE, M.D., North Attleboro, Mass., to Mrs. Georgie Powell Hopkins, at Onancock, Va., August 9.

Deaths.

Ralph Chandler, M.D. Rush Medical College, Chicago, 1886, a member of the American Medical Association, Wisconsin State Medical Society, Milwaukee County Medical Society, and Association of Military Surgeons of the United States; captain and assistant surgeon in the Wisconsin National Guard for eighteen years, and surgeon of the First Light Battery; one of the most brilliant young surgeons of Milwaukee; for several years a member of the staff of the Johnson Memorial Hospital, died at Knowlton Hospital, Milwaukee, August 12, two days after an operation for intestinal obstruction, aged 41. At the funeral the honorary pallbearers were representatives of the medical fraternity, the Loyal Legion and the Wisconsin National Guard, while the active pallbearers were non-commissioned officers of the First Light Battery, in which he had been an officer for eighteen years.

John Womack Hayes, M.D. Washington University School of Medicine, Baltimore, 1870, a member of the American Medical Association, president of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, past president of the Arkansas State Medical Society, Carroll County Medical Society, and Lee County Medical Society; member of the Tri-County Medical Society, who, on account of persistent overwork, had broken down so that an operation was necessitated in February, died by taking sixty grains of morphin, at his home in Eureka Springs, Ark., August 8, aged 56.

Henry C. Coty, M.D. University of Louisville, Ky., 1880, of Shreveport, La., a member of the Louisiana State Medical Society and Shreveport Medical Society; coroner of the parish of Caddo, and local physician for the Texas and Pacific, and Houston East and West Texas Railroad, died in New York City, August 10, from uremia, aged 45. The Shreveport Medical Society, at a special meeting, August 13, adopted resolutions of respect and sympathy.

Albert W. Warden, M.D. New York University, New York City, 1880, of Union Hill, Weehawken, N. J., a member of the American Medical Association, died from septicemia, due to an operation wound, August 9, at the Presbyterian Hospital, New York City, after an illness of three weeks, aged 47. He was at one time assistant surgeon in the National Guard of New Jersey and assigned to the Ninth Infantry.

Frank Howard Payne, M.D. Rush Medical College, Chicago, 1874, a member of the American Medical Association, Medical Society of the State of California, and Alameda County Medical Society, a member of the faculty of the College of Physicians and Surgeons, San Francisco, died from erysipelas, August 8, after an illness of one week, at his home in Berkeley, Cal., aged 53.

George T. Heston, M.D. University of Pennsylvania, Philadelphia, 1852, one of the oldest physicians in eastern Pennsylvania, died at his home in Newtown, August 15, from Bright's disease, aged 78.

Jonathan S. Whitely, M.D. Ohio, 1878, of Corry, Pa., and secretary of the local board of health, was drowned while fishing on Findlay's Lake, N. Y., July 27, aged 48.

John J. Covert, M.D. University of Michigan, Ann Arbor, surgeon of volunteers in the Civil War, died at his home in Lawrenceville, Pittsburgh, Pa., July 12, aged 81.

Thomas B. La Rue, M.D. University of Nashville Medical Department, 1852, who retired from practice in 1902, died at his home in Smith's Grove, Ky., July 19, aged 83.

George A. Carlin, M.D. University of Wooster, Cleveland, 1872, died at his home in West Salem, Ohio, July 28, from diabetes after an illness of several months, aged 59.

Orville Follett, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1841, died at his home in Normal, Ill., August 12, after a protracted illness, aged 88.

Charles Martin Schafer, M.D. Western Pennsylvania Medical College, Pittsburg, 1900, died at his home in Pittsburg, Pa., July 25, after an illness of six weeks, aged 27.

Emil H. Schellack, M.D. St. Louis College of Physicians and Surgeons, 1886, died at his home near Galena, Kan., August 9, from septicemia, after a long illness, aged 60.

George V. Wenner, M.D. Medico-Chirurgical College of Philadelphia, 1896, died from the effects of an overdose of cocain, at his home in Milford, N. J., July 23, aged 40.

Charles E. Cockey, M.D. University of Maryland, Baltimore, 1866, secretary to the Board of Health of Queen Anne County, died at Queenstown, Md., July 31, aged 62.

Arthur Napoleon Herwig Brown, M.D. Memphis (Tenn.) Hospital Medical College, 1893, died at his home in McDonoughville, La., July 30, after a long illness, aged 34.

Charles H. McCann, M.D. Cooper Medical College, San Francisco, died at the American Hospital, City of Mexico, July 8, after an illness of five days, aged 40.

John H. De Puy, M.D. Willoughby (Ohio) University Medical Department, 1846, died at his home in Wabash, Ind., July 20, after a short illness, aged 83.

Peter Sutton, M.D., a retired physician of Adrian, Mich., died at his home in that city from senile gangrene, after an illness of six weeks, August 1, aged 78.

James H. McCullough, M.D. Trinity Medical College, Toronto, Ont., 1883, formerly of Owen Sound, Ont., died at his home in Battleford, N. W. T., July 12.

Robert L. Hadley, M.D. Medical Department of the University of Tennessee, Nashville, 1878, died at his home in Edgefield, Tenn., July 10, aged 65.

George P. Johnson, M.D. Albany (N. Y.) Medical College, 1867, was found dead in bed at his home in Mexico, N. Y., July 17, from apoplexy, aged 59.

David L. Bailey, M.D. New York University, New York City, 1875, died recently at his home in Carbondale, Pa., from septicemia, due to a pin scratch.

Ivo W. Buddeke, M.D. Ohio, 1875, died, July 11, in a congestive chill at his home in Memphis, Tenn., after an illness of only a few hours, aged 52.

William Allen Reed, M.D. Rush Medical College, Chicago, 1882, died at his home in Necedah, Wis., August 6, from Bright's disease, aged 46.

David C. Spalding, M.D. University of Michigan, Department of Medicine and Surgery, 1858, died at his home in Lyons, Mich., July 14, aged 70.

William H. Renner, M.D. University of Maryland, Baltimore, 1876, died at his home in Industry, Kan., August 5, from asthma, aged 62.

R. Irvin Walton, M.D. Medical College of Georgia, Augusta, 1877, of Danburg, Ga., was shot and instantly killed near Tignall, Ga., July 6.

James S. Gayer, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, died at his home in Plainville, Ill., February 25, aged 60.

Van McHenry, M.D. Ohio, died at his home in Plainville, Ind., July 11, from kidney and liver disease, after an illness of three weeks, aged 75.

Thomas Luther Thomason, M.D. Baltimore Medical College, 1896, died at his home in Atlanta, Ga., July 29, after an illness of two weeks.

Lyndhurst C. Dodge, M.D. Albany (N. Y.) Medical College, 1862, died suddenly at his home, Rouse's Point, N. Y., August 12, aged 63.

Anthony Lechley Pillow, M.D. Jefferson Medical College, Philadelphia, 1845, died at his home in Columbia, Tenn., July 14, aged 85.

Memory Lee Doom, M.D. Ohio, 1874, died at his home in Tacoma, Wash., June 30, from heart disease, aged 70.

W. B. Dudley Jackson, M.D. Hospital College of Medicine, Louisville (Ky.), 1875, died at his home in Brick Church, Tenn., August 7.

Eli J. Zook, M.D. Jefferson Medical College, Philadelphia, 1878, died suddenly at his home in Newville, Pa., July 10, aged 60.

Henry A. Jendrault, M.D. Albany (N. Y.) Medical College, 1882, died suddenly at his home in Dover, N. H., July 11, aged 58.

Alonzo D. Kingsley, M.D. Massachusetts, 1847, died at his home in Muskegon, Mich., July 18, after an illness of one week, aged 82.

John C. Campbell, M.D. Ohio, 1874, died suddenly from hemorrhage of the stomach, at his home in Kenton, Ohio, July 22, aged 60.

Jacob Graul, M.D. Germany, 1860, died at his home in St. Louis, July 25, from dropsy, after an illness of several months, aged 70.

John McSimpson, M.D. Indiana, 1888, of Chicago, was struck by a train at Pullman, Ill., and instantly killed, July 30, aged 58.

George I. Rice, M.D. Pennsylvania Medical College, Philadelphia, 1858, died at his home in Princeton, Ill., February 22, aged 72.

W. L. Burns, M.D., an aged physician of Maxton, N. C., was found dead from exposure on the outskirts of the village, July 23.

Osmer W. Lounsberry, M.D. Ohio, 1874, died suddenly at his home in Wyoming, Ohio, August 5, from gastroenteritis, aged 68.

Garrett Anderson, M.D. New York University, New York City, 1860, died at his home in Shacklefords, Va., August 4, aged 65.

Samuel F. Williams, M.D. Medical College of Indiana, Indianapolis, 1883, died at his home in Casey, Ill., March 16, aged 50.

Macon M. Kilpatrick, M.D. Baltimore Medical College, 1892, died at his home in White Plains, Ga., July 18, after a long illness.

Joseph L. Wistein, M.D. Rush Medical College, Chicago, 1890, died at his home in Chicago, in April, 1903, aged 43.

Nicholas Harrington, M.D. Starling Medical College, Columbus, Ohio, died, June 27, in Palermo, Kan., aged 79.

Margaret Grey, M.D. Illinois, 1897, died in Chicago, August 11, from injuries sustained in a fall last February.

W. H. Lippett, M.D., of Roanoke, Va., died at the Roanoke Hospital, July 28, from typhoid fever, aged 28.

Alexander S. Campbell, M.D. Indiana, 1897, of North Liberty, Ind., died in Seattle, Wash., August 5, aged 87.

A. J. Atkinson, M.D., surgeon during the Civil War, died at his home in Lewistown, Pa., July 12, aged 83.

L. W. Ellsworth, M.D., formerly state senator, died at his home in Rappsburg, Ohio, July 25, aged 81.

William B. Kenyon, M.D. Pennsylvania, of Buffalo, N. Y., died recently at Dansville, N. Y., aged 57.

John Needham, M.D. Ohio, 1864, died at his home in Glendora, Cal., July 8, from cancer of the liver.

Willam J. Patterson, M.D., 1894, died at his home in Slippery Rock, Pa., from cancer, July 16, aged 37.

Mary E. Patridge, M.D. New York, 1884, of Burlington, Vt., was drowned recently at Red Rocks, Vt.

A. C. Herman Schneider, M.D. Pennsylvania, 1900, died at his home in Moores, Pa., August 5, aged 25.

Jacob Mellinger, M.D., a prominent chemist of Baltimore, died at his home in that city July 26.

Charles S. Rush, M.D. Pennsylvania, 1867, died at his home in Metropolis, Ill., July 28, aged 75.

James Hayton, M.D. Illinois, 1877, died at his home near Carbondale, Ill., August 7, aged 88.

Guy T. Adams, M.D. Illinois, 1897, died at his home in Mendota, Ill. May 31, aged 37.

D. W. Strader, M.D., died at his home in Hiseville, Ky., July 18, after a long illness, aged 86.

Rudolph D. Baird, M.D. Colorado, 1898, died at Denver, Colo., August 5, from consumption.

Harlan Harrison, M.D. Ohio, 1852, died at his home in Union City, Ind., July 19, aged 79.

Isaac C. Detwiler, M.D., Philadelphia, 1861, died at his home in Manheim, Pa., August 14.

Milton R. Maxson, M.D. Illinois, 1900, died at his home in Chicago, July 26, aged 60.

H. H. Fledder-Johann, M.D., died recently at his home in New Knoxville, Ohio, aged 88.

Ralph Lee Cooper, M.D., 1864, died at his home in Ogontz, Pa., August 2, aged 77.

John Walters, M.D. Illinois, 1896, died at his home in Joliet, Ill., March 25, aged 52.

John E. Whitecraft, M.D. Illinois, died in Pawnee County, Kan., June 21, aged 66.

Lewis J. Field, M.D. Illinois, died at his home in Dietrich, Ill., March 22, aged 83.

Ferdinand Hoffmann, M.D. Illinois, 1897, died at his home in Chicago, July 10.

Emma N. Warne, M.D. Illinois, 1897, died Oct. 7, 1902, aged 50.

Book Notices.

A SYSTEM OF PRACTICAL SURGERY. By E. von Bergmann, M.D., P. von Bruns, M.D., and J. von Mikulicz, M.D. Volume III. Translated and Edited by William T. Bull M.D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York, and John B. Solly, New York. Surgery of the Extremities. Cloth. Pp. 918. Price, $6.00. New York and Philadelphia: Lea Brothers & Co. 1904.

When this work appeared in the original but a short time ago it was at once recognized as a work of great merit. The first edition was soon exhausted and a second revised edition of four volumes at once issued. This is an English translation of the second German edition, and the first three volumes are already out. Volume 1 takes up surgery of the head. There are no opening chapters on general pathology, aseptic methods, etc., as is so common in similar works, but the authors enter at once on their subjects. Vol. 2 treats of surgery of the neck, thorax and spinal column, and Vol. 3 of surgery of the extremities. The subjects are covered extensively, yet concisely, and when operative procedures are discussed more attention is given to the careful description of some one standard method than to briefly describe several methods. The work is extensively illustrated with numerous cuts and colored plates, most of which are new. It is without doubt the best modern textbook on surgery, and the profession is to be congratulated on having such an excellent English translation.

THE DOCTOR'S RECREATION SERIES (In Twelve Volumes). Vol. I, The Doctor's Leisure Hour. Facts and Fancies of Interest to the Doctor and His patient. Arranged by Porter Davies, M.D. Cloth. Pp. 352 Vol. II, The Doctor's Red Lamp. A Book of Short Stories Concerning the Doctor's Daily Life. Selected by Charles Wells Moulton. General Editor of the Series. Cloth. Pp. 343. Price $2.50 per volume. Chicago, Akron, New York: The Saalfield Publishing Co. 1904.

Here is something new—at least, as far as we are aware. The first two volumes of the Doctor's Recreation Series promise that the set will be a very interesting addition to the physician's library. Volume 1 contains a wealth of humorous short stories, puns and anecdotes of a medical nature. The selections are very well made and many a delightful interval may be passed in their perusal.

Volume 2 is a book of several longer stories concerning the physician's daily life. The volumes are large and well bound, and are illustrated with reproductions of famous paintings of appropriate subjects. It will be interesting to watch for subsequent volumes of this series.

THE PRACTITIONER'S GUIDE. By J. Walter Carr, M.D. (London), F.R.C.P., Physician Royal Free Hospital; T. Pickering Pick, F.R.C.S., Consulting Surgeon, St. George's Hospital and Victorian Hospital for Children; Alban H. G. Doran, F.R.C.S., Surgeon to the Samaritan Free Hospital; Andrew Duncan, M.D., B.D. (London), F.R.C.S., M.R.C.P., Physician Branch Hospital Seamen's Hospital Society. Cloth. Pp. 1157. Price, $6.00. New York, London and Bombay: Longmans, Green & Co. 1902

The Practitioner's Guide is a book of reference in the form of a dictionary, in which the busy practitioner may find with little loss of time the salient points regarding the symptoms, differential diagnosis and treatment of diseases. The etiology is only briefly referred to for obvious reasons. A considerable amount of space is devoted to gynecology. Obstetrics is entirely omitted. Considerable space is given to tropical diseases which of late years have excited more interest in the medical world. In the consideration of surgery only the emergency operations are described in detail.

Miscellany.

Case of Genuine Recurrence of Cholelithiasis.—Klemperer of Carlsbad reports a case in the *Prager medicinische Wochft.*, No. 28, 1903, in which the patient has voided more than a hundred stones, commencing about three months after cholecystectomy. The biliary passages were apparently cleared out during this operation, and even if a few stones had been left behind, they would not explain the large number passed since.

Permanently Barred from Pennsylvania.—At the meeting of the Medical Examining Board of Pennsylvania, three candidates for license to practice were expelled for cheating. The medical council has decided to bar these candidates permanently from future examinations. This is in just recognition of the fact that character is equally important as knowledge in the practice of medicine, and the decision marks an important step in the general advancement of the profession under the influence of the examining boards.—*Penn. Med. Journal.*

Notes on American Hospitals.—Campbell Douglas, L.R.C.P. Ed., in an article in the *Glasgow Medical Journal*, February, 1904, says:

> The American medicine man of to-day is a worthy descendant of all the great men of the past; young, and keeping young even when his years are many; restless, energetic, bold, he is ever striving toward an unseen ideal. He is, like the art he practices, in a transition stage, sifting the great mass of chaff for the few grains of wheat, and with a resolute determination to find them. He is jogging along in no rut, he is traveling over unbroken ground, with all the magnificent energy of his race. The future of our profession seems well assured in the hands of such a man, and the day may come, I think, when the younger members of our calling will go to extend their knowledge and finish their education, not in Berlin, or Paris, or Vienna, but in New York, and Baltimore, and Chicago.

Danger of Lumbar Puncture in Case of Brain Tumor.—Masing reports in the *St. Petersburger med. Wochft.*, of Jan 16, 1904, from Dehio's clinic, the case of a young woman exhibiting headaches and disturbances in vision—diagnosed as due to a brain tumor in the right frontal lobe. Great relief was experienced after withdrawal of 300 c.c. of blood. Four days later .002 gm. of pilocarpin were injected. Three days after this 30 c.c. of cerebrospinal fluid were withdrawn by lumbar puncture. The pressure was about 10 to 15 c.c. at first, but dropped to zero. Nausea followed at once with convulsions and the patient died in fifteen hours. The necropsy revealed a recent rupture of an arroded blood vessel in a microscopic sarcomatous focus.

Akathisia.—The term akathisia has been applied to a syndrome consisting in an inability on the part of the patient, with preservation of consciousness, to remain seated, on the one hand, in consequence of repeated, involuntary, compulsory attempts to jump up, and on the other hand, as a result of an impulse to alternate the sitting with the erect posture. The impulse is at times so powerful as to compel the patient to grasp some object firmly to prevent himself from rising. Dr Ladislaus Haskovec (Wiener medizinische Wochenschrift, March 26, April 2, 1904) has reported two instances of the disorder, and has suggested the name for it. One of these occurred in a case of hysteria and the other in a case of neurasthenia. Haskovec considers the affection a functional disturbance of a cortical origin, constituting in the first case a form of spasmodic tic or myoclonus, and in the second a transition to an emotional disorder. An instance similar, though not identical in character, has been reported by Raymond and Janet (Nouvelle Iconographie de la Salpetrière, June, 1903), in a case of occupation-neurosis in a goldsmith attended with a phobia.

State Boards of Registration.

COMING EXAMINATIONS.

New Hampshire State Medical Board, September 8 9, State House, Concord. Regent, Channing Folsom, Concord.

Massachusetts Board of Registration in Medicine, September 13-14, State House, Boston. Secretary, Edwin B. Harvey, M.D., Boston.

Missouri State Board of Health, September 19-21, St. Louis. Secretary, W. F. Morrow, M.D., Kansas City, Mo.

Iowa State Board of Medical Examiners, September 21-22, Capitol Building, Des Moines. Secretary, J. F. Kennedy, M.D., Des Moines.

Territorial Medical Examining Board of Oklahoma, September 28, Guthrie. Secretary, E. E. Cowdrick, M.D., Enid.

Ohio Report.—The report of the Ohio State Board of Medical Registration and Examination, furnished by the secretary, was complete, but, through some oversight, when printed in THE JOURNAL, August 6, page 415, the following data were omitted:

College.	PASSED. Year Grad.	Per Cent.
Bellevue Hospital Medical College, N. Y.	(1897)	80

Miami Medical College, (1903) 91; (1904) the grade of 82 was reached by three, 85 by two, 89 by three, 91 by four, 92 by one and 94 by one.

The general average attained by all representatives of Miami was 88.2.

South Dakota July Report.—Dr. H. E. McNutt, secretary of the South Dakota Board of Medical Examiners, reports the written examination held at Watertown, July 13 and 14, 1904. The number of subjects examined in was 10; total questions asked, 79; percentage required to pass, 75. The total number examined was 27, of whom 19 passed, and 6 failed.* The following colleges were represented:

College	PASSED. Year Grad.	Per Cent.
Rush Medical College, Chicago	(1900) 84.3, (1903)	79.5
Northwestern University, Chicago	(1904) 87.9, 87.7,	87.7
Creighton Medical College, Omaha	(1903) 76.8, (1904)	75.7
Bennett Coll. of Ecl. Med. and Surg., Chicago	(1903)	82.9
College of Physicians and Surgeons, Chicago,	(1904) 90.7, 85.3, 83.3, 81.8, 81.3, 90.3, 84.8.	75.3,
Sioux City College of Medicine	(1904) 79.7,	77.9
Hamline University, Minneapolis	(1903) 76.7,† (1902)	83.2

College	FAILED.	
Rush Medical College	(1889)	48.6
Hamline University	(1896) 64.3, (1903)	69.3
University of Vermont	(1899)	69.7
Memphis Hospital Medical College	(1904)	73.3

* Two who passed the examination were not granted licenses pending further investigations, and one who failed did not give satisfactory references.

†Second examination.

This was the regular semi-annual meeting. The old officers were re-elected. A resolution favoring reciprocity in examination with other state boards was passed; also a resolution defining the minimum qualifications of graduates from medical schools to be considered in good standing by this board.

Recent Pennsylvania Report.—The report of the Pennsylvania State Board of Medical Examiners, just completed shows that of 379 applicants examined, 73 failed to meet the requirements, or 19.41 per cent. of the whole. The usual percentage of failures is 13 or 14. Analyzing the records of the 73 applicants who failed, 10 failed in two other examinations, and 5 came up for a second re-examination. One had failed on 4, another on 5 and another on 7 previous occasions. One had failed before and also had been expelled for cheating. Dr. Henry Beates, president of the board, said that the large percentage of failures discloses the fact that some medical colleges still confer the doctorate on illiterate and ignorant individuals.

Georgia Will Reciprocate.—During the last hours of the session of the Georgia legislature—thus writes Dr. I. H. Goss, president of the Regular Board of Medical Examiners of Georgia—by the kind efforts of one of our representatives, Dr. L. G. Hardman of Commerce, Georgia, we got an amendment to our medical law allowing reciprocity with all states which require the same standard as that of Georgia. Our state requires a diploma from a recognized college—one requiring three or more years of study, and one in good standing in the college association—and examination in anatomy, physiology, materia medica and therapeutics, chemistry, obstetrics, surgery, gynecology, practice, diagnosis and pathology, and the applicant is required to make not less than 75 per cent. on a general average, and a fair average on all the branches. The next meeting for permanent license will be held in Atlanta, at the Capitol, Oct. 11, 1904.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Aug. 23, 1904:

Noble, R. E., asst.-surgeon, relieved from U. S. General Hospital, Washington Barracks, D. C., and ordered to U. S. General Hospital, Presidio of San Francisco, for duty.

Gregory, Junius C., asst.-surgeon, relieved from duty at U. S. General Hospital, Presidio of San Francisco, and assigned to duty as surgeon on the *Sheridan* during voyage to Manila, and on arrival to report to commanding general, Philippine Division, for assignment to duty.

Davis, Wm. R., asst.-surgeon, relieved from duty on *Sheridan* and to report to the military secretary for further orders.

Kilbourne, H. S., and Appel, Daniel M., deputy surgeon generals, arrived at San Francisco from Manila, P. I., on the *Sheridan*.

Kilbourne, H. S., deputy surgeon general, retired from active service this date.

Lynch, Charles, asst. surgeon, detailed as general staff officer, Army maneuvers to be held at Manassas, Va., and will report there Aug. 27, 1904.

De Witt, Wallace, asst.-surgeon, granted one month and fifteen days' leave on or about Sept. 20, 1904.

Cox, Walter, asst.-surgeon, leave of absence extended to include Aug. 27, 1904.

Lyster, Wm. J. L., asst.-surgeon, granted thirty days' leave, with permission to apply for thirty days' extension.

Raymond, Thos. U., surgeon, relieved from further duty at the Louisiana Purchase Exposition, St. Louis, and ordered to Fort Assiniboine, Mont., for duty.

Perley, Harry O., deputy surgeon general, promoted to lieutenant colonel and deputy surgeon general, U. S. A., to rank from Aug. 14, 1904.

Torriance, Wm. E., surgeon, promoted major and surgeon, U. S. Army, Aug. 14, 1904.

Perley, Harry O., deputy surgeon general, relieved from duty at Fort Logan, Colo., and ordered to West Point, N. Y.

Rhoads, Thos. L., asst. surgeon, relieved from duty as attending surgeon and examiner of recruits, Philadelphia, and ordered to West Point, N. Y., for duty.

Webb, W. D., asst. surgeon, relieved from duty at West Point, N. Y., and ordered to Fort Huachuca, Arizona, for duty.

Snyder, Henry B., surgeon, reports in addition to duty as surgeon, Fort Sam Houston, Texas, he is in charge of C. S. O., Department of Texas.

Tignor, Edwin P., contract dental surgeon, detailed to represent the dental corps of the Army at the Fourth International Dental Congress at St. Louis Aug. 29 to Sept. 3.

Pomeroy, William H., contract surgeon, returned to duty Aug. 14 at Springfield Armory, Mass., from leave of absence.

Whitney, Walter, contract surgeon, granted an extension of one month to his leave of absence from the Philippine Division.

Barber, Amos W., contract surgeon, ordered from Fort D. A. Russell, Wyo., to Fort Riley, Kan., for temporary duty.

Gunckel, George L., contract dental surgeon, ordered from his home at Greenville, Ohio, to duty in the Philippine Division, and will sail for Manila on the transport leaving San Francisco Sept. 1.

Ayer, Jrn. Onesti, Silvio J., and Greenberg, Harry, contract surgeons; Rietz, Hugo C., Waddell, Ralph W., and Ware, William H., contract dental surgeons, arrived at San Francisco Aug. 14 on the transport *Sheridan* from Philippine service. Dr. Ayer has two months' leave of absence, and Dr. Onesti three months' leave of absence. Dr. Rietz has been assigned to Fort Sheridan, Ill. Dr. Waddell to Fort Leavenworth, Kan., and Dr. Ware to Fort Logan, Colo.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Aug. 20, 1904:

Farenholt, A., surgeon, detached from the *Concord* and ordered to the *Monterey*.

Lowndes, C. H. T., detached from the *Chesapeake* and ordered to the Naval Academy.

Means, V. C. B., surgeon, detached from the *Monterey* and ordered to the *San Francisco*.

Heiner, R. G., asst. surgeon, detached from the Naval Hospital, New York, and ordered to the *Southery*.

Fitts, H. B., surgeon, detached from the *Pensacola* and granted leave for thirty days.

Marine-Hospital Service.

Official list of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital Service, for the seven days ended Aug. 11, 1904:

Clark, Taliaferro, P. A. surgeon, granted leave of absence for one month from September 15.

Lumsden, L. L., P. A. surgeon, granted leave of absence for four days from July 23, 1904, on account of sickness.

Cook, B. R., A. A. surgeon, granted leave of absence for ten days from August 3.

Gahn, Henry, pharmacist, granted leave of absence for fifteen days from August 15.

Slough, Chas., pharmacist, granted leave of absence for thirty days from August 10.

Holsendorf, B. B., pharmacist, granted leave of absence for thirty days from September 1.

Stier, Carl, pharmacist, granted leave of absence for thirty days from August 17.

RESIGNATION.

Ferdinand, G. O., pharmacist, resigned, to take effect Aug. 15, 1904.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Aug. 19, 1904:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Aug. 6-13, 1 case.
Illinois: Chicago, Aug. 6-13, 8 cases.
Louisiana: New Orleans, Aug. 6-13, 9 cases.
Maine: Madawaska region, July 31-Aug. 6, 11 cases.
Massachusetts: North Adams, Aug. 6-13, 5 cases, 1 death.
Michigan: Grand Rapids, Aug. 6-13, 1 case.
Missouri: St. Louis, Aug. 6-13, 1 case.
Nebraska: Omaha, Aug. 6-13, 1 case.
New York: New York City, Aug. 6-13, 1 death.
Ohio: Cincinnati, July 19-Aug. 5, 2 cases.
Washington: Tacoma, July 23-30, 1 case.
Wisconsin: Milwaukee, Aug. 6-13, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, June 4-11, 3 cases, 2 deaths.

SMALLPOX—FOREIGN.

Brazil: Bahia, July 8-23, 15 deaths; Pernambuco, July 1-15, 23 deaths; Rio de Janeiro, July 3-17, 442 cases, 217 deaths.
Formosa: June 1-30, 3 cases.
France: Paris, July 23-30, 11 cases, 2 deaths.
Germany: Berlin, July 9-16, 8 cases.
Great Britain: July 16-30, Edinburgh, 4 cases; London, 13 cases, 3 deaths; Newcastle-on-Tyne, 13 cases, 2 deaths; Glasgow, July 28-Aug. 5, 1 case; July 31-Aug. 6, Leeds, 1 case; Liverpool, 1 case, 1 death; Manchester, July 23-30, 1 death; South Shields, July 16-23, 1 case.
India: Bombay, July 12-19, 6 deaths; Calcutta, July 2-9, 1 case; Karachi, July 10-17, 3 cases.
Mexico: City of Mexico, July 24-31, 3 cases.
Russia: July 16-23, Moscow, 10 cases, 5 deaths; St. Petersburg, 3 cases, 1 death; Warsaw, July 2-9, 16 deaths.
Turkey: Alexandretta, July 16-23, 2 deaths; Beirut, July 23-30, present; Constantinople, July 24-31, 5 deaths; Smyrna, June 26-July 24, 2 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 3-17, 4 cases, 1 death.
Colombia: Barranquilla, July 24-30, 1 death.
Mexico: July 21-Aug. 6, Coatzacoalcos, 4 cases, 2 deaths; Vera Cruz, 2 cases.
Panama: Ancon, Aug. 1, 1 case; Panama, June 25-Aug. 1, 1 case.
Venezuela: Maracaibo, July 17-24, 1 case, 1 death.
West Indies: Curaçao, July 9-Aug. 5, 1 case, 1 death.

CHOLERA.

India: Calcutta, July 2-9, 9 deaths.
Persia: Teheran, June 9-16, epidemic.
Turkey in Asia: July 12, 227 cases, 213 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Aug. 15, 1 case.

PLAGUE—FOREIGN.

Africa: Cape Colony, July 2-9, 1 case.
Australia: June 11-18, Brisbane, 1 case; Maryborough, 1 case; Sydney, 1 case, 1 death; Perth, June 26-July 4, 2 cases, 1 death.
Brazil, Bahia, June 8-23, 7 deaths; Rio de Janeiro, July 10-17, 7 cases, 4 deaths.
China: Hongkong, June 18-25, 44 cases, 40 deaths.
Egypt: July 9-16, 14 cases, 8 deaths.
Formosa: June 1-July 16, 440 cases, 467 deaths.
India: Bombay, July 12-19, 58 deaths; Calcutta, July 2-9, 18 deaths; Karachi, July 10-17, 1 case, 1 death.
Peru: Lima, July 2-9, 4 cases, 2 deaths.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Oregon State Medical Association, Portland, August 30-31.
Rocky Mountain Interstate Medical Association, Denver, September 6-7.
Wyoming State Medical Society, Rawlins, September 13.
American Electro-Therapeutic Assn., St. Louis, September 13-15.
American Association of Obstetricians and Gynecologists, St. Louis, September 13-16.
Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.

BRITISH MEDICAL ASSOCIATION.

Seventy-Second Annual Meeting, held at Oxford, July 26-30, 1904.

(*Continued from page 562.*)

Address in Surgery.

The address in surgery was delivered by Sir William Macewen, Glasgow. He spoke first on the cerebral invasion of pathogenic and pyogenic organisms. He referred to the localization of brain abscess, saying that prior to the advent of cerebrospinal surgery abscess of the brain was regarded as of a pyemic nature and occurring by metastasis. Where abscess occurred secondary to a primary pyogenic cranial lesion, some were inclined to believe that it was due to a pyemic manifestation and could occur in any part of the brain without relation to the primary lesion. Early observation showed that this view was erroneous and that all brain abscesses arising in the cranial cavity, if not in direct contact with such foci of infection, were at least in contact with the infective path which lay between the primary focus and the abscess. He said that if the cerebral abscess remains untreated and continues to grow, it may implicate other regions of the brain. For example, in an intracranial abscess resulting from ear disease the abscess will form within a limited area of the middle ear, extension being limited by the anatomic condition of the parts and the prior pathologic encroachments. If the micro-organisms enter the cranium by means of the tegmen, abscess of the cerebellum is frequent, while if they have traveled by way of the internal auditory meatus leptomeningitis is the result, with early involvement of the medulla and respiratory centers. Tuberculous meningitis may occur without perforation of the tympanic membrane and without swelling over the mastoid. In several cases the internal auditory meatus was the channel by which the tuberculosis spread from the middle ear to the membranes in the cranial cavity.

He also said that tuberculosis of the mastoid may become a menace to life by a dissemination through the sigmoid sinus to other parts of the body. In a number of cases the lumen of the sinus has been invaded by the tuberculous granulation tissue.

THE RECOGNITION OF RESPIRATORY AND CARDIAC REFLEXES.

He spoke next on the recognition of respiratory and cardiac reflexes in anesthesia caused by peripheral impressions on the pudic nerve, and referred briefly to a case in which an alarming spasm of the glottis occurred when the sphincter ani was stretched during an operation for hemorrhoids.

CHOICE OF SUTURE MATERIAL.

In the choice of suture material he said that, though many surgeons regard asepsis as the sole requirement, it is in fact only one of many requirements. He said that the material must be strong enough to keep the tissues in contact long enough for union to take place, as well as being capable of being absorbed. He condemned buried non-absorbable suture material. He spoke at some length on the time required for different tissues to unite and the time required for catgut and other sutures to be absorbed, illustrating his remarks with microscopic sections. He also emphasized the fact that, when absorbable sutures are used, it is unnecessary to disturb the patient to remove stitches.

Present Condition of the Aseptic Treatment of Wounds.

Mr. Burghard, London, used the term "aseptic" to embrace all the measures adopted to keep the wound free from the ill effects of septic micro-organisms as distinguished from the term antiseptic, which implied that sepsis was already in existence. For the sterilizing of instruments the simplest method is boiling; but, half an hour should be allowed in order to certainly destroy spore-bearing organisms. A disadvantage is that it damages sharp instruments. Sterilization by superheated steam is efficient if properly carried out, but without care is liable to fail. Mr. Burghard, therefore, rejects it. Chemical antiseptics are useful for the disinfection of wounds, but must be used in weak solutions; otherwise they damage the tissues. With regard to the surgeon's hands, experiments show that simple washing will remove many organisms, but is not to be relied on. The results, however, are good when reinforced by saturating the skin with antiseptics for a fairly-long period. Sterilized gloves are open to many objections. With them it is difficult to perform delicate manipulations, and there are many chances of damaging the gloves and bringing the unsterilized hand in contact with the wound. The use of rubber gloves should be confined to virulently septic cases, where the surgeon is doubtful whether he can prevent his hands from carrying infection to the next case. At King's College Hospital Professor Watson Cheyne and Mr. Burghard boil all instruments except the sharp steel ones for half an hour; the latter are plunged into liquefied carbolic acid for five minutes; so, also, are all instruments required during an operation which

have not been sterilized beforehand. Ligatures of chromic cat gut are soaked in a 1 in 20 carbolic solution for at least a week. Silk and silkworm gut are sterilized by first boiling and then being kept in 1 in 20 carbolic acid. Instruments, ligatures and sutures are dipped in 1 in 2,000 corrosive sublimate solution to wash off the carbolic acid. The hands are freed from grease by turpentine, followed by prolonged washing with pumice stone, nail brush, soap and hot running water, and are then immersed in a 1 in 20 carbolic solution with 1 in 500 corrosive sublimate, which is afterward washed off in a 1 in 2,000 sublimate solution. The patient's skin is prepared in a similar way (if possible, some hours before operation), and then covered with an antiseptic gauze dressing, and the cleansing is repeated on the operating table. The field of operation is surrounded with boiled towels which have been immersed in a hot 1 in 2,000 lotion. Marine sponges are used. They are kept in a jar in a 1 in 20 carbolic solution. They are taken out with forceps and dropped into a 1 in 2,000 sublimate solution. During the operation they are frequently squeezed out of this solution to free from blood. The operator and his assistants frequently rinse their hands in this solution. After closing the wound double cyanid gauze, wet with 1 in 4,000 sublimate, is applied.

DISCUSSION.

In the discussion which followed many other methods were mentioned.

MR. STILES, Edinburgh, insisted that the great danger of infection lay in its conveyance by contact from case to case by the surgeon.

Early Diagnosis and Radical Operation for Mammary Cancer.

DR. W. L. RODMAN, Philadelphia, read a paper on the "Early Diagnosis and Radical Operation for Mammary Cancer." The following were his conclusions: 1. Cancer is not only increasing in frequency, but it is also occurring more frequently in young subjects and has become common in races once immune. 2. In young subjects the prognosis is less favorable, as the lymphatics are more numerous and potent than in the aged, in whom many are atrophied. 3. An early diagnosis should be made, and no time lost in waiting for an operation, as metastases to the axillary glands and internal organs occurs early. 4. When in doubt as to malignancy, a complete operation should be arranged for, but before removal of the breast an exploratory incision should be made into the growth and a piece from near its center examined by a pathologist (who can report in 10 minutes). If malignant, a complete operation should be done at once. In women past 40 the chances in favor of malignancy are as 13 to 1, and should, therefore, be assumed. 5. Carcinoma of the sternal is less common than in the axillary hemisphere, but probably more frequent than is generally supposed. The prognosis is worse than in cancer of the axillary hemisphere. 6. Recurrence being usually in the skin, its removal can not be too free. Skin grafting or closure of the wound by plastic flaps (the preferable method) will frequently be necessary. 7. Both pectoral muscles should be always removed, regardless of infection, so that all diseased tissue can be removed at one piece and the axillary dissection both more thoroughly and safely made. Their loss does not increase the mortality, lengthen the convalescence or impair the subsequent usefulness of the arm. 8. The supraclavicular glands should be removed if palpably enlarged, or if the topmost axillary glands show macroscopic involvement; otherwise their removal is unnecessary. 9. Wounds of the axillary vessels have been infrequent since the muscles have been removed as a routine process. 10. Drainage should always be made. 11. The 3-year limit of Vallsmann is insufficient and should be extended to at least 5 years. Recurrence may take place after 10 or more years. 12. Radical operation, if performed early, should give more than 50 per cent. of cures.

Hepatic Drainage.

DR. JOHN B. DEAVER, Philadelphia, read a paper on "Hepatic Drainage." The following were his conclusions: 1. The mortality of biliary tract surgery is proportionate to the extent of the complications. 2. Lesions of the liver, gall bladder and their ducts are the result of an infection usually persisting up to the time of operation. 3. The salvation of infectious cases lies in prolonged drainage of the bile. 4. Cholecystostomy is the operation of choice in such cases, and cholecystectomy only to be resorted to when changes in the gall bladder require its excision. 5. Hepaticus or choledochus drainage should not be considered if cholecystostomy is feasible, unless it be necessary to open the common or hepatic ducts for the extraction of a stone. 6. Early diagnosis and prompt operation are essential for a low mortality, where gallstones are present or not.

(To be continued.)

CALIFORNIA ACADEMY OF MEDICINE.

Meeting held at San Francisco, July 26, 1904.

The President, Dr. T. W. Huntington, in the chair.

Studies on a Salt-Free Diet.

DR. A. E. TAYLOR described the results of a salt-free diet on metabolism. The question has a great clinical interest on account of the recent observation of Widal that in certain cases of nephritis a diminution in the amount of chlorids ingested will dispel the edema. Dr. Taylor placed himself on a diet consisting of 70 gm. of egg albumin, 120 gm. of olive oil and 200 gm. of cane sugar daily. Such a diet will yield about 2,300 calories daily and contains only about 100 mg. of salts. During the first day of the experiment, 2,000 c.c. of urine were passed; during the second, 1,900 c.c. After the third day the amount fell to normal and remained there. Diaphoresis was a more marked symptom than diuresis. Although the weather was cold, he was in a continual state of perspiration. On the fifth day general muscular soreness was experienced, and later the muscles became very painful. On the eighth and ninth days muscular twitchings developed. The reflexes remained normal. On the ninth day acetone and diacetic acid were discovered in the urine, and the experiment was terminated.

The urine was increased only during the first few days. Its reaction remained remarkably constant. The amount of salts gradually diminished and approached a minimum constant. The indican and the paired sulphates gradually increased. On the last day the ammonia increased very much owing to the acidosis. The gastric analysis and the saliva were apparently normal.

The presence of acetone and diacetic acid in the urine in this experiment is difficult of explanation. There seems to be no connection with the ordinary causes of acidosis, viz., starvation, excessive fat or meat diet, or diabetes.

Three or four pounds weight were lost during the experiment, apparently mostly water, since it was rapidly recovered in the next few days.

Renal Lesions with Misleading Symptoms.

DR. L. W. ALLEN reported two cases of renal disease in which misleading symptoms were present. The first was a healthy-looking, well-nourished woman, who complained of a tumor in the right side and some discomfort in this region. Examination showed some enlargement of the right kidney. There was no fever, and the urine showed only a faint trace of albumin. The kidney showed at operation very advanced tuberculosis.

The second patient suffered from sweats and irregular fever, and was extremely emaciated. The right kidney was enlarged and very tender. Leucocytes were 6,000. The urine, especially that from the right kidney, contained a large amount of pus, and cultures showed colon bacilli. No tubercle bacilli were found. Nevertheless, renal tuberculosis seemed the probable diagnosis on account of the general condition of the patient. At operation no abscesses were found in the kidney. There was a pyelitis from which colon bacilli in pure culture were obtained. Complete recovery took place. The patient had evidently suffered from a chronic sepsis as the result of a colon bacillus infection.

DISCUSSION.

DR. OPHÜLS said that in regard to the first case it is not unusual for a ureter to become blocked in renal tuberculosis so

that urinary examinations fail to show any abnormality. In regard to the second case, chronic septic conditions seem to be much more common than is generally supposed. For example, he had recently observed a number of cases of malignant endocarditis of two and three years standing, caused by an organism of low virulence. Such cases are clinically usually mistaken for non-malignant endocarditis.

Intermittent Claudication.

DR. P. K. BROWN has recently seen two cases of this disease, and in this connection spoke of Erb's[1] recent paper.

DR. A. W. HEWLETT reported a case of a man of 67 years who suffered from pains and sensations of cold in his feet whenever he walked. After walking about a block these sensations would appear, and he would be compelled to stop and rest. After five or ten minutes his legs felt normal, and he could again walk with comfort. There was no pulsation in the arteries about his feet, which were cold and pale, except for a bluish area on the ball of the great toe. Later the patient developed cardiac insufficiency from an associated myocarditis, and since he has been in bed the symptoms of coldness and pain in the feet have disappeared.

DR. R. CABOT stated that he had seen two cases of intermittant pains in the abdomen, possibly due to arteriosclerosis of the splanchnic vessels. Without autopsy, however, no positive diagnosis could be made. In regard to the influence of alcohol as a causative factor in the production of arteriosclerosis, he has made a series of observations on alcoholics which would seem to show that the excessive use of alcohol alone does not produce arteriosclerosis.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Hay Fever.

Fick, in the *Therapeutische Monatsheft*, discusses the treatment of this condition with the Dunbar antitoxin and concludes that this antitoxin, which, according to Dunbar, produces a short-lived immunity, does not and can not have any action at all. In the second part of the paper he gives his own theory of the etiology of hay fever and his method of treatment. The attacks are directly caused by some irritant agent, of which grass pollen is the most common. The writer denies that the nasal symptoms are due to vasomotor disturbances, and shows that irritation of the nerve endings of the trigeminal causes a hypersecretion. This hypersecretion is localized in the antrum of Highmore, and the fluid finds its way into the nasal fossa naturally. The author states that he has found aristol to cure all forms of nervous coryza, including hay fever. He passes a canula, which is very thin and curved in correspondence to the lower turbinated bone, into the maxillary antrum in about 95 per cent. of all the cases. Through this canula he blows the aristol powder into the antrum. As a rule this need only be repeated every day for three days, after which the attacks become less frequent and milder. When they recur the insufflation is repeated.

Furuncles.

Gallois and Courcoux, in *La Presse Medicale*, recommends the following solution to be used in the abortive treatment of furuncles:

R.	Iodin	3i	4
	Aceton	3iiss	10
M. Sig.: Use locally by saturating an applicator carrying cotton and touching the nodules.			

Lesions which have not suppurated and even those which contain a drop or two of pus superficially, are aborted within twenty-four hours.

The solution is more caustic than the tincture, and must be used with greater care. In an open wound it causes severe pain and may produce symptoms of iodism.

Hyperhidrosis.

Excessive perspiration is a comparatively frequent and rather disagreeable condition. The most common localities are the palms, soles, axillæ or genitals. Kaposi recommends the following:

R.	B-naphthol	3iiss	10
	Spiritus colon.	3iv	16
	Spiritus vini	℥vi	180
M. Sig.: Use as a wash; or:			
R.	Naphthol	gr. lxxv	5
	Glycerini	3iiss	10
	Alcoholis	℥iiiss	105
M. Sig.: Wash feet night and morning with this mixture, dry, and then dust with this powder:			
R.	Naphthol	3ss	2
	Amyli	℥vi	180
M. Sig.: Use as dusting powder.			

The following is recommended to dust into the shoes each morning:

R.	Pulv. talc.	3x	40
	Bismuthi subnitratis	3iss	45
	Potassii perman.	gr. xlv	3
	Sodii salicylatis	gr. xxx	2

Or, bathe the feet once daily in hot water, dry, and the following may be used as a dusting powder:

R.	Acidi salicylici	gr. lxxv	5
	Pulv. alum	3iiss	10
	Pulv. amyli	3x	40
	Pulv. talc.	℥ivss	135
	Alcoholis	3iiss	10
	Olei bergamot q. s. to perfume.		

Chronic Rheumatism.

Merck's Archives recommends the following:

R.	Sodii iodidi	3ii	8
	Vini colchici rad.	3iv	16
	Sodii salicylatis	3iii	12
	Tr. guaiaci ammon.	℥ii	60
	Syr. sarsaparillæ comp. q. s. ad.	℥vi	180
M. Sig.: Dessertspoonful three times daily.			

The *Med. Record* recommends for this condition:

R.	Pulv. guaiaci resinæ		
	Potassii iodidi, āā	3i	4
	Tr. colchici seminis	3iii	12
	Syrupi simplici	℥ii	60
	Aquæ cinnamomi q. s. ad.	℥vi	180
M. Sig.: Dessertspoonful to a tablespoonful twice daily.			

Markly, in the *Med. Summary*, advises that the patients eat less, bathe oftener and keep the skin active; drink a great deal of water, keep out of draughts and avoid colds; keep the bowels active, urine neutral or slightly alkaline, and take a course of iron three or four times a year. The patient should also take colchicin in ascending doses until he has at least two good stools daily, then continue that dose a long time.

Muscular Rheumatism.

The salicylates are seldom of much benefit. Gentle rubbing and mild counter irritation are always indicated. The following formula has given great satisfaction in French hospitals:

R.	Spiritus camphoræ		
	Spiritus terebinthinæ, āā	℥iss	45
	Chloroformi	3ii	8
	Mentholi	3i	4
	Balsami Peruvi	℥iss	45
M. Sig.: Apply with gentle friction.			

Cholera Infantum.

Wallace discusses this disease in the *Virginia Med. Semi-Monthly*, and outlines the following method of treatment,

1 THE JOURNAL A. M. A., p. 203.

which has been successful in his hands. Depression gives the keynote to the treatment, namely, stimulation. Each case is individual, but bold and early use of whiskey or brandy should be used in every case where the stomach will tolerate it. Give the stimulant freely, for alcohol will not poison half so quickly as the toxins in the blood.

The nausea and diarrhea he treats with heroic doses of calomel, one-fourth of a grain every hour if the child is over six months old; continue until signs of bile in the stool or until three grains are taken. After the bile appears in the stool he gives a big dose of castor oil with a moderate dose of paregoric. The intestinal canal is kept clean by the administration preferably of bismuth subnitrate, which is usually well borne by the stomach, and is a simple and safe remedy. The sulfocarbolates and protan (Mulford's) may be used when the bismuth is not enough.

For diet rice water or albumin water are given; both leave very little detritus. The rice water is made as follows: two heaping tablespoonfuls of rice to two quarts of water, boil for three hours, adding water to keep up to two quarts.

The patient should be kept in bed. Tepid sponge baths should be given for the temperature.

Acute Infantile Diarrhea.

Merck's Archives recommends the following:

℞.	Tannalbin	
	Spiritus vini gal., āā.....3ii	8
	Syrupi simplici 3iv	16
	Aquæ destil. q. s. ad.....℥ii	60

M. Sig.: Tablespoonful four to six times a day.

Hyperpyrexia in Scarlet Fever and Measles.

Berg, in the *Med. Record*, discusses the temperature in these two diseases, and gives the following as his method of treating the hyperpyrexia::

The patient is placed in a bath with the water at a temperature of 80 F.; at the end of from five to ten minutes, depending on the case, the temperature of the water is raised to 90 F. by the addition of warm water. A bath at the temperature of 80 F. is a cooling bath to a patient with a temperature of 105 F., yet not cool enough to produce any evil effects on the capillaries. The subsequent raising of the temperature of the water has the effect of giving a warm bath after the cool one. Whatever ill effect may have been produced by the bath at the temperature of 80 F. is more than counterbalanced by the bath at 90 F., and still it is much lower than the temperature of the skin. The patient is taken from the bath and wrapped lightly in a sheet and covered by a thin blanket.

Caution: When warm water is added it must be poured into the bottom of the bath tub. The reason for this is that if the warm water is poured on the top it floats over the cool water, unless mingled mechanically by the nurse. For this purpose the author has used a tin funnel with a rubber hose long enough to reach the bottom of the tub.

The warm water is delivered through this tube and rises because of its lightness and is disseminated through the bath. The patient should not be rubbed after such a bath, because the warm additional water accomplishes all or more than the rubbing in the Brand bath and the friction is detrimental to the inflamed skin.

The temperature will be found to have declined from one and one-half to three or more degrees, and the decline persists longer than any other methods I have tried in these diseases. Moreover, the eruption is not diminished, the pulse is improved, sleep generally induced, and a gentle perspiration covers the whole body.

Lesser degrees of temperature are treated with sponging with water at 70 F., to which one-third of ordinary alcohol has been added. The alcohol acts the part of the added warm water in the bath and counteracts the ill effects of the cool sponging on the capillaries and nerve endings in the skin. Do not use friction. Use a large soft sponge, the excess of water should be absorbed by patting the skin with a soft towel, and the patient lightly covered as after the bath.

Obesity.

Grocco, in the *Rivista Critica di Clinica Medica*, gives the following rules for the treatment of obesity: The cause must be ascertained if possible, and then regulate the income and outgo so that they will be equalized. He considers the condition to be the result of an excess of the ingesta or of a derangement of the metabolism of the body. Reduce the amount of liquids taken at meals, and allow the liquids to be taken two hours after meals. In cases in which the urine is habitually concentrated and has deposits of urates or uric acid, a dry diet is not well borne. In such cases it is best to allow frequent small meals, four or five in the twenty-four hours, with liquids taken two hours after meals. The diet is reduced until the weight of the patient falls to the desired figure, and then kept at the requisite amount to maintain a normal weight and prevent a renewed increase. There should be a great increase in muscular activity by walking, riding, cycling, sports or gymnastics. General and local massage when the abdomen is enlarged, is very useful. Hydrotherapeutic measures as well as carbonic acid gas baths are important. Patients should sleep moderately and not do excessive mental work. The author recommends the use of purgatives, alkalies, etc., only as they are indicated.

Medicolegal.

Rights of Sick Child with Relation to Its Custody.—The Supreme Court of Louisiana holds, in the case of State vs. Jones, where a father sought by habeas corpus proceedings to recover the custody of a child that was about two and a half years of age, weak and sickly from its birth, and which had always been taken care of by its grandmother, that, regarding the family and the right of the father, there remained authority enough in the courts to protect the health and life of the motherless, small, sickly child, by decreeing that it remain with its grandmother, to be taken care of and to receive needful nursing. It says that it might be that, under a very strict and even severe interpretation of the law, a decree should issue authorizing the father to take his child from the care of the grandmother. But that interpretation, in view of the (uncontradicted) testimony of the physician who had attended to the child from its earliest infancy, and who had testified that it would not be safe to take it away from its grandmother, would, to say the least, be hard on the child. The child, under Nature's laws, has some rights, not always to be overlooked. The parent's will is not always supreme. There may a case arise where exceptional parents take it out of the grasp of the law here invoked. The law does not interpose with an iron hand to sever a union essential at the time to the very life of the child. The law should be loved, rather than feared, and to this end there are cases in which equity is not to be denied all hearing.

Valid Provision for Contagious Disease Hospital.—The Supreme Judicial Court of Massachusetts holds constitutional, in the case of Manning vs. Bruce, a statute providing that the city of Everett, by its City Council, may take any lands within the limits of the city for the erection of a hospital for the care of persons suffering from contagious diseases. It says that, while so far as the statute affects the owner of property taken it is an act in the exercise of the right of eminent domain, it is, nevertheless, in the object ultimately to be reached, an act in the interest of the public health, and, so far as it confers the right to erect and maintain on the land taken a hospital for contagious diseases, it finds its sanction in the general police power, subject to the proper exercise of which all property is held. It was not necessary to discuss the right to deal with contagious diseases. Even the right of personal liberty must yield to the measures necessary for the protection of the general health. A man afflicted with smallpox or any other contagious disease dangerous to public health has for the time being lost his right of personal freedom and may be compelled to yield to restraint, carried if necessary even to compulsory isolation. Hospitals must be established and

maintained for such persons, and for more than a century cities and towns have been authorized by statute to do this, and, in case of the breaking out of a contagious disease dangerous to the public health, it is made the duty of the proper public officer to provide a hospital or place of reception. Such laws, being necessary for the protection of the public health, are wholesome and reasonable, within the meaning of the phrase as used in the constitution, and they violate no constitutional provision. Under the general law the city could have erected such a hospital, but it was limited to such land as it could buy, and no doubt this statute was passed not so much to grant it authority to build and maintain a hospital as to enable it to obtain, by the exercise of the right of eminent domain, a site for it. Such a hospital is under the supervision of the board of health, and it is not to be assumed in advance that it will be a nuisance, public or private.

Rules Applicable to Trials on Question of Insanity.—The Supreme Court of Alabama states, in Parrish vs. State, a homicide case, the rules of law applicable to trials on the question of insanity as follows: It is now well-settled law and practice that, as to the question of whether insanity exists or not, witnesses, whether expert or non-expert, may express their opinions as to the sanity or insanity of a defendant on trial for crime. Ford's Case, 71 Ala. 385; and other Alabama cases. The witness, whether expert or not, must first be shown to be competent or qualified to give an opinion as to the sanity or insanity of the party inquired of. The question as to the competency of the witness, whether expert or not, to give an opinion as to the sanity or insanity of the party inquired of, is a question for the court and not for the jury. As to this question, its decision as to competency will not be revised unless it clearly appears to have been erroneous. People vs. McCarthy, 115 Cal. 255; note on page 733, 38 L. R. A. An expert witness may give an opinion as to the sanity or insanity of an individual, based solely on a hypothetical question, without any personal knowledge or acquaintance with the individual inquired of. Gunter vs. State, 83 Ala. 96; Burt vs. State (Tex.), 40 S. W. 1,000, 43 S. W. 344; 39 L. R. A. 305, and note. A non-expert can not give an opinion as to the sanity or insanity of the individual inquired of, based in whole or in part on an abstract hypothetical question, but must base his opinion solely on his own personal knowledge, observation, acquaintance, experience, etc., with the individual inquired of. Roberts vs. Trawick, 13 Ala. 68; Burney vs. Torrey, 100 Ala. 157. Non-expert witnesses, to give an opinion as to insanity of a party, must first state the facts claimed to show or indicate an abnormal condition of the mind; but such a witness may give an opinion that the person inquired of was sane by first merely denying generally the existence of any facts showing an abnormal or unnatural state of mind, and without specifying any of such facts. Caddell vs. State, 129 Ala. 65. The hypothetical question propounded to an expert witness should embrace substantially all the facts, where there is no dispute as to the facts on the question of insanity. Davis vs. State, 35 Ind. 496; Webb vs. State, 9 Tex. App. 490; State vs. Baber, 74 Mo. 292; Goodwin vs. State, 96 Ind. 554. If the evidence is in conflict as to the facts tending to show insanity, the hypothetical question may and should properly embrace only the facts tending to support the particular theory of the respective party, and the opposing party, if desirable, on cross-examination of the witness, may propound questions to him embracing the facts which tend to support his theory. Grubb vs. State, 117 Ind. 277; People vs. Hill, 116 Cal. 562. The hypothetical question to an expert witness should not contain matter as to which there is no evidence tending to support. However, technical accuracy is not required as to this. It is for the jury to scrutinize the evidence and to determine what part of the question is true, or supported by the evidence, and what is not, and the adverse party may ask for instructions that the jury do not accept the facts as true, but that they should determine whether such facts were in evidence, and that they might disregard the opinion of the expert if not based on facts in evidence. Grand Lodge vs. Wieting, 168 Ill. 408; Forsyth vs. Doolittle, 120 U. S. 76. Expert witnesses may be cross-examined and their opinion obtained, based on other states of facts, assumed by the party examining them to have been proven on a hypothetical case, and they may be cross-examined on purely imaginary and abstract questions. Such questions are not only permissible in order to get the opinion of the expert witness on all the possible theories of the case, but they are allowable also to test the value and accuracy of the opinion of the witness himself. Clark vs. State, 12 Ohio, 483; People vs. Sutton, 73 Cal. 243. The opinions of expert witnesses as to insanity are not conclusive on the jury. They are to be weighed like other evidence. Such evidence is intended to aid the jury, and its value depends largely on the intelligence, experience, honesty and impartiality of the witnesses, and their opportunity of knowing the traits and habits of the person whose mind is under investigation. Its weight is solely a question for the jury. They may reject it all; though it is without conflict. McAllister vs. State, 17 Ala. 434; Williams vs. State, 50 Ark. 511; People vs. Barberi, 47 N. Y. Supp. 168. Insanity can not be proven by reputation, notoriety or hearsay. Kimbrell vs. State, 130 Ala. 40, 44; 16 Am. & Eng. Ency. of Law (2d Ed.) 612. In the trial of a homicide case, where the statutory plea of not guilty by reason of insanity is interposed, the burden of proof is on the defendant to establish the plea to the reasonable satisfaction of the jury by a preponderance of the evidence, and a reasonable doubt is not sufficient to acquit the defendant under this plea.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

August 13.

1 *The Surgery of the Female Urethra. Ely Van De Warker.
2 Fistula in Ano. George G. Ross.
3 Report of Experiments to Determine Whether Plaster of Paris Contracts or Expands in Setting. J. T. Rugh.
4 *The Roentgen Ray in Myelogenous Leukemia. George H. Evans.
5 *Case of Acute Suppurative Pancreatitis. Miles F. Porter.
6 A Plea for the More General Use of Ether, with Description of a Drop Method of Administration. B. F. Stevens.

1.—See abstract in THE JOURNAL, xlii, p. 1584.

4. **Myelogenous Leukemia.**—Evans presents a history of three cases of myelogenous leukemia, and calls attention to the treatment which is being used in two of them. These two patients were exposed to Röntgen rays emanating from a medium high vacuum tube at an average distance of ten inches for from fifteen to twenty minutes daily. A steady and progressive diminution in the size of the spleen was noticeable from the first. One of the patients received 125 treatments, averaging 17½ minutes for each exposure. There were four intervals when treatment was suspended for ten, two, five and seven days respectively. Aside from a slight reddening of the skin over the exposed part on a few occasions, nothing but the characteristic bronzing was noticed. At one time there was a decided increase, both relative and actual, in leucocytes, especially the myelocytes, together with an increase in the size of the spleen. Just preceding the time this was noticed a number of exposures had been made with a tube of a lower vacuum and consequently producing rays of less penetration. As soon as this error was corrected the patient resumed her previous condition. Her last blood count showed 3,680,000 red cells, leucocytes 88,000, hemoglobin 70 per cent. The proportions of the various kinds of leucocytes were about normal. The second case received in all 61 treatments. After the thirty-sixth treatment the spleen disappeared beneath the costal margin, and by the forty-fifth treatment was normal in size and position. The general condition of the patient was excellent. The last blood count showed 3,600,000 red cells, leucocytes 12,600, hemoglobin 80 per cent. The proportion of leucocytes was about normal; but, as in the previous case, a large number of myelocytes, 12 and 21 per cent. respectively, were found. Speaking of the histogenesis of leucocytes, Evans says that the large mononuclear leucocyte is the mother cell, ordinarily capable of further

differentiation into either the ordinary basophilic cell or into a neutrophilic myelocyte. The two forms of leukemia, lymphatic and myelogenous, are closely associated, and, perhaps, are forms or stages of the same disease. The lymphocytes, he thinks, are formed in the lymphoid tissue of the bone marrow, and the myelocytes, which also are formed in the bone marrow, are the parent cells of the polymorphonuclear neutrophiles. In myelogenous leukemia, myelocytes are cast into the circulation probably because of the increased activity of the myeloid tissue of the marrow, the only tissue primarily affected in this disease.

5. **Acute Suppurative Pancreatitis.**—Porter describes a case of acute suppurative pancreatitis in which death followed sixty-six hours after the onset of the illness. The diagnosis rested between pancreatitis, ruptured ectopic gestation, obstruction of the vessels of the mesentery and obstruction of the bowels. It was finally concluded that a positive diagnosis was not possible, and that the probabilities were in favor of a ruptured tubal pregnancy. Porter advised immediate operation, but other consultants in the case did not agree with him and no operation was performed. Postmortem examination revealed the abdomen bathed in pus. The head of the pancreas was about one-half destroyed. The uterus and appendages, the spleen and other abdominal viscera were normal. In favor of the diagnosis of ruptured tubal pregnancy were the history of the miscarriage, of pain and tenderness in the pelvis, together with the fact that at the onset the pain was greatest in the pelvis. Four or five weeks prior to the last illness the patient had been having boils, and it is highly probable that the infection was carried to the pancreas by the blood stream from one of the boils. Unquestionably, many of these patients will die even when operated on early, but the operation will not kill them and gives the best chance for recovery in all cases; in fact, the only one in most cases.

Medical News, New York.

August 13.

7 Report of a Case of Ruptured Ectopic Gestation. John W. Coe.
8 Some Interesting Obstetric Experiences. J. J. Gurney Williams.
9 *Chronic Mastitis and Diffuse Fibroadenoma of Breast. D. Farquhar Curtis and F. C. Wood.
10 Hereditary Syphilis. Howard S. Kinne.
11 *Difficult Cases of Infant Feeding. T. W. Kilmer.
12 Transitions of Obsessions to Delusions; Report of Two Cases. Alfred Gordon.
13 *Moot Points in the Treatment of Fractures. Martin W. Ware.

9. **Chronic Mastitis.**—Curtis and Wood review chronic mastitis and diffuse fibroadenoma of breast, two conditions which can only be distinguished by careful microscopic examination, the diagnosis, therefore, being impossible before their removal. They are so frequently followed by the development of cancer that they can be considered preliminary stages of that dangerous neoplasm. Up to the present time there is no absolutely reliable sign to distinguish between these two conditions and carcinoma before one of the cardinal signs of malignancy makes its appearance. The surgeon should not wait for any further development after having made the diagnosis, and action should be taken at once. With reference to the treatment these cases can be divided into three classes: 1. Moderate induration, limited or general. 2. Marked induration, limited to one-quarter of the breast or less. 3. Marked induration, general. Curtis reports a number of cases in point, and the article is closed by Wood with a discussion of the pathology of these breast indurations.

11. **Infant Feeding.** Kilmer discusses the necessity of feeding each infant in accordance with the demands of its growth and the capabilities of its digestive system. Large, fat, apparently healthy-looking babies are not always such. Too much carbohydrates, fats and proteids will fatten up a baby wonderfully, but ere long the crash comes, and then the real trouble begins. The author styles condensed milk as "one of the worst curses on a community of babies." Still, he goes on to say, it is unquestionably one of the best foods to switch off on if baby's stomach becomes a little upset from too much proteid. Often it helps to tide many a baby over a critical heated period. The artificial feeding of babies is not the simple and easy problem which some seem to regard it. Every baby is a law unto itself and should be fed as an individual. The general public should be taught that they should not and can not feed the rising generation on "any old thing" and in any way they choose.

13. **The Treatment of Fractures.**—Ware gives the results of his study of 3,000 cases of fractures, commenting on the methods of diagnosis and the apparatus to be used in treatment, the best of which, he says, are the simplest materials, such as plaster of paris, pasteboard, cigar-box wood and non-absorbable cotton. A number of illustrative cases are cited, but the author presents nothing new.

Boston Medical and Surgical Journal.

August 11.

14 Operations on the Stomach, with Report of Cases. (To be continued.) John C. Munro.
15 *Malpositions of the Uterus; Their Causes and Treatment. D. J. Brown.
16 *Subperiosteal Fractures of the Humerus in Children. J. S. Stone.
17 The Physical Relationship of Fiosen Light, Roentgen Rays and Radioactivity. W. C. Sabine.

15. **Malpositions of the Uterus.**—Brown believes that the uterus remains in its normal position by the concerted action of its several ligaments and the pelvic fascia, which are mutually interdependent for their integrity and action. He does not believe that the perineum is responsible for the support of the uterus and vagina. He discusses the causes of retrodeviation, both in virgins and in parous women, and follows Krusen's classification. The symptoms and treatment of the various malpositions are considered in brief. For the treatment of laxity of the uterosacral ligaments, Brown believes the Goelet operation to be a step in the right direction. In anteflexion the Dudley operation is the best. Excessive mobility of the uterus may be overcome by the wearing of a pessary of a cervicovaginal fixation. For prolapse and procidentia he favors the Byford operation. When a hysterectomy is decided on the vaginal route is preferable, uniting the anterior and posterior peritoneal margins, and then an end-to-end approximation of the stumps of the broad ligaments forms a perfect support.

16. **Subperiosteal Fractures of the Humerus in Children.**—Stone describes five cases which illustrate the dangers of overlooking fractures in children, and calls particular attention to the symptoms by which subperiosteal fractures of the surgical neck of the humerus may be diagnosed in the absence of the usual signs of fracture. When, after a fall on the arm or shoulder, children are unable to abduct the arm, but present none of the other signs of fracture or dislocation, and are able to move the arm in other directions, most careful examination should be made to determine localized tenderness anteriorly just below the head of the humerus, together with a slight irregularity in the contour of the bone at the same point. These signs are sufficient to establish a diagnosis of fracture of the surgical neck and further attempts by rough handling to secure crepitus or mobility should be deterred from.

Medical Record, New York.

August 13.

18 *The Success of Physical Remedies in Pulmonary Phthisis as an Index of Their Value in Other Chronic Diseases. Simon Baruch.
19 Cerebrospinal Meningitis: Diagnosis, Prognosis and Treatment. Louis Fischer.
20 *Associated Movements of the Upper Eyelid and Lower Jaw. Edward B. Coburn.
21 *Acute Cholecystitis Simulating Appendicitis. Arthur L. Chute.
22 Treatment of Syphilis by Hypodermic Injection of Mercury Lawrence T. Royster.
23 *A New Pathogenic Throat Organism. B. H. Stone.

18. **Physical Remedies in Pulmonary Phthisis.**—Baruch summarizes his views on the subject of phthisis-therapy in general, and points out that phthisis may be regarded as an illustration of what can be accomplished by systematic methodical management in all chronic diseases. Constant, unremitting attention to every detail of the patient's mode of life, his environment, food, drink, rest, exercise, baths, clothing and occupation is the only road to a favorable result. Hydrotherapy, as applied to the treatment of consumption, is discussed in full.

The indications are, 1, to increase blood cells and hematosis; 2, to deepen respiration; 3, to enhance nutrition; 4, to eliminate excretory products; 5, to remove stasis; 6, to reduce temperature. Success in the use of hydrotherapeutic measures is dependent on a full and thorough knowledge of their application. The most useful general method is the one which aids in gradually accustoming the skin to lower temperature, greater pressure on mechanical force, and larger quantities of water—in all stages. In febrile cases low temperature applications are contraindicated. Here the ablution or a half-bath, with water not below 80, is indicated. The author's method is as follows:

After a thorough cleansing with soap and warm water, a day is allowed to elapse. The patient is wrapped snugly in a thin blanket like a mummy (unless rectal temperature is above 100). He is allowed to lie for half an hour or longer unless he perspires. In afebrile cases it may be necessary to cover with additional blankets, the object being to fill the cutaneous arterioles, preparatory to being treated with water. The face is bathed with water at 50 F. Now the blanket is opened over the chest and abdomen, and these parts are rapidly and well rubbed with water at 75 F. After drying, the patient is turned on the abdomen and the back is similarly treated. The extremities are not treated. Patient is gently dried, dressed, and if afebrile, ordered into the open air for a gentle walk. Febrile cases are returned to bed. This treatment is repeated daily with reduction of two degrees of water temperature at each ablution until 60 F. are reached. Now the ablution is performed just as the patient emerges warm from the bed, as follows: Standing in a foot-tub, containing sufficient water at 100 F. to cover the feet to the malleoli, he receives a rapid friction bath with water at 90, omitting the upper extremities, after which he is dried and sent into the open air, if his rectal temperature is below 100 F. The water temperature is reduced daily two or five degrees until 60 F. are reached. Now the ablution is replaced by affusion, which consists of pouring of four basinfuls of water at 90 F., previously held in readiness, over the body. The patient standing in a foot-tub, having his feet covered with water at 100, water is dipped from a vessel previously in readiness and poured with force over each shoulder and back and chest. Rapid drying while standing on a warm towel completes the procedure. Beginning with a water temperature at 90, it is daily reduced a few degrees until 60 or even 50 are reached. This refreshing process may be repeated daily. In febrile cases the water temperature should not go below 65.

20. **Associated Movements of the Upper Eyelid and Lower Jaw.**—Coburn discusses this subject, reports a case and reviews the literature. The relationship of this condition to chronic nuclear palsy is suggested by the following facts: 1. This condition is not always congenital; cases have been reported in which it appeared somewhat late in life. 2. This disease is not always stationary; in some it has increased, in others diminished. 3. Although usually unilateral, it is sometimes double, especially the ptosis. 4. The lack of development of the face in some cases points to trophic disturbances in the seventh nerve, a condition often accompanying the infantile form of nuclear palsy. There seems to be very little that can be done to relieve this condition. Operations for ptosis have been performed successfuly on these cases, and there seems to be no objection to them as long as the operation is not so radical as to cause permanent exposure of the eyeball.

21. **Acute Cholecystitis Simulating Appendicitis.**—Cbute reports two cases of this kind, and says that the greater number of instances are seen in that group of cases in which the inflamed gall bladder is in its normal position, but in which pain and tenderness, in the presence of distention and rigidity, are referred to the appendix region. The second group of cases is made up of those cases in which an inflamed gall bladder reaches into the iliac fossa, either through great enlargement or through displacements. Here the error in diagnosis is the result of finding a painful tender mass in the region of the appendix. This type is less common than the first. Both of the author's cases belonged to the first type. In dealing with supposed cases of either of these two most common intra-abdominal inflammations, one should always bear in mind the closeness with which they may simulate each other. When, during an operation, the state of the organ investigated does not satisfactorily account for the patient's condition, the other organ should always be examined. The lack of this precaution has, in at least one recorded case, led to the removal of a slightly diseased appendix, while, as the autopsy showed, the symptoms had been caused by a gangrenous gall bladder which had not been discovered.

23. **New Pathogenic Throat Organism.**- Stone made a bacteriologic study of 81 cases of an acute inflammatory condition of the throat, accompanied by a severe but not fatal toxemia, lasting from twenty-four to forty-eight hours. The cases are usually ushered in with chilliness, pain in the head and limbs, and a coryza, often accompanied by an unusal amount of sneezing. In nearly all of these cases the tonsils were more or less swollen, the soft palate and uvula edematous, and in many there has been a distinct false membrane, white in color and very tenacious. These cases have been diagnosed as diphtheria, grippe and simple cold. The remarkable fact about these cases has been the severe toxemia coming on suddenly and lasting only a short time, and the universal appearance in the throat of a peculiar diplococcus. The same organism has been met with in several cases of typical follicular tonsillitis, and in the throats of three cases of scarlet fever and in many cases of irritable throats following diphtheria. The organism occurs in the secretions and exudations of the inflamed mucous membrane. It is a diplococcus with its adjacent sides slightly flattened. One of the pair often is smaller than the other. They vary from one-half to one micron in diameter. They stain redly with Loeffler's stain and fuchsin, and by Gram's method, and show polar granules with the first stain only. They possess no flagella, spores or demonstrable capsule. Almost no growth occurs in gelatin, and there is no liquefaction. On agar plates small, white, raised and very tenacious colonies appear after twenty-four hours incubation. The growth on agar streak cultures is the same, except that the colonies coalesce along the line of the needle tract, and the result is a more or less continuous nodular growth. On blood serum the growth is luxuriant, forming a viscid, extremely tenacious skin over the whole surface of the medium. The growth on potato is similar to this, only less luxuriant. In boullion it forms a white, stringy sediment, sticking slightly to the bottom of the tube. It does not change the reaction of the media, does not form indol or gas or acid in glucose, lactose or saccharose solution. It converts nitrates into nitrites. It is a facultative anerobe, growing best at the body temperature, with a thermal death point between 60 and 70 C. The writer is thoroughly convinced that this organism stands as the etiologic factor in the cases studied, even though efforts to reproduce its peculiar lesions on the mucous membranes of laboratory animals thus far have been unsuccessful. It has been found constantly present in these cases in almost pure cultures, and has been isolated, while no other organisms are constantly found. It is toxic for laboratory animals, producing on scirrhus membrane an exudate analogous to that produced in the throat, from which exudate it has been recovered in pure culture. It produces a soluble toxin sufficiently virulent to kill animals. Its blood serum growth has a peculiar viscid character, suggesting the extreme viscidity of its exudate in the throat.

New York Medical Journal.

August 13.

24 *Aberrant Thyroid Tissue. Jeremiah S. Ferguson.
25 The best Method of Operating to Affect a Radical Cure of Senile Hypertrophy of the Prostate Gland. (To be continued.) Orville Horwitz.
26 *The Suppression of Rotary Vertigo: Its Bearing on the Prevention and Cure of Seasickness. J. Leonard Corning.
27 Technic in General Anesthesia. J. D. Sternberg.
28 *Is Milk a Factor in the Spread of Tuberculosis? J. O. Cobb.
29 Morphinism: Its Symptomatology. Charles J. Douglas.
30 *Adenoids in Infants. Herman Jarecky.

24. **Aberrant Thyroid Tissue.**—Ferguson discusses the relation of aberrant thyroid tissue to intratracheal growths, and describes one specimen which he had the opportunity of studying. The literature on the subject is reviewed very carefully.

26. **Suppression of Rotary Vertigo.**—Corning presents the results of a series of experiments on individuals in whom vertigo had been induced artificially by means of a revolving chair invented by the author. Various drugs were tried to prevent and to relieve the symptoms of the vertigo, but those of most value were found to be hyoscin and opium or morphin. Hyoscin hydrobromid, in doses of 1/150 gr., and opium, in ½-gr. doses, was found to be efficient. Of course, the dose must be varied somewhat according to individual susceptibility. These remedies produce a central as well as peripheral torpidity, so that the subject will remain proof against both giddiness and nausea for from three to four hours, when the administration of a tablet consisting of morphin, gr. 1/6, extract of cannabis

indica, gr. ¼; nitroglycerin, gr. 1/300; strychnin sulphate, gr. 1/60; resorcin, gr. 1; cocain hydrochlorid, gr. 1/6, was sufficient to produce further immunity for a like period. This treatment was especially valuable in the prevention of seasickness.

28. **Milk and Tuberculosis.**—Cobb reviews the data at hand with reference to milk being a factor in the spread of tuberculosis, and arrives at the conclusion that its etiologic importance is very much over-estimated, because in those countries where milk is used but little or not at all, and in others where it is invariably boiled before using, tuberculosis is as prevalent as in countries where milk is used largely.

30. **Adenoids in Infants.**—Jarecky emphasizes the fact that adenoids exist in infants, and that an early operation saves the patient from the defects caused by ignoring their presence. In making a diagnosis of adenoids in infants we must naturally depend to a great extent on inability to nurse properly and noisy mouth breathing. Five cases are cited and the usual method of treatment is described.

Cincinnati Lancet-Clinic.

August 13.

31 Rectal Valves, with a Report of Operative Cases. Louis J. Krouse.
32 Diabetes Mellitus, with Especial Reference to Etiology. George F. Zinninger.
33 Treatment of Adenoids by the General Practitioner. W. E. McKinley.

St. Louis Medical Review.

August 6.

34 Secondary Abdominal Operations. Lewis S. McMurtry.

Chicago Medical Recorder.

July.

35 Report of a Case of Perithelial Angiosarcoma of Left Arm, with Excision of Outer Two-thirds of Clavicle, Scapula and Arm. J. C. Hepburn.
36 The Paraffin Injection Treatment for the Correction of Deformities. Charles J. Whalen.
37 Large Multilocular Ovarian Cyst. George W. Newton.
38 *Radical Cure of Inguinal Hernia. L. L. McArthur.
39 *Osteotomy in Angular Ankylosis of Hip-joint. Frederick Mueller.
40 Tuberculosis of Nervous System. Julius Grinker.
41 Suppuration of All the Facial Sinuses and Killian's Operation. Herman Stolte.
42 Nose and Ear Cases. J. Hollinger.
43 Report of Two Cases of Cholelithiasis with Demonstration of Specimens. Max E. Bloch.

38.—This article has appeared elsewhere. See THE JOURNAL of July 30, ¶55, p. 354.

39. **Osteotomy in Ankylosis of the Hip.**—Mueller considers osteotomy as the most important step toward obtaining a definite result in angular ankylosis of the hip joint; provided, that the ends of the severed bone will knit together nicely and in the desired position. To secure the first condition, it is necessary that no tissues become interposed between the ends of the bones, and calls for exact approximation. The second point calls for securing this result and for excluding all changes of position due to muscular action or tension. In all cases of distinct abduction ankylosis, subtrochanteric osteotomy is the operation of choice, and should be performed as high as possible. In flexion ankylosis one group of flexors is tenotomized, while another group must be stretched; in adduction ankylosis the action of the adductors should be eliminated in a similar way. The same operation ought to be applied to the muscles, acting as abductors in abduction ankylosis. A cast properly applied in extension fixes the ends of the bone, severed by the osteotomy in an absolutely safe way without allowing any displacement, and also permits the patient to walk around within a few days after operation. Mueller recommends the so-called "circumference chisel" designed by Reiner, which is especially constructed for the purpose of osteotomizing the distal end of the femur in genu valgum, as the most useful instrument for the performance of osteotomy. He uses an instrument which is a simplification of Reiner's chisel. It is shaped like a chisel with an oblique edge, having a protruding thorn on the shorter side. If the unprotected edge of the chisel is placed on the bone, a few strokes with the mallet will drive it in until the thorn stops its deeper intrusion. All further strokes drive the osteotome over the circumference of the bone. Severing the corticalis until only a narrow bridge is left, this and the rest of the spongy substance is very easily broken, and the rough surfaces of this artificial fracture act as a means of preventing dislocation of the ends of the bone. Another advantage of this osteotome is the possibility of working with it beneath the periosteum. The periosteum is divided by a longitudinal cut, and is lifted up by an elevatorium in both directions around the circumference of the bone. Through this slit the osteotome is introduced, and after the osteotomy has been performed the wound in the bones is protected by a mantel of periosteum, preventing any interposition of other tissue. Convenience and rapidity are the advantages which the circumference chisel possesses.

Columbus Medical Journal.

July.

44 Military Medical Journalism at the Beginning of the Twentieth Century. James Evelyn Pilcher.
45 *The Differential Diagnosis of the Chronic Specific Diseases of the Skin. Herbert O. Collins.
46 *Earache. F. L. Stillman.
47 What May Be Accomplished by the Organized Profession Toward Improving the Ohio State Medical Institutions. A. P. Ohlmacher.
48 The Relation of the Medical Practitioner to Preventive Measures Against Tuberculosis. Arthur Newsholme.

45. **Differential Diagnosis of Chronic Skin Diseases.**—Collins believes that the difficulty of diagnosing skin lesions is usually overestimated and is due more to the lack of systematic study of the case in hand than to the complexity of the symptoms presented. The rarer conditions are encountered so seldom that they need hardly be considered by any but dermatologists. In examining a case of disease of the skin special attention should be directed to four points: 1. The particular region of the body over which the lesions are distributed. 2. The arrangement of the lesions, as to whether they are regular or irregular, circular, bilateral, symmetrical, etc. 3. The lesions themselves should be studied in detail and classified. 4. The presence or absence of constitutional symptoms should be inquired into, and if present their nature noted. The following points are of importance in arriving at a diagnosis: Bilateral symmetrical eruptions are either constitutional in origin or are due to the same local causes on both sides of the body. Diseases due to parasites are usually found on the flexor sides of the limbs or on the exposed parts of the body. The more chronic the disease the deeper the color, and, *vice versa*, the more vivid the color the more acute the disease. Scales, ulcers and scars are found in chronic diseases. Single ulcers are found in one of four conditions—syphilis, trophic disturbances, traumatism and malignant disease. When occurring on the face, ulcers are almost invariably due to cancer, syphilis or tuberculosis. Sometimes the odor is of some diagnostic value. The syphilitic ulcer smells rancid, favus has a mousy odor; varicose ulcers are said to smell sweet; neurotic ulcers and leprosy, nauseous and foul, while the rodent ulcer has the odor of putrid meat. Many chronic diseases of the skin are but the local manifestations of a constitutional condition and are characterized by the formation of inflammatory granulation tubercles. The most familiar types are syphilis, tuberculosis, leprosy, glanders and actinomycosis. The author continues his article by a very full discussion of the syphilitic and tubercular skin eruptions.

46. **Earache.**—The acute engorgement of the vessels of the mucous membrane of the middle ear and the vessels of the contiguous regions causes pain by stretching of and pressure against the local nerves of sensation. This is technically called otalgia, and is known popularly as earache. Stillman discusses this very common condition, and calls attention to the necessity of a more thorough examination into the causes of earache. Some of these causes are affections of the pinna, especially inflammatory in character; perichronditis erysipelas, or an abscess on the auricle; the pressure exerted by the riding-bow of glasses; a circumscribed or diffuse purulent inflammation in the external meatus; a diffuse inflammation of the skin or periosteum of the meatus during the course of middle ear abscess, indicating a blocking up of the mastoid an

trum; a foreign body in the ear; neoplasm; neuralgia; acute otitis media and acute otitis media purulenta and its sequelæ, and the exacerbations and sequelæ of chronic otitis media purulenta. In the earaches due to some of these causes the diagnosis can be made quite readily, but in others we are likely to be led astray, especially in the case of children and those adults who are unable to locate definitely the seat of pain. The only way to find out positively what produces the otalgia is to look at the parts, making a routine examination. All that is needed in most cases is a flat-wicked lamp, a metal or hard rubber cone speculum and a short focal distance head mirror. For operative work under an anesthetic, it will be found convenient to have a forehead electric lamp. Whenever possible, the case should be sent to the specialist, who is prepared to do everything; but many of these cases can not or will not go to the specialist, and it devolves on the general practitioner to make an examination, and he should be prepared to do so.

Wisconsin Medical Journal, Milwaukee.

July.

49 *Address. State Medical Society of Wisconsin. F. E. Waldridge.
50 *Borderline Between Medicine and Surgery. J. C. Wilson.
51 *Traumatic Asphyxia. F. Shimonek.
52 Arterial Sclerosis. J. S. Walbridge.

49.—See abstract in THE JOURNAL of July 2, p. 65.

50.—Ibid, p. 66.

51. **Traumatic Asphyxia.**—Another case of this kind is published by Shimonek; only a few cases in which recovery took place are recorded in the literature. The patient, a robust young man, a house-mover by occupation, was pressed to the ground by a large piece of timber falling on his back while he was in a prone position. When first seen by the author the patient was unconscious, breathless, his eyes were intensely congested and protruded from the orbits; his lips were swollen, the mouth open, and from it protruded his greatly swollen and black tongue. The pulse was slow and strong; the heart was beating against the chest wall with great vigor. The median basilic vein was immediately opened in order to relieve the congested right heart, this procedure being deemed more necessary than the induction of artificial respiration. The blood flowed in a large, black stream, and by the time one quart had escaped respiration commenced. In the course of about an hour the circulation became equalized, and the patient was fully conscious. With the exception of a little cough and some mucous râles in his chest, his health was fully restored, and he resumed work in a few days. Shimonek emphasizes the necessity of the immediate performance of venesection in traumatic asphyxia. Artificial respiration and the inhalation of oxygen should be used as auxiliaries only and should not be relied on to affect the cure. After the great pressure in the venous system is reduced by venesection, then—if it seems necessary—both of the methods might be utilized advantageously.

Detroit Medical Journal.

July.

53 *Ureteral Calculus; Operation; Cure. J. B. Kennedy.
54 *Pruritus Ani. W. L. Dickinson.
55 *Chronic Irritation in the Etiology of Carcinoma. H. S. Olney.
56 Venereal Statistics in Michigan. Albert E. Carrier.

53. **Ureteral Calculus.**—Kennedy comments on the uncertainty of making a diagnosis of ureteral calculus, and cites a case in point, in which the calculus was located in the left ureter, a short distance above the bladder. The patient had had indefinite symptoms, which he called "side ache," for six years before he consented to an operation. The first incision commenced at the anterior extremity of the last false rib, proceeding downward to the ileum, following the line of the crista ilii, and terminating at the superior anterior spinous process of that bone. The abdominal muscles were divided to the extent of about an inch, close to the superior anterior spinous process, down to the peritoneum. The ureter was lifted up and the stone removed through a longitudinal incision. This incision was closed with a continuous fine catgut suture, and the incision in the abdominal wall was closed by three rows of sutures. The patient had a complete and uneventful recovery. The stone, of the mulberry variety, weighed exactly 58 grains.

54. **Pruritus Ani.**—This subject is discussed by Dickinson, who emphasizes the importance of searching for the cause of the irritation and not merely to limit the treatment to local applications. The prophylactic treatment, too, is of importance and should be insisted on. Opium and morphin are contraindicated, even when sleeplessness is very marked and causes the patient much discomfort, because on the day following their use the itching is greatly increased. To produce sleep the bromids, chloral hydrate, sulphonal, trional and phenacetin give the best results. Hot water compresses, cocain lotion or ice bags applied locally sometimes afford temporary relief. To allay the intense itching a lotion composed of carbolic acid, 30 drops, and olive oil, 1 ounce, may be applied twice daily. If there is much thickening of the integument and an entire loss of pigment, pure carbolic acid or tincture of iodin can be used. This will produce considerable soreness for a few days, and, when healing is taking place, any remaining spots of thickened integument should be painted. Citrin ointment, well rubbed into the integument, sometimes gives better relief than tincture of iodin or carbolic acid.

55. **Chronic Irritation and Carcinoma.**—The effect of chronic irritation in the causation of carcinoma is discussed by Olney, whose observations lead him to draw the following conclusions: 1. It is not necessary to presuppose the existence of embryonic inclusions at the location of the tumor formation, but the carcinoma may develop from the tissues normally present. 2. Chronic irritation, mechanical or chemical, produces a cellular proliferation, sometimes giving rise to a papilloma or adenoma, and, when resistance of the opposing tissues is slight or the irritation long continued, to a typical carcinoma. 3. Parasites, if present in carcinomatous tissues, have no more etiologic significance than any other form of chronic irritation, and hence there are no specific organisms of carcinoma.

Memphis Medical Monthly.

July.

57 *Combined Extra and Intra-uterine Pregnancy. St. Cloud Cooper.
58 Typhoid Fever. John A. Blackmon.
59 The Diagnosis of Insanity. B. Frank Turner.
60 Internal Antisepsis in Typhoid Fever. J. A. Crook.
61 *Combined Typhoid and Malarial Fever. J. L. McGehee.
62 Gunshot Wound of the Abdomen. M. Goltman.
63 Faith and Suggestion in the Practice of Medicine. D. M. Hall.
64 The Cure of Consumption by Subcutaneous Injections of Oil, and its Digestion by the White Globules of the Blood. Thomas Bassett Keyes.
65 Case of Strangulated Hernia; Operation; Recovery. J. D. Southard.

57. **Combined Extra- and Intra-Uterine Pregnancy.**—Cooper reports a case of this kind on which he operated and found an enlarged uterus with a distended right tube. The tube was dark and mottled, and seemed on the point of bursting. The omentum was adherent. Some old dark clots were found in the cul-de-sac. The tube and ovary were tied off and removed. The uterus was not handled. The abdominal cavity was left full of hot salt solution, and the wound closed with catgut and silkworm gut suture. The patient recovered from the operation, but twenty-one days afterward she expelled a live four-months fetus. Septic infection supervened and she died of septic peritonitis.

61. **Combined Typhoid and Malarial Fever.**—A case is reported by McGehee showing that it is possible to have typhoid and malarial infection in the same patient at the same time. More systematic blood examinations of cases with irregular temperature curves would, perhaps, reveal the fact that the combination of the two diseases is more common in the southern states than is believed. A short time previous to the onset of the typhoid, in the case reported, probably during the prodromal period, there was a distinct malarial infection, as evidenced by the history, the clinical symptoms and the blood examination. It is a question whether this was a fresh infection or one carried over from the previous year. It yielded promptly to quinin, the parasites disappeared from the blood, followed by typhoid of a typical type, at the end of which there was another

marked manifestation of the malarial infection, the reappearance of the parasites in the peripheral blood yielding promptly to quinin, followed by mild intercurrent relapse, characterized by remittent fever, return of abdominal symptoms, etc.

Medical Examiner and Practitioner, New York.

July.

66 *The Family Physician as a Life Insurance Examiner. C. Lyman Greene.
67 The Moral Hazard in Life Insurance. John L. Davis.
68 *Early Recognition of Insanity in Life Insurance Examinations. Richard Dewey.
69 Cancer; Further Observations Regarding Theory and Facts as to the Origin of Cancer and Its Bearing on Life Insurance. E. Holovtchiner.
70 How Far Does the Moderate Use of Alcohol Affect Longevity? T. D. Crothers.
71 The Accurate Estimation of Pulse Tension in Life Insurance. Henry W. Cook.
72 Cancer; Its Origin and Successful Treatment with Organotherapeutic Measures. J. Leffingwell Hatch.

66. **Family Physician as a Life Insurance Examiner.**—Greene deprecates the conditions existing at present which prohibit the family physician from giving any information as to the physical condition of an applicant for insurance, inasmuch as it is not fair to the insurance company toward whom the physician occupies a position as its trusted and confidential agent. He is in duty bound to see that the company receives the information vital to its interests or to decline the risk outright. The physician should keep his relationship with his patients separate and distinct from his duties as an insurance examiner. In the one case he owes his patient medical service; in the other his primary obligation is to the company. The writer believes that many examiners never take the applicant's temperature and never make a detailed analysis of the urine. This is partly due to carelessness on the part of the examiner and the willful disregard to the company's instructions. On the other hand, the insurance companies deserve censure. First, because they have not made the physician understand that they demand thorough and careful examinations, and that they will support and protect good men in the performance of their duties. Second, because in many companies the medical report is reviewed and forwarded by the agent. Third, because a few companies do not absolutely protect the examiner in confidential communication.

68. **Insanity and Life Insurance.**—Dewey emphasizes the importance of early recognition of insanity in life insurance examination. He is convinced that many cases receive insurance while in the prodromal or incipent stage of insanity. This is due largely to the fact that little or no instruction is given in mental medicine in the medical schools, and, therefore, otherwise able and well-informed practitioners and examiners for insurance companies are often "all at sea." The family history of the applicant should be gone into very carefully and thoroughly. Causes of death, such as "nervous prostration" or "nervous breakdown" from overwork or overstudy may generally be taken as a euphemism for insanity. Suicide as a cause of death should put the examiner on his guard, although it should not be taken as a positive evidence of insanity. The investigation should include inquiry into all serious illnesses and periods of incapacity for business, and also as to treatment in any institution. Any marked mental change without adequate external cause should be regarded with suspicion. Neurasthenia, hysteria, hypochondria, may be early stages of insanity.

Archives of Pediatrics, New York.

July.

73 The Influence of American Pediatric Societies in Promoting the Welfare of American Children. Augustus Caille.
74 *Case of Intussusception with Cure by Sloughing. Irving M. Snow.
75 Status Lymphaticus, with Report of Cases. Robert A. Blechele.
76 Two Cases of Congenital Dislocation of the Shoulder Joint. Frank E. Peckham.
77 *Case of Acute Delirium in a Seven-year-old Child Probably Caused by Atropin Poisoning. I. A. Abt.

74. **Intussusception Cured by Sloughing.**—Snow reports a case of subacute intussusception occurring in a baby seven months old. The duration of the illness was sixteen days. The symptoms simulated an acute attack of ileocolitis. On the sixteenth day there was protrusion from the anus of a mass looking like ragged membrane, measuring one and one-half inches long and three-quarters of an inch wide, which could not be replaced by moderate pressure. A rectal examination showed that the mass traversed the rectum and emerged from the sigmoid flexure. The protruding tissue was a necrotic intestine, the result of intussusception. The case was operated on and six inches of the necrotic bowel protruding beyond the sphincter were removed by ligature. The baby recovered completely without any untoward result.

77. **Acute Delirium in a Seven-Year-Old Child.**—Abt reports a case of enuresis nocturna in a seven-year-old child which was followed by an acute delirium, due probably to atropin poisoning. The facts in favor of this supposition were the history of the continuous use of atropin, dilatation of the pupils, dizziness, blushing or flushing noticed for several days prior to the onset of the delirium and the delirium itself. The pulse continued normal in quality and rate, the respirations were not much increased, two unusual features in atropin poisoning. That the child continued apparently well until of a sudden the delirium developed is an unusual manifestation in atropin poisoning. For a period of three and one-half months the patient had been taking 1/200 gr. of atropin twice a day.

The Post-Graduate, New York.

July.

78 *Intra-uterine Exploration for Diagnostic Purposes. Abram Brothers.
79 *Pancreatic Disease and the General Practitioner. Thomas E. Satterthwaite.
80 *Amblyopia from Disease of the Optic Nerve (Retrobulbar Neuritis). Its Treatment by Hypodermic Injections of Strychnin. D. B. St. John Roosa.
81 Is There a Biologic Method of Differentiating Human and Animal Blood by Means of Precipitins. A. Wassermann.
82 Common Deformities of the Spine. Henry Ling Taylor.

78. **Intra-Uterine Exploration for Diagnostic Purposes.**—The value of intrauterine exploration for diagnostic purposes is attested by Brothers. He considers the sound, the curette, the placental forceps and palpation as means to this end. The dangers connected with the passing of the sound into the uterus are, 1, interrupting a possible pregnancy; 2, exciting an intrauterine inflammation or pelvic peritonitis; 3, introducing sepsis into the uterine interior with resulting suppurative processes in the Fallopian tubes, and, 4, perforation of the uterine wall. The exceptional indications which justify the use of this instrument are, 1, patency of the internal and external os; 2, patency of the uterine interior; 3, relation of uterus to a tumor; 4, presence of an intrauterine polyp or a submucous fibroid; 5, determination of the size of an undeveloped or hyperinvoluted uterus. Constriction at the internal os is one of the most frequent causes of dysmenorrhea and sterility and can only be positively established by resort to the uterine sound. In a few instances sterility has been cured as a result of the examination. Pelvic tumors can not always be clearly differentiated from the uterus without the aid of a sound. The chief danger from the use of the curette is perforation. There may be a persistence of pelvic peritonitis, or agglutination of the raw surfaces of the uterus with a complete obliteration of the uterine cavity. The contraindications to curettage are pelvic inflammation and ectopic gestation. The curette gives the most precise information concerning the structure of the uterine interior. The scrapings, examined under the microscope, will reveal the condition present. The placental forceps possesses combined diagnostic and therapeutic qualities. Ordinarily, however, when this instrument is used the diagnosis has usually been fairly established by other means. The placental forceps must be used cautiously in the puerperal uterus; a few cases are on record in which the operator perforated the uterine wall and brought down omentum or a coil of intestine. Examination of the uterine interior with the finger is a very valuable method, although it is not resorted to as often as is desirable. The co-existence of perimetric or pelvic peritonitis is a serious contraindication to intrauterine palpation. The small uterus offers an insuperable obstacle to this method of examination. In all cases preliminary dilatation of the cervix is necessary. The method is of value in certain cases of malignancy of the body of the uterus, in deciduoma malignum, in

foreign bodies in utero, in polypi, in submucous fibroids and in incomplete inversions of the uterus.

79. **Pancreatic Diseases.**—Satterthwaite discusses the significance of various symptoms as far as pancreatic disease is concerned, and makes the following deductions: 1. Pancreatic hemorrhage may be due to trauma, hemorrhagic diathesis, arteriosclerosis, cholelithiasis or intestinal contents injected through the common duct into the pancreatic duct. 2. Acute pancreatitis, hemorrhagic or otherwise, is difficult of recognition prior to laparotomy chiefly because there is not sufficient time for the proper consideration of the circumstances of the case. Mild cases may get well without a surgical operation. The mortality is at least 80 per cent. If the attack is due to gallstones extraction and drainage is likely to give relief. 3. The mortality in chronic peritonitis from various causes may be as low as 4 per cent. 4. The mortality in operations for pancreatic cyst has been 9 per cent. Enucleation is only advisable when the cyst is pedunculated. 5. As in cholelithiasis, expectant and palliative treatment in mild cases of the acute form will be likely to show favorable results. The use of pancreatin offers promise. It is given in ¾ gr. doses three or four times a day. The author reports thirteen cases, six carcinomatous and several due to secondary infection, in which there was absolutely no hope. In two the implication of the pancreas was coincident with cirrhosis of the liver; in one with cirrhosis and peritonitis. In only two cases, one of hemorrhage and one of cholelithiasis, could a surgical operation have afforded permanent relief.

80. **Retrobulbar Neuritis; Strychnin Injections.**—The treatment of atrophy of the optic nerve by hypodermic injections of strychnin was originated by Nagel. Roosa says that the best results are achieved by making the injections in the temporal region and in the arm, and in some cases it may be necessary to give the strychnin internally. Alcohol and nicotin amblyopia are the forms of disease of the optic nerve most frequently treated by hypodermic injection of strychnia. If, however, atrophy actually occurs it is certain that a cure is not to be expected. An atrophic process may be arrested, but not cured. The initial lesion in a toxic amblyopia is a neuritis in the orbital part of the optic nerve, retrobulbar neuritis, which leads to atrophy unchecked, but if recognized early enough, and appropriate preventive treatment be undertaken, a cure results. When the case is of spinal or cerebral origin, or a syphilitic infection, strychnin is useful. The author reports nine cases, only two of which were cured. The average dose of strychnin injected in these cases varied from 1/3 to 31/60 gr. One case received 9/16 gr. three times a day. The maximum dose given to any case hypodermically was 4/5 gr., and per orum 3/4 gr. three times a day.

Medical Age, Detroit.

July 25.

83 Epilepsy: Its Nature and Its Treatment. Gresham H. Hill.
84 Superstitiitions—Medical and Otherwise. C. C. Mapes.

Cleveland Medical Journal.

August.

85 Acute Hemorrhagic Pancreatitis with Report of a Case. J. H. J. Upham and Isabel A. Bradley.
86 Seasonal Distribution of Typhoid Fever Based on the Death Reports of Cleveland Since 1892. George W. Moorehouse.
87 Feeding in Difficult Cases. J. J. Thomas.

Southern Practitioner, Nashville, Tenn.

August.

88 Therapy of Sodium Chlorid. J. S. Nowlin.
89 After-treatment of Abdominal Section. L. E. Burch.
90 Quinin in Malaria, Hematuria and Hemoglobinuria. W. R. Haynie.

Canadian Journal of Medicine and Surgery, Toronto.

August.

91 Thoughts on Cancer. Wm. Hingston.
92 Neurasthenia in Some of Its Relations to Insanity. Campbell Meyers.

Medical Times, New York.

August.

93 Sociologic Problems Depending on Diminishing Birth Rate. A. L. Benedict.
94 Syphilis in Its Relation to Marriage. M. Shellenberg.
95 Treatment of Bronchial Asthma. Wm. Lloyd.
96 Gynecologic Experience of a General Practitioner. A. C. Griggs.

Buffalo Medical Journal.

August.

97 Treatment of Patients Undergoing Abdominal Operations. J. A. MacLeod.
98 Remarks on the Methods and Purposes of Pension Examinations. Sam Houston.
99 Corrected Report of an Abdominal Aneurism. Marshall Clinton.

St. Paul Medical Journal.

August.

100 Some Phases of Legal Medicine. Joseph B. Cotton.
101 The Art and Science of Medicine. Charles L. Greene.
102 Oration on Surgery. Minnesota State Medical Association. Alexander Hugh Ferguson.
103 Prostatectomy and Its Results. Archibald MacLaren.
104 Effect of Operations for Uterine Displacement on Subsequent Pregnancy. H. P. Ritchie.
105 Pneumonia—Problems in Treatment. J. B. McGaughey.

American Medical Compend, Toledo.

August.

106 Inflammatory Processes in Bone. B. Becker.
107 Treatment of Typhoid Fever in Children with Acetozone. H. D. Peterson.
108 Etiology and Treatment of Dysentery. R. C. Longfellow.

Clinical Review, Chicago.

August.

109 Alumni Surgical Clinic. Alex. Hugh Ferguson.
110 Notes on the Use of Morphin. Nathaniel H. Adams.
111 The Abuses of Morphin. John C. Webster.
112 Multiple Neuritis. (Concluded.) L. Harrison Mettler.

Washington Medical Annals, Washington, D. C.

September.

113 Surgery in the Aged. Wm. A. Jack, Jr.
114 Case of Cancer of the Stomach, the Organ Removed Eighteen Months After Gastroenterostomy for Tumor Producing Stenosis of the Pylorus. I. S. Stone.
115 Case of Dermoid Cyst Removed by Operation. J. Taber Johnson.
116 Epilepsy. Henry J. Rhett.
117 Case of Leukemia. N. D. Graham.
118 Case of Congenital Syphilis. D. S. Lamb.
119 Case of Nephrectomy for Large Cystic Kidney. I. S. Stone.
120 Case of Osteoarthritis of Knee Joint of Long Standing. D. S. Lamb.
121 Case of Human Ischiopagus. D. S. Lamb.

Journal of the Kansas Medical Society, Topeka.

August.

122 Radical Operations for Hernia. Hal C. Wyman.
123 Symptoms That May Be Attributed to the Perpendicular Position. Howard H. Moses.
124 Bullet Wounds in Civil Practice. Hugh Wilkinson.
125 Gall-bladder Pathology—Medical and Surgical Treatment. H. G. Welsh.
126 Value of the Exact Determination of Blood Pressure in General Practice. (Continued.) O. P. Davis.
127 Chorea and Anemia. Roshler W. Miller.

Louisville Monthly Journal of Medicine and Surgery.

August.

128 Treatment of Summer Diarrhea. Henry E. Tuley.
129 Management of Appendicitis. T. H. Baker.
130 Medicine "Away Back." D. L. Field.
131 Early Morning Temperature of Infants. A. K. Bond.
132 Ovarian Hernia with Congenital Absence of Vagina. Jas. B. Bullitt.
133 Case of Strangulated Hernia. S. J. Smock.

Albany Medical Annals.

August.

134 Influence of the Filtration of Potable Waters on the Death Rate of Typhoid Fever. Joseph D. Craig.
135 Concerning the Specificity of the Somatogenic Cytotoxins. Richard M. Pearce.
136 Infantile Inguinal Hernia of the Vermiform Appendix with Adhesions of the Epididymis. MacD. Stanton and Henry L. K. Shaw.

New Orleans Medical and Surgical Journal.

August.

137 Summer Diarrhea of Infants. Louis M. Warfield.

Maryland Medical Journal, Baltimore.

August.

138 The Life Tragedy of John Addington Symonds. G. M. Gould.
139 Typhoid Orchitis. Samuel T. Darling.

Brooklyn Medical Journal.

August.

140 Excision of the Thyroid in Graves' Disease. M. Figueira.
141 Remarks on Typhoid Fever. John Harrigan.
142 Mastoiditis in Infancy and Childhood. William C. Braislin.

Medical Standard, Chicago.

August.

143 Chicago Milk Problem—Charity Diet Kitchens. Marcus P. Hatfield and Geo. Thomas Palmer.
144 The Dark Ages of Medicine. (To be continued.) E. J. Kempf.

145 Paraffin Injection Treatment for the Correction of Deformities. Charles J. Whalen.
146 Intestinal Obstruction Following Appendiceal Abscess; an Anastomosis with Murphy Button; Recovery. E. B. Montgomery.
147 Autointoxication and Its Treatment. Heinrich Stern.
148 A Surgical Clinic. Alex. H. Ferguson.

Toledo Medical and Surgical Reporter.

August.

149 Etiology and Treatment of Dysentery. R. C. Longfellow.
150 Case of Traumatic Tetanus Treated with Antitetanic Serum. C. R. Justice.

International Journal of Surgery, New York.

August.

151 Hemorrhage. T. H. Jones.
152 Sepsis; Its Clinical Aspect and Treatment. (Continued.) J. Bennett Morrison.
153 Ovarian Abscess. C. S. Schultz.
154 The Surgical Assistant. (Continued.) Walter M. Brickner.

Southern Medicine, Savannah, Ga.

August.

155 *A Plea for Early Exploratory Incision for Diagnostic and Curative Ends in Masked Conditions of the Upper Portions of the Abdomen. Hugh M. Taylor.
156 Acute Gastroenteritis of Children. Edgar H. Nichols.
157 Edema of the Lungs. Wade H. Atkinson.
158 Medical Jurisprudence. J. R. Cain.

155.—This article has appeared elsewhere. See THE JOURNAL of July 2, ¶82, p. 80.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 6.

1 *Camp Sanitation. E. C. Freeman.
2 Sanitation in Volunteer Camps and the Disposal of Refuse and Excreta. P. E. Giles.
3 *Naval Dietary. J. Falconer Hall.
4 *Duties of a Medical Officer with a Regimental Unit in the Field. J. F. Donegan.
5 *On Sterilization of Infective Discharges and Utensils on Field Service. A. M. Davies.
6 The Recruiting Problem. (To be continued.) W. C. Beevor.

1. **Camp Sanitation.**—Freeman considers this important subject under temporary and stationary camps. He discusses the selection of suitable sites and considers the ridge-pole tent as compared with the bell tent; lays special stress on the water supply, which should be kept uncontaminated; in place of the filtered water in the field, he prefers boiled water issued in the form of weak tea; the careful policing of the field kitchens is advised, and especially that the kitchens and latrines should be kept as far from each other as possible. He lays especial stress on the latrines and advises the pail system rather than the use of trenches, as in the former the excreta are removed from the camp altogether instead of being buried. He advocates the burning of all camp refuse so far as practicable.

3. **Naval Dietary.**—J. Falconer Hall shows in graphic form a new dietary scale for the navy compared with the old scale. The following articles have been added to the ration: Preserved meat, ¼ pound; sugar, 1 ounce; tea, ⅛ ounce; fresh vegetables, ½ pound, with fresh meat; condensed milk, ¾ ounce; jam, 2 ounces; coffee, ½ ounce; raisins, ½ ounce, with salt and preserved meat; compressed vegetables, 1 ounce, with salt pork or beef and preserved meat. The following articles have been reduced by ¼ pound per diem: fresh meat, salt pork and salt beef. The ration of chocolate has been reduced by ⅜ ounce, and that of preserved meat by 3 ounces per diem.

4. **Duties of a Medical Officer with a Regimental Unit in the Field.**—Major Donegan takes up the difficult problem of the distribution of medical officers in the field. In his opinion the senior medical officer of the force should have the power to utilize his medical officers as he thinks best, and to send them where they are wanted, instead of the cast-iron allotment per regiment. The duties of the regimental medical officer in the field are: 1. To be with his unit under fire in charge of regimental bearers; 2, to see the morning sick of his corps, and to send such sick, other than those suffering from minor ailments, to the brigade field hospital; 3, to attend to the sanitation of the camp, as far as it pertains to his own unit. He proposes to modify the present system so that with an ample supply of medical officers a surplus medical officer is detailed to each unit on the understanding that his appointment is temporary and that he can be transferred whenever required. He regards the equipment issued to the medical officer excessive and cumbersome, and suggests that the regimental medical case should contain modern tooth instruments, a surgeon's pocket case, some forceps, retractors, tourniquets, ligatures in bottles, chloroform in capsules, two waterproof sheets and two small dressing trays, antiseptic tablets, adhesive plaster, bandages, dressings and syringes. For medical assistance he would add two thermometers, one stethoscope, one hypodermic syringe, with extra needles, a pocket case of medicine, a strong candle reading lamp, spare bandages, surgical dressings, etc. He would divide the equipment of the unit into three classes: 1. The ordinary equipment, which consists of the hospital complete; 2, modified equipment in which all is left behind that is not urgently required, and 3, emergency equipment. He attaches the greatest importance to first field dressings and suggests that instead of having the dressing carried in the pocket of the jacket, which is likely to be discarded in hot weather or in action, it should be made a part of the bandolier, properly sealed up. Transport to a medical unit is all important as without transportation the unit is powerless to be of the slightest assistance. The author recommends, therefore, that all ambulance wagons and medical equipment wagons should be directly under the orders of the medical officer.

5. **Sterilization of Infective Discharges and Utensils in Field Service.**—Davies gives the following four methods of dealing with infective discharges as the only ones that are likely to be carried out in practice: 1. Burial in earth, either in deep or shallow trenches; 2, treatment with disinfectants followed by burial; 3, sterilization by moist heat, followed by burial; 4, destruction by fire—that is, incineration.

The Lancet, London.

August 6.

7 *Cerebral Invasion of Pathogenic and Pyogenic Organisms and on the Choice of Ligatures. William Macewen.
8 Bright's Disease and Its Varieties. John Rose Bradford.
9 *Diaphragmatic Hernia of the Stomach and on Torsion of the Small Omentum and Volvulus of the Stomach in Association with It. R. Lawford Knaggs.
10 *Heart Lesions: Some Points in Their Diagnosis and Treatment. John Hill Abram.
11 Relation of Inebriety to Insanity and Its Treatment. Robert Jones.
12 *Contribution to the Sero-therapeutic Treatment of Anthrax; Two Cases of General Anthrax Infection in Man Cured with Anti-anthrax Serum. Ivo Bandi.
13 Case of Removal of the Appendix on a Royal Mail Steamer at Sea; Recovery. T. H. Macfie.
14 *Note on Home-made "Humanised" Milk. C. Beauchamp Hall.
15 Extra-uterine Gestation; a Full-term Child Removed by Operation Four Months After Fetal Death. George E. Wherry.

7. **Cerebral Invasion of Pathogenic Germs.**—Macewen says that the anatomic features are often secondary determining factors between abscess and meningitis, and in the latter case between localized and generalized lesions. If the access of the pyogenic organisms has been by way of the tegmen or the sigmoid, abscess of the brain or cerebellum is frequent, and if meningitis results it is, at least, primarily localized, does not immediately involve vital structures, and is often amenable to prompt treatment. If the pyogenic organisms have traveled by way of the internal auditory meatus they occasion leptomeningitis of a serious kind on account of its being basal, early involving the medulla and respiratory centers; and, secondarily, on account of its inaccessibility. Abscess of the brain seldom or never occurs by pyogenic organisms traveling by way of the internal auditory meatus. Pus in the meshes of the pia mater and arachnoid occasionally produces softening and ulceration of the brain surface, but not abscess of the brain. Patients affected with tubercle of the middle ear, with rupture of the membrana tympani are subject to secondary pyogenic invasion, which runs a rapid course. The author also discusses the choice of suitable material for ligatures and sutures and the requirements of the living tissue relative to them. Catgut is one of the best of these materials, but care ought to be exercised in choosing good material. For ligatures and sutures raw catgut ought to be selected, preference being given to such

specimens as present the best physical properties and show that care has been bestowed on their manufacture. Before use the catgut should be placed in a solution which increases the resistance of the gut to the action of living tissue. As the resistance required varies according to the use to which the catgut is put, so the catgut is prepared with various degrees of resisting power; some hanks are prepared for rapid absorption, and some are prepared to resist absorption for long periods. The gut must not be hardened in such a way as to prevent leucocytal penetration, otherwise it will be too resistant, and be no better than silk or wire. One of the best media to be used for this purpose is one consisting of an aqueous solution of chromic acid and glycerin in definite proportions. The longer the catgut is kept in this solution the more resistant it becomes. After it has been prepared properly it is stored in a carbolized glycerin solution for two weeks, when it is ready for use. The greater the vascularity of the part the quicker will be the absorption, while marked avascularity retards absorption. Over-contraction of the tissues or over-tightening of the suture at the time of introduction also retard absorption, and so, too, the introduction of the gut into tissues deprived of their vascularity or the vitality of which is otherwise lowered. In the midst of suppuration, an impervious suture is the best. If catgut is introduced into a collection of fluid in the midst of living tissue, it will remain for weeks macerated but still intact. It is evident that maceration does not account for absorption. The use of proper material, such as is described in the article, is of service in facilitating wound healing. It is no longer necessary to disturb the patient by dressing in order to remove sutures which, after they have served their function, will be removed perfectly by the activity of the living cells in the patient's body.

9. **Diaphragmatic Hernia of the Stomach.**—Knaggs considers diaphragmatic hernia of the stomach and torsion of the small omentum and volvulus of the stomach in association with it, with reference to the causes, symptoms, pathology and treatment, and reports four cases.

10. **Diagnosis and Treatment of Hernia.**—Abram emphasizes the importance of thorough and careful examinations of the heart when symptoms, such as palpitation, murmurs of hemic origin and hemoptysis, exist. Oftentimes they are an evidence of disease of the nervous system or of tumors pressing on nerves. A cursory examination is insufficient. Auscultation alone will not disclose the actual condition; a careful physical examination is necessary. The author discusses the treatment with reference to (1) compensation practically equal to the lesion; (2) compensation only equal to the lesion when the patient is at rest, and (3) compensation unequal to the lesion, but offers nothing new.

12. **Serum Treatment of Anthrax.**—Bandi reports two cases of general anthrax infection in man that were cured with anti-anthrax serum. In both cases the clinical and bacteriologic examination confirmed the diagnosis. The serum was used when the signs of serious general poisoning were chiefly apparent in the edema which had spread far from the primitive seat of infection, in grave disturbances of the circulation and in the evident lesions of the kidneys. In the first, the most serious of the two cases, the action of the serum was rapidly decisive when free cauterization of the primary focus of infection had completely failed. The double action of the serum was evident, its anti-bacterial power shown by the arrest of the infection, and its antitoxic power by the improvement in the general condition and by the complete restitution of the renal function immediately after the use of the serum. The author insists on the necessity of treating such severe cases energetically by injecting into the veins large doses of the serum. In the first case 150 c.c. were injected intravenously; no subcutaneous injection was made. In the second case he injected 80 c.c. intravenously and 30 c.c. subcutaneously.

14. **"Humanized" Milk.**—Hall vaunts the excellency of his method of preparing cow's milk to be used by infants. He calls the final product "humanized" milk. In preparing he makes use of a tablet containing sufficient rennet to curdle half a pint of milk, one and a half grains of bicarbonate of sodium, one-half grain of calcium phosphate, and five grains of lactose. These tablets make a mixture almost identical with human milk. The "humanized" milk is prepared as follows: Boil or sterilize half a pint of cow's milk. Skim another half a pint and add it to the first half pint. Crush one tablet, and when the skimmed half pint has been heated to 100 F. add the tablet, stir, and keep it about the same temperature for twenty minutes. Separate the curd thus produced and boil the whey for two minutes. Add this whey to the first half-pint of milk, and to this mixture add three ounces (6 tablespoonfuls) of boiled or sterilized cow's milk. Soak all vessels used in boiling water before and after using. The quantities given in these directions make one pint. This method has proven extremely satisfactory in the author's experience.

Medical Press and Circular, London.

July 18.

16 The Diminishing Birth Rate. (To be continued.) David Walsh.
17 A Criticism of the Mosquito Theory of Infection in Malaria and Yellow Fever. L. Cheinisse.
18 *The Criminal Responsibility of the Alcoholic. Wm. C. Sullivan.
19 The Vestiges of Syphilis. Frank H. Barendt.

18. **Criminal Responsibility of the Alcoholic.**—The question of responsibility, says Sullivan, arises in connection with three conditions: (1) Chronic alcoholic insanity; (2) delirium tremens and (3) the dreamy mental state of morbid drunkenness. The admission of morbid drunkenness as a condition excluding full responsibility is especially desirable in that it would further the trend of public opinion to adopt preventive measures against the criminal alcoholic. When the chronic alcoholic has once shown the disposition to dream states with impulsive tendencies, especially homicidal or suicidal, he ought to be dealt with on the same footing as the impulsive epileptic —immune from ordinary punishment, but unfit for ordinary freedom.

Bulletin de l'Académie de Médecine, Paris.

20 (LXVIII, No. 28.) *Etude pharmacodynamique de la stovaine. Pouchet.
21 La cure fermée de la tuberculose pulmonaire et de la scrofulose dans les établissements d'assistance situées sur les rives françaises de la Méditerranée. E. Vidal.
22 (No. 29.) *Sur l'emploi du brome dans le traitement des angines et de la diphthérie en particulier. Bascoul.
23 Nouvean réactif du brome. Ibid.
24 Carcinose prostato-pelvienne diffuse, à marche aigue, guérie par la radiothérapie. A. Imbert.

20. **Stovaine.**—The new synthetic analgesic has shown itself in experimental tests similar in its action to cocain. It abolishes the vital properties of the cells with which it comes in contact and acts as a poison to the central nervous system. It is considerably less toxic than cocain, and this, in connection with its tonic action on the heart, its antithermic action and its antiseptic properties, promise a fine future for it from the therapeutic point of view. Huchard related a number of clinical experiences with it during the last two months. He found it most effectual when injected along the course of an aching nerve and in epidural injections. Not the slightest symptom of intolerance was observed after injection of 1 to 3 cg., even when the patients neglected to lie down afterward. (See page 575, in last issue.)

22. **Bromin in Treatment of Diphtheria.**—Bascoul practices in Algiers, where it is not always possible to obtain fresh anti-diphtheria serum. In the lack of it, he uses bromin, and states that seven years of experience with it have demonstrated its great efficacy. He administers five to ten drops of bromin in 200 gm. of sweetened water, with 3 gm. of potassium iodid. He uses for a gargle the same with 20 to 30 drops of the bromin. He applies this treatment to all kinds of sore throats, including those of the eruptive fevers, and has found it both certain and effectual.

Semaine Médicale, Paris.

25 (XXIV, No. 30.) Applications et technique de la jejunostomie. F. Lejars.

Berliner klinische Wochenschrift.

26 (XLI, No. 27.) *Zur Aetiologie der sog. "acuten katarrhalischen Gelenkeiterung." W. von Brunn (Marburg).

27 Precipitation of Antibodies and Its Application in Pathology. D. Maragliano.—Der Präcipitationsvorgang und seine Anwendung in der Pathologie.
28 *Zur Differential-Diagnose zwischen motorischer Insufficienz und Hypersecretion des Magens (of stomach). H. Strauss.
29 *Larynx-Tuberculose und künstliche Unterbrechung der Gravidität. R. Sokolowsky (Königsberg).
30 *Ueber die Verwendung von Borax bei der Behandlung der Epilepsie. J. Hoppe.
31 Mode of Action and Limitations of Action of Antibacterial Curative Serums. Sobernheim (Halle).—Ueber Wirkungsweise und Wirkungsgrenzen der antibacteriellen Heilsera. (Commenced in No. 26.)
32 (No. 28.) Case of Acute Intoxication with Potassium Bichromate with Spontaneous Glycosuria, Cured by Rinsing Out the Stomach with Silver Nitrate According to R. v. Jaksch. A. Lohr (Prague). Fall acuter Chromvergiftung, etc.
33 *Das Lecithin-Gehalt von Fett-Extracten der Niere (of kidney). E. K. Durham (New York).
34 *Nail Healed in Heart. M. Koch (Berlin).—Ueber einen im linken Ventrikel des Herzens eingeheilten eisernen Fremdkörper.
35 Neuer Fortschritt in der chirurgischen Behandlung der otogenen Septicopyemie (progress in). Voss (Berlin).
36 Einiger Bemerkungen über adenoide Vegetationen. W. Lublinski.
37 *Zur Diagnose und Therapie der Tabes. E. Coester. (Commenced in No. 27.)
38 (No. 29.) Evolution of Psychiatry. T. Ziehen.—Die Entwicklungsstadien der P.
39 Ueber motorische Reiz-Erscheinungen im Pharynx und Larynx. Sinnhuber.
40 *Zur Behandlung einseitiger Thoraxschrumpfungen (unilateral contraction of chest). von Criegern (Quincke's clinic, Kiel).
41 *Zum therapeutischen Werth der Dreyerschen Sensibilisirungs-Methode. R. Spiethoff (Berlin).
42 Ueber den mechanischen Reiz im strömenden Bade (mechanical stimulus in flowing bath). T. Groedel (Nauheim).
43 Embryologic Study of Anomalies in Buttocks Region. T. Brugsch.—Klinisches und Entwicklungsgeschichtliches über die Bedeutung der congenitalen Anomalien der Haut der Steissgegend (Steiss-Grübchen, -Fistel, -Cyste und Haarbildungen).

26. **Acute Catarrhal Arthritis.**—This communication from Küster's clinic describes 2 cases of pneumococcic arthritis, which, the author states, bring the number on record to 55. The patients were 11 months and 16 years old, and the cases confirm the assumed benignity of such pneumococcic processes in children. They were treated by puncture, aspiration and injections of iodoform-glycerin, but severer cases require more vigorous measures. In the infant there was a mixed infection with the proteus, and in the other a pneumococcic knee trouble coinciding with an acute osteomyelitis of the femur on the same side, but caused by a diplococcus of another kind.

28. **Differential Diagnosis of Gastric Motility and Hypersecretion.**—Strauss claims priority for Elsner's test (described in THE JOURNAL recently, page 360), and adds that his technic is simpler and more reliable. His name for it is the "Schichtungsprobe," which may be translated the "stratification test," as it is based on comparison of the spontaneous sediment with the total amount of stomach content. His detailed article on the subject and his conclusions have just been published in the Riegel *Festschrift*, which forms vol. iii of the *Zeitschrift f. klin. Med.* He does not accept the findings of the stratification quotient with as much confidence as Elsner, as he found a quotient of 60 per cent. and over in certain cases with free HCl, and not a trace of motor disturbances. He has also found quotients of 4 to 8 per cent., both with and without motor incompetency.

29. **Laryngeal Tuberculosis and Pregnancy.**—Sokolowsky advocated interruption of the pregnancy in 2 women with advanced laryngeal tuberculosis. The disease had made giant strides during the pregnancy, which was in the sixth and eight months when the patients were first seen. Both succumbed within four weeks of the artificial delivery. Goldkesen's 2 patients, under similar circumstances, died in three weeks. Notwithstanding these unfortunate occurrences, the author reaffirms the importance and value of interrupting the pregnancy in every case of progressive laryngeal tuberculosis, but insists that it should be done during the first months of gestation. He examines every woman with laryngeal tuberculosis for a possible pregnancy, and advocates artificial sterilization of such women.

30. **Borax in Epilepsy.**—Hoppe's observation of 12 epileptics treated with borax suggests that it may be found useful in the cases of epilepsy which are unfavorably affected by some existing stomach trouble. Unmistakable benefit was apparent in 5 cases, although the borax has no specific influence on the disease.

33. **Lecithin in the Kidney.**—Dunham's analysis has shown that the lecithin in the kidney deserves far more attention than hitherto accorded. An alcohol-chloroform extract of kidney tissue contains much more lecithin than heretofore supposed, although the kidney can by no means be regarded as a deposit of fat.

34. **Nail Healed in Heart.**—Koch found a nail, 3 cm. long and from 1.75 to 3 mm. thick, as a necropsy surprise in the heart of a robust man of 72, formerly a woodworker, who had died of senile bronchitis. He reviews the literature on the subject, and states his grounds for the assumption that the nail had been suddenly driven into the heart from without; its direction, its position in the left ventricle and fixation in the septum, and the absence of any changes in the pericardium. The family knew of no traumatism.

37. **Diagnosis and Treatment of Tabes.**—Coester practices at Wiesbaden, and has frequently had occasion to diagnose tabes in persons sent to the spa on another diagnosis—rheumatism, neuralgia, etc. He emphasizes the importance of an early diagnosis in order to institute mercurial treatment before the lesions have become irreparable. From a material of 102 cases he warns that the first lightning, lancinating pains in tabes are almost invariably supposed to be rheumatic in their nature. They generally appear first in the legs. Paresthesias should also suggest the possibility of tabes, and also variations in sensibility. Hypalgesia to analgesia is a particularly valuable sign of incipient tabes, especially when asymmetric. His experience emphatically corroborates the view that tabes can be modified and even cured by mercurial treatment, or at least arrested in its progress. The main thing is to institute it in the early stages. Mercurial treatment never proved injurious in any of his cases. He reports a number in detail. One patient was a woman of 33, who complained that she had had severe headaches since the first of her ten years of married life, had aborted once, and had had transient abducent paralysis and double vision, the paralysis yielding to salicylates. The headaches were chiefly occipital and in the region of the root of the nose, and there were occasional pains in the limbs, with hypesthesia and hypalgesia in the legs. The diagnosis was at first hysteroneurasthenia with chlorosis, and the patient improved under arsenic and iron, electricity and baths. She passed through a normal pregnancy, but afterward grew worse, and when seen again the diagnosis of typical tabes was unmistakable. It probably had existed for many years, the headaches the first tangible symptom. Years had been wasted on a diagnosis of gout and rheumatism. The idea of mercurial treatment was suggested, but derided by a consultant, and slight transient improvement was realized under other measures. The intolerable pains, gastric crises and frequent vomiting compelled the use of morphin. Inunctions were finally commenced, resulting in the complete cessation of the pains and gastric crises. The unmistakable benefit in this case proved an incentive to further application of specific treatment, but as all the cases observed were in the long-established stage, the results were not what may be anticipated when commenced in the incipency of tabes. This hope is justified by the recent announcements from France that lymphocytosis in the cerebrospinal fluid is a constant phenomenon in tabes and progressive paralysis.

40. **Treatment of Unilateral Contraction of Thorax.**—The thorax is frequently found to be contracted on the side that has been the seat of some pleura or lung affection. This is combated at Quincke's clinic by strapping in the sound side. An apparatus is applied, shown in the illustration, which presses on the sound side, four strips of metal reaching from the shoulder nearly to the thigh on the affected side, the whole held in place by a ring around the thigh and straps around the shoulder.

41. **Phototherapy After Sensibilization.**—Spiethoff reports from Lesser's clinic 6 cases of lupus treated on the lines sug-

gested by Dreyer, noticed editorially on page 404. The results were entirely negative.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 522.

44 (XXVIII, No. 17.) *Zur Ureteren-Chirurgie. H. Füth (Zweifel's clinic, Leipsic).
45 *Zur Vermeidung der Ventrofixatio uteri (avoidance of). F. Spaeth (Hamburg).
46 Fall von Ovarial-Cyste bei einem 10 jährigen Mädchen mit Stiel-Torsion. Volvulus des S romanum. A. Karczewski.
47 Detached Head in Parametrium. P. Rathcke.—Ein abgerissener Kopf im P.
48 (No. 18.) Fall von Chorio-Epitheliom. S. v. Zaborsky.
49 *Responsibility of Operator. R. Kossmann.—Die Verantwortlichkeit des Op.
50 *To Prevent Leaving Sponges in Abdomen. H. Kreutzmann (San Francisco).—Ein kleines Hilfsmittel das Zurücklassen von Tüchern in der Banchhöhle nach Operationen zu vermeiden.
51 (No. 19.) Schonende oder forcierte Enthbindung bei Eklampsie (conservative or forcible delivery in eclampsia). Kroemer.
52 Physiologic Behavior of Lower Segment of Uterns During Childbirth. F. d'Erchia.—Ueber das physiol. Verhalten, etc.
53 Cervix-Frage und unteres Uterin-Segment. O. Schaeffer.
54 Neuer Dilatator zur Uterus-Dilatation nach Bossi. G. Walcher.
55 Ein neuer gynäkologischer Untersuchungs-Stuhl (examining chair). Fleurent (Colmar).
56 (N. 20.) Fall von akutem Hydramnion bei Zwillingsschwangerschaft (twin pregnancy). R. Mond.
57 Zur Bestimmung des geraden Durchmessers des Beckeneinganges (diameter of inlet). H. Sellheim.
58 Vaginal Cesarean Section in Case of Placenta Previa. P. Steffeck. Reply to Dührssen. See abstract 41, page 230.
59 Tamponing After Vaginal Cesarean Section. R. Ruhl. Ibid.

44. Surgery of Ureters.—Füth describes a case in which the functional test of the kidneys described in THE JOURNAL of Jan. 2, 1904, page 69, proved of decided benefit and enabled the patient to be relieved of a fistula and restored to health. The test was devised by Voelcker and Joseph and consists in the behavior of the kidneys after injection of 4 c.c. of a tepid solution of .4 gm. carminum ceruleum in 10 c.c. of physiologie salt solution. The injection was made in the buttocks. It was supplemented by catheterization of the ureters, the findings showing that there was a small leak in the ureter, causing the persistence of the fistula.

45. Avoidance of Ventrofixation.—Spaeth has found that in certain cases of backward displacement the adhesions, etc., are so extensive that if the uterus is allowed to sink back into its former place it soon grows as firmly in this malposition as before. Ventrofixation prevents this, but is sometimes followed by dysmenorrheic disturbances. To avoid this he has treated three patients by drawing the round ligament on each side through the internal inguinal ring and fastening the loop of the ligament in such a way that the uterus is held securely in its proper position. A further advantage of this technic is as a prophylactic of hernia.

49. Responsibility of the Surgeon.—Kossmann urgently recommends surgeons to take out an insurance policy in some responsible society that insures physicians and surgeons against damage suits, etc. He pays less than $3 a year and is guaranteed against financial loss from any suit resulting from his professional acts or those of any person for whom he is legally responsible. He further asks the husband, parent or guardian of each patient entering the hospital in his charge to sign a certificate expressing their acquiescence in every measure which he, as the physician, thinks advisable. He has never encountered any unwillingness to sign the certificate. In conclusion, he urges the surgeon to act on the aggressive. Without waiting for a criminal suit to be instituted, so soon as he learns that parties are contemplating such a step and are accusing him of malpractice, he should at once sue them for libel and place them on the defensive, instead of waiting to be attacked himself. He will in most cases find that the other parties will apologize and retract their statements, after which he can withdraw his suit. He adds that charlatans, and faddists generally, frequently pore over medical journals to find loopholes for attack, and advises medical writers to be cautious in making statements that can be misconstrued or exaggerated to the harm of the profession.

50. To Prevent Overlooking of Sponges, Etc., During Operations.—Kreutzmann has the compresses tied up in packages containing a dozen, and each dozen is plainly marked with indelible ink, 1, 2, 3, etc., or I, II, III, etc., or A, B, C, or a, b, c, etc. Each package has thus its separate identity and the sponges from one can not be confounded with those from another package. Before the operation he himself counts the compresses in each pile, to make sure that the dozen is complete. After the operation all the compresses are thrown on the floor in rows corresponding to the original piles, and he glances over the rows to make sure that the dozens are all there. He had a very narrow escape not long ago from leaving a compress in the abdomen, and since then has been taking these extra precautions which render such mistakes impossible.

Deutsche med. Wochenschrift, Berlin and Leipsic.

60 (XXX, No. 29.) *Ueber ultramikroskopisch sichtbare Blutbestandteile (elements of blood). E. Rachlmann (Weimar).
61 *Zur myasthenischen Paralyse. H. Oppenheim (Berlin).
62 Ueber posttraumatische Meningitis. H. Curschmann.
63 Zur Diagnostik des pathologischen Rausches (intoxication). R. Kutner.
64 *Primäre Diphtherie eines Nierenbeckens, durch Operation geheilt (renal pelvis). F. Krause (Berlin).
65 *Zur Diagnose und Behandlung der Azoospermie. C. Posner and J. Cohn.
66 Ein zweckmässiger Apparat zur Anwendung des Katheterismus bei Ohrenkranken (in aural affections). Voss (Berlin).
67 Zur Aetiologie und Therapie, speziell Balneotherapie, der Psoriasis vulgaris. H. Kobner.
68 *Scalp und Lids. W. Albrand.—Kopfhaut und Lidrand.
69 Die pathologische Physiologie an den Universitäten Oesterreich-Ungarns (Austro-Hungary). A. Bickel (Berlin).
70 (No. 30.) *Ueber Ulcus rodens. P. Grawitz (Greifswald).
71 *Neuere Erfahrungen über die Therapie der perniziösen Anämien. E. Grawitz.
72 *Nasenverkleinerungen (reduction of size of nose). J. Joseph.
73 *Erfahrungen mit der Marx-Ehrnroothschen Methode zur forensischen Unterscheidung von Menschen- und Tierblut (biologic blood test). H. Pfeiffer.
74 Acute Inflammatory Edema of Larynx from a Scald. Schultz. —Ueber das akut entzündliche Oedem des Kehlkopfs durch Verbrennung, bezw. Verbrühung.
75 Judicial Proceedings Affecting Physicians. Flügge.—Die Rechtsprechung in ärztlichen Angelegenheiten.
76 V. Cyrim. Obituary.

60. Ultramicroscopic Findings in the Blood.—The new ultramicroscope has revealed some hitherto unknown phenomena in the blood elements. Rachlmann gives several illustrations of views of the blood cells, showing that they contain several little round bodies previously ignored. Also that these bodies and the granules are in perpetual, active movement inside the cells, hopping around and to and fro for nearly half an hour after the blood has been drawn. These findings were constant in man, animals and fishes in all the researches The serum and serous fluids also contain numerous particles of albumin in suspension, resembling yellow balls and gray dots, all hopping around in a lively manner, constantly changing their shape as well as place. He thinks that these findings are important from the point of view of metabolism and the vital processes in general.

61. Myasthenic Paralysis.—Oppenheim's patient was an otherwise healthy metal-worker, 47 years old, who noted the sudden development of paralysis of both internal recti, with crossed double vision, fluctuating in intensity. For an hour after waking in the morning he was free from symptoms. The "myasthenic reaction" could be elicited from the left deltoid muscle. Electric tests of apparently sound muscles are the best means of differentiating such a case from tabes. Further evidence is the finding of the almost inevitable accompanying congenital anomaly of some kind; in this case it was polydactylia. Foci of cellular infiltration have also been found in the muscles, with intact nervous system, in case of myasthenic paralysis. Such foci are explained by Weigert as metastases of a malignant tumor, originating in the thymus. The tumefied, degenerated remains of the thymus have some further share, probably, in the production of myasthenic paralysis. This confirms the assumption that it is rooted in the soil of a congenital tendency, the German Anlage.

64. Operative Cure of Primary Diphtheria of Kidney.—Krause remarks that he has not heard of a case of kidney inflammation, treated by surgical intervention, in which the trouble was due to a pseudo-membranous affection, as in the case he describes. A young woman suffered from pains in the right side and back almost constantly during her first pregnancy. Soon afterward she was struck in the right side and the pains recurred, with vomiting and bloody urine, for a week

or so. A few weeks later symptoms of severe, acute right nephritis developed, with retention. Krause opened up the right kidney and found a pseudomembranous process in the pelvis, with multiple, acute interstitial nephritis, but no suppuration, evidently on a predisposed soil. The findings suggested primary diphtheria, although the Gram was negative. The kidney was cleansed of the necrotic masses and held in the wound by loosely tamponing bandages after it had been opened like an open book, the raw surfaces covered with gauze. Krause thus opens up all cases of kidney suppuration on which he operates, and his experience has been extremely satisfactory with this technic. The kidney gradually subsides into place. In the case described the cleft was only 3 cm. deep by the seventeenth day and the wound had entirely healed a month later, the patient gaining 15 pounds and dismissed in good health.

65. **Azoospermia.**—Posner and Cohn have encountered 35 cases of azoospermia in the last three years, and have treated 6 patients by making an anastomosis between the severed vas deferens and the head of the epididymis. They state that they were inspired to this step by the success of similar operations on animals and man by Seaduto, Razumowski and Bogoljuboff in Europe, and by Martin, Carnett, Levi and Pennington in this country. The interval between the undoubted cause of the obliteration—gonorrhea or mumps, or both—and the plastic operation was four to twenty-seven years, the average nine. The length of the interval is probably responsible for the lack of functional success in every instance. The operation was well tolerated and the wound healed rapidly. If undertaken earlier, while the *vis a tergo* is still adequate, functional success would be the rule. They base their diagnosis on puncture of the testicle, when positive. Negative results compel further exploratory measures. The spermatozoa may not be motile; the prostatic secretion may be necessary for this. The stricture is usually multiple. Physicians should strive to prevent obliteration of the passages by relics of gonorrheal or other inflammatory processes. After the acute stage is passed systematic massage by Zabludowski's technic, iodin internally and similar preventive measures might be found useful. Thiosinamin might possibly be used to advantage in these cases. In any event, the physician should examine the semen occasionally after subsidence of an acute epididymitis, and as soon as azoospermia is discovered the patient should be instructed and prompt measures advised. Semen can usually be obtained for examination by pressure on the prostate applied through the rectum, examining the urine also.

68. **Eyelid Affections and the Scalp.**—Albrand declares that it is absurd to neglect examination of the adjacent part of the scalp in case of lesions of the lids. The scalp has almost as much to do with the pathology of the lids as the lachrymal ducts.

70. **Ulcus Rodens.**—Grawitz presents arguments to support his assumption of the epithelial nature of ulcus rodens. The article is illustrated. He does not credit the existence of endotheliomata of the skin.

71. **Successful Treatment of Pernicious Anemia.**—Grawitz is amazed that so little attention is paid to the treatment of pernicious anemia on the basis of an enterogenic origin. The disease is only a secondary, severe degeneration of the blood cells with vigorous regenerative activity on the part of the marrow. It is explainable by the assumption of some poison acting on the erythrocytes. The poison may come from without (lead, arsenic, morphin, carbonic acid, etc.), but in the majority the poison is of auto-origin, absorbed from the intestines and acting as a specific toxin for the blood in predisposed subjects. Cases of this latter kind can be cured by putting an end to the autointoxication, while the ideas that they are incurable, or to be treated only by albumin dieting and arsenic, are equally absurd. He describes several cases out of his large experience of cures of pernicious anemia. Case 1 was a multipara, 38 years old, a milk-man's wife, who presented the typical picture of pernicious anemia of sudden onset, with, beside the blood findings, edema, retinal hemorrhages and intense prostration, enlarged spleen, slight icterus and ascites and slight temperature. The teeth were badly decayed, the bowels torpid, the gastric motor function defective, and no free HCl could be discovered. No medicines were given, but the mouth was put in good order and the diet restricted to vegetables and cereals, all mashed or in porridge form. The stomach was rinsed out daily with tepid salt solution, and lemonade taken freely. The animal albumin needed was given in the form of nutrient enemata after rinsing out the intestines with peppermint tea or salt solution. A few drops of digitalis were given at first, but otherwise no medication. Within a week the edema had subsided and the hemorrhages had been absorbed. By the end of the second week the blood findings began to return to normal, and by the end of the month the patient had gained 18 pounds. The nutrient enemata were discontinued during the third week, and the dietary enlarged, but the foods were all soft. A little hydrochloric acid was then given and Fowler's solution. The patient was dismissed the picture of health, but returned before the year was out with a protracted suppurative pyelonephritis, to which she succumbed, but the blood findings never resembled those of pernicious anemia. Case 2 was a workingman of 48, with acute delirium, râles at the apices, absence of free HCl, with the presence of albumin and indican in the urine, with the blood findings of pernicious anemia. He was treated the same as Case 1; no drugs, except a few drops of hydrochloric acid. Recovery was rapid, and the patient gained 23 pounds in four months. The article is continued.

72. **Reduction of Size of Nose.**—Joseph gives illustrations of a few of the 43 patients for whom he has remodeled the nose. He describes his technic of intranasal reduction of the protuberant bones, not incising the skin, and also his technic when the operation is done from without. The scar is minimal, while the cosmetic results are perfect especially with the "scarless" method.

73. **Value of the Marx-Ehrnrooth Biologic Test.** Pfeiffer's experience with this test, which was described on page 1393 of the last volume, was eminently corroborative of the author's statements. Its chief value is for the control of the biologic blood test.

Münchener medicinische Wochenschrift.

77 (LI, No. 26.) *Neuere Untersuchungen über den Keimgehalt der gesunden unteren Luftwege und über die Pathogenese der Pneumonie. H. Dürck (Munich).

78 *Participation of Oxygen in Action of Fluorescent Substances. A. Jodlbauer and H. v. Tappeiner (Munich).—Ueber die Beteiligung des Sauerstoffes bei der photodynamischen Wirkung fluoreszierender Stoffe.

79 Ueber radioaktive Substanz der Nauheimer Quellen (of Nauheim waters). Schott (Nauheim).

80 Eine Graviditäts-Toxonose des Zentral-Nerven-Systems. I. Bauer (Heidelberg).

81 *Ueber eine während der Gravidität rezidivierende Epilepsie II. Curschmann.

82 Der Standpunkt der Münchener chirurg. Klinik in der Frage der Appendizitis- und Perityphlitis-Therapie. Gebele.

83 Ueber Cova vara. F. Hirtzog (Leipsic).

84 *Ein registrierendes Thermometer für Körper Temperatur Franz (Berlin).

85 *Ein Minuten-Sterilisator. F. Kuhn (Carlsruhe).

86 Ein Spül-Katheter für die Blase nach Dommer (rinsing catheter for the bladder). F. Dommer.

87 Juvenile Muskel Dystrophie bei einem älteren Manne nach Trauma (in elderly man). von Hosslin.

88 *Beiträge zur experimentellen Begründung der Pettenkofer'schen lokalistischen Cholera- und Typhus Lehre (soil in etiology of cholera and typhoid). R. Emmerich and W. Gemünd (Munich). (Commenced in No. 25.)

89 History in Medical Instruction. M. Seiffert (Leipsic). Aufgabe und Stellung der Geschichte im medizinischen Unterricht.

90 (No. 27.) Ueber Reaktionen anorganischer Kolloide und Immun-Körper Reaktionen. K. Landsteiner and N. Jagic

91 *Blood Platelets and Coagulation. R. Bürker (Tübingen). Blutplättchen und Blutgerinnung.

92 Retinal Nerve Cells. Birch-Hirschfeld (Leipsic). Die Nerven Zellen der Netzhaut unter physiologischer und pathologischen Verhältnissen mit bes. Berücksichtigung der Blendung (Finsen, Röntgen, Radium).

93 *Die agonale Leukozytose. J. Arneth.

94 *Ueber die ammoniakalische Reaktion des Harns bei Phosphaturie und über Phosphaturie und Ammoniurie als objektive Symptome von Psychosen. W. Heinicke.

95 Die non operative Behandlung der Ohrentzündungen (ear inflammations). R. Panse (Dresden).

96 Zur Aetiologie der Melaena neonatorum. F. Bauer.

97 Erythrozytose (Hyperglobulie) und Splenomegalie. Zaudy.

98 Centrier Vorrichtung für Röntgen-Röhren. Blenden Kästchen (diaphragms). R. Grashey (Munich).

99 (No. 28.) Ueber den Gebrauch des Morphiums bei Herzkranken (in heart disease). K. Grassmann (Munich).

100 Zur Schilddrüsenbehandlung des congenitalen Myxödems (thyroid treatment of). K. Alt (Altmark).
101 *Zur Abortiv-Behandlung der akuten Gonorrhoe. S. Bettmann.
102 *Zur Diagnose der Pylorus-Stenose. J. Decker (Munich).
103 Neuritis optica bei Paratyphus. G. Flatau (Kiel). One case.
104 Beitrag zur primären Darm-Tuberkulose beim Kalb (intestinal tub. in calf). A. Treutlein (Würzburg).
105 Die Extraktion des hochstehenden Kopfes mit der gewöhnlichen Zange (extraction of high head with ordinary forceps). A. Calmann.
106 *Neue Technik der Cervix-Catarrh-Behandlung. Saniter.
107 Ueber intrauterine Skelettierung. F. Moebius.
108 Zur Klinik und Bakteriologie der Angina ulcerosa-membranacea. A. Uffenheimer. (Commenced in No. 27.)
109 (No. 29.) *Zur Kenntnis der Bence-Jones'schen Albuminurie. F. Voit and H. Salvendi (Erlangen).
110 Variabilität der Bakterien und Agglutinations-Phänomen. F. Passini.
111 Die Bakteriologie der Chromidrosis (colored sweat). R. Trommsdorff.
112 *Erfahrungen mit Lokal-Anesthesie durch Eucain und Eucain-Adrenalin. O. Simon (Czerny's clinic, Heidelberg).
113 Fall von inkarzerierter Zwerchfell-Hernie. Beitrag zur chirurgischen Therapie der Hernia diaphragmatica. E. Martin.
114 Die Bedeutung der pathologischen Anatomie des spinal gelähmten Muskels für die Sehnenplastik (paralyzed muscle in tendon plastics). J. Koch (Hoffa's clinic, Berlin).
115 Fate of Swallowed Foreign Bodies. Appel (Braudenburg).—Zur Frage nach dem Schicksal verschluckter Fremdkörper.
116 Ueber Iod-Catgut. H. Fuchs (Dantzic).
117 *Zur individuellen Prophylaxis des Gelb-Fiebers auf Grund der Finleyschen Contagions-Theorie (prevention of yellow fever). E. von Bassewitz (Porto-Alegre, Brazil).
118 Eine neue Modifikation des Reflektors. G. Trautmann.
119 Neuropathologie und innere Medizin. F. Schultze (Bonn).
120 W. Griesinger as Editor. K. Sudhoff.
121 Report of Libel Suit Brought by 98 Physicians of Wiesbaden Against Dr. A. Pfeiffer. See page 340.

77. **Pathogenesis of Pneumonia.**—Dürck believes that pathogenic germs are liable to be inhaled constantly into the lungs, but that they are promptly destroyed by the bactericidal forces at work there and absorbed. Those found postmortem are the latest comers, and they are usually attenuated. When the organism is depressed from any cause, especially by being chilled, the pneumococci present do not become attenuated, while the bactericidal defenses become weakened. The result is liable to be a pneumococcic infection. He placed rabbits in water just above the freezing point and kept them there for two to ten minutes, as in his experiments previously reported, but without preliminary heating. About half the animals developed foci of pneumonic consolidation in a few days. One rabbit died, and both lungs were found consolidated to leathery consistency and entirely empty of air.

78. **Oxygen in Photodynamic Fluorescence.**—This latest announcement from Tappeiner that the presence of oxygen is indispensable to the photodynamic action of fluorescent substances, supplements the editorial on page 404. He has further found that active oxygen is constantly generated in photodynamic solutions exposed to the light.

81. **Epilepsy of Pregnancy.**—This communication from Erb's clinic describes a case of genuine epilepsy which developed during a pregnancy and subsided after its termination. The observation emphasizes the fact that artificial interruption of the pregnancy is not necessary in such cases. Systematic medicinal treatment will usually mitigate the symptoms, reducing the number and the severity of the convulsions. His patient was a woman of 38, free from nervous tendencies or heredity, who had passed through 3 normal pregnancies and 3 abortions. At the beginning of the eighth month of the seventh pregnancy partial epileptic seizures occurred, recurring every second day until delivery, then becoming less frequent and vanishing completely by the end of a month. A pregnancy later was accompanied by the same convulsions, commencing at the eighth month, but much more intense and recurring sometimes twenty to thirty times a day. The attacks lasted only three minutes and there was no loss of consciousness, and no sleep afterward. Under bromid and chloral treatment the convulsions were somewhat improved, but the entire syndrome was permanently dispelled three weeks before delivery by an intercurrent, febrile infection, a bronchitis with an erysipeloid dermatitis of protracted course, accompanied by a psychosis, which lasted for two months after delivery. The convulsions in this case indicated an affection of the lower parts of both right central convolutions, with slight participation of the other parts and adjoining convolutions. The particulars of the case are given with much detail, and the connection between pregnancy and epilepsy corroborated with a review of the literature. We note in the latter de la Motte's report of a woman who had epilepsy during 3 pregnancies, terminating in the birth of boys, while no symptoms of the kind were observed in the 5 pregnancies with girls. A similar case has been reported by Van Swieten.

84. **Self-Registering Thermometer.**—Franz' "thermograph" consists of a thermometer set in a silver capsule which is fastened in the axilla. A sensitive spring in the capsule transmits to a recording drum any variations in the temperature after the maximum has been determined. The description is illustrated.

85. **A Minute Sterilizer.**—The aim is to use as little water as possible, apply the heat to as large a surface as possible, and utilize every particle of the water. Kuhn acomplishes this by means of a long, wedge-shaped trough, with a row of gas jets its entire length below.

88. **The Soil, Not the Water, the Transmitter of Cholera and Typhoid.**—Emmerich and Gemünd have been conducting extensive research which has demonstrated that the nitrates have remarkable power to enhance the virulence of cholera germs. Guinea-pigs tolerated without apparent reaction as much as 1.5 gm. sodium nitrate ingested in 10 c.c. albumin. They also tolerated a considerable amount of cholera bacilli per os. But when the two were combined the animals rapidly succumbed, with symptoms of cholera. The same result must inevitably follow when man ingests cholera bacilli and nitrates. The bacilli transform the nitrates into nitrites, and the latter cause the intoxication. Plenty of nitrates are ingested in vegetables, etc., to cause severe intoxication when transformed into nitrites by any agency. In a dry season plants contain an unusual amount of nitrates. When there are no nitrates in the stomach the action of the cholera bacilli is comparatively mild. Pettenkofer surmised that the soil, rather than the water, was the paramount factor in epidemics of cholera and this surmise has been confirmed by the research described. It establishes that the drinking-water can never be incriminated. Water is rapidly cleared of pathogenic germs by the action of protozoa, especially the flagellates. These are the guardian hosts of the drinking-water, rapidly destroying all the pathogenic bacteria that find their way into it. They accomplish this task in a few minutes in a brook or river, but may require several days for it in pure spring water. Nature has protected water against pathogenic bacteria by the hosts of protozoa, the more polluted the water the more numerous the protozoa. Typhoid and cholera bacilli multiply in the soil, not in the water, and only in the upper layers of the soil, where they can be easily reached and destroyed in combating epidemics. Flushing the ground with water would accomplish this. Fifty years ago Pettenkofer proclaimed that cholera germs might be imported and deposited in the stools, but that they alone were unable to induce an epidemic unless they encountered certain indispensable conditions, whose nature was still a mystery. Emmerich and Gemünd believe that the results of their research supply the key to this mystery, namely, that "the ripening or exaltation of the virulence of the cholera bacilli" is dependent on an increased nitrite-forming property in a soil peculiarly rich in nitrates. They are convinced that prophylaxis should be along these lines, and that it is feasible and easy of realization.

91. **Blood Platelets and Coagulation.**—Bürker proclaims that the amount of fibrin depositing is in direct proportion to the number of blood platelets destroyed in the blood. The destruction of the platelets also corresponds in time to the time of coagulation under the influence of varying temperatures. When there is no coagulation, no blood platelets will be found to have been destroyed. Coagulation in freshly-drawn blood is connected with the typical destruction of the blood plates.

93. **Agonal Leucocytosis.**—Arneth states that every disease has its special leucocytosis, and the agonal stage is merely the last phase of the specific leucocyte curve. It varies with each disease.

94. **Ammoniuria and Phosphaturia in Mental Disease.**—Heinicke in his psychiatric practice was impressed with the frequency of phosphaturia and carbonaturia in his patients. He has found manifest or latent ammoniuria or phosphaturia in every patient exhibiting a psychosis. He further noted that the urine returned to normal as the mental affection progressed toward recovery. The phosphaturia generally accompanied the height of the affection. It is possible that the subsidence of the ammoniuria or phosphaturia may be an aid in prognosis, and their absence may also serve to reveal simulation.

99. **Morphin in Heart Disease.**—Grassmann does not admit that heart affections should contraindicate the use of morphin in the usual therapeutic doses. The sudden deaths that have followed the use of morphin in rare instances are on a plane with those observed from the use of chloroform, and are not to be explained by the assumption that morphin is a poison for the heart. It should be given cautiously in acute processes in the endocardium or myocardium, as also in acute respiratory affections in persons with weak hearts. It can be given freely in all purely functional nervous heart disturbances, especially in angina pectoris not due to organic causes, and even in the organic angina pectoris, stenocardia, small doses of morphin are allowable or even indicated. It is unconditionally indicated in all severe cases of cardiac asthma, but its use is advisable only under great restrictions in the chronic dyspnea of ambulant cardiac subjects. Morphin may prove very useful when digitalis and other heart remedies fail or have lost their efficacy. It is also extremely valuable in excited, sleepless and debilitated patients as a preliminary to a course of digitalis.

101. **Abortive Treatment of Gonorrhea.**—Bettmann adds 10 gm. of protargol to 45 gm. cold water in a shallow dish and allows it to dissolve without stirring or shaking. Glycerin is then added to bring the amount to 100 gm. He prefers penciling to injecting the fluid, applying it daily to the anterior urethra for a distance of 6 to 8 cm. in cases of acute gonorrhea. Six to eight applications were sufficient in his experience with 42 patients, and no gonococci could be found thereafter in about half the number. The treatment is less disagreeable than with silver nitrate. Even in the incompletely aborted cases the course of the affection was remarkably mild. He considers this technic superior to others in vogue for several reasons, which he enumerates, especially for gonorrhea in the female, in recurrences, and in cases requiring rapid suppression of the secretion.

102. **Diagnosis of Stenosis of Pylorus.**—Decker calls attention to the fact that an almost infallible sign of pyloric stenosis is afforded by the finding of the stomach content or parts of it in a well worked up homogeneous chyme. When the motor function is defective the food remains in coarse particles, but when it is strong enough to work the food into a soft, porridge-like mass, it would certainly be able to expel the chyme from the stomach unless there were some obstruction at the pylorus. In seeking for a tumor it is generally indispensable to determine the outlines of the stomach, as the pylorus is frequently concealed by the liver. In 2 cases he differentiated the pyloric stenosis by the daily copious vomiting and hypersecretion.

106. **Improved Technic of Treating Cervical Catarrh.**—Saniter is convinced that cervical catarrh is generally restricted to this part, and cites in warning Plien's recent statement that 7 out of 9 acute cases in his experience acquired annexitis from local treatment of the cervix. Saniter attributes the infection in such cases to the cotton swab. He avoids this by using asbestos fiber for the swab. The fibers can be wound smooth around the sound or probe, and they take up the fluid as readily as cotton. The asbestos-wound probe can be held in a flame and burnt absolutely sterile. He has his Playfair sounds made with a groove along the convex side, which allows the swab to be easily pulled off without contact with the fingers. He uses microscope pincers for the purpose, as they hold the swab instead of allowing it to drop on the floor. The groove in the sound also allows more fluid to be taken up than without it. Swabs made on this principle will be found useful in rhinology, laryngology, etc., for cocainizing the urethra, cauterizing fistulas, etc.

109. **Bence-Jones' Albuminuria.**—In the case reported the Bence-Jones albuminoids were found constantly in the urine, the proportion ranging from .13 to .33 per cent. No tube casts were ever found. The patient was a man of 57, subject to gout, but otherwise apparently healthy. The blood findings showed a leucocytosis of 10,000 to 11,000, predominantly lymphocytes, up to 60 per cent. There were no indications of a bone affection, but something of the kind probably existed.

112. **Local Anesthesia with Eucain.**—The number of operations at Czerny's clinic and dispensary increased respectively from 1,717 and 1,035 in 1897 to 1,955 and 1,502 in 1902. The increase in the number done by local anesthesia alone was from 91 and 21 in 1897 to 185 and 193 in 1902. During the latter year he witnessed the death of a patient from cocain local anesthesia. Only 7 c.c. of a 1 per cent. solution of cocain had been injected into the urethra, but convulsions and arrest of the heart and respiration followed immediately. The patient was a young man with sexual neurasthenia and chronic prostatitis. The fluid had remained in the urethra only two minutes at the utmost. Since then eucain has been exclusively used for local anesthesia, with or without adrenalin, and it has been found perfectly satisfactory. It is comparatively non-toxic, while an isosmotic, warmed solution of eucain induces anesthesia as effectively as cocain in the same strength. Adrenalin enhances its action, and is free from by-effects in subcutaneous injection, in concentrations of 1 to 20,000. The Oberst technic is preferred. The list of operations done under eucain is given, 188 in all. The supplementary adrenalin was particularly valuable in extirpation of deep tumors, lipomata, adenomata of mamma and struma, excision of small tumors of tongue and lips, angiomata, in operating on the jaws, and in small plastic operations. Eucain is particularly useful as a preliminary to cystoscopy.

117. **Individual Protection Against Mosquitoes and Yellow Fever.**—Bassewitz affirms that the stegomyia absolutely refuses to bite when insect powder has been rubbed into the skin. The powder to which he refers is the pulverized flowers of the *Chrysanthemum cinerarifolia* or *rosæ*. When this powder is unadulterated and fresh, the hungriest stegomyia flees from it or dies after contact with it.

Riforma Medica, Palermo and Naples.

Last indexed page 579.

122 (XX, No. 25.) Formations Simulating the Negri Bodies in Hydrophobia. Paco (Naples).—Sopra alcune speciali formazioni eosinofile, simulanti i corpi di Negri, nelle cellule dei gangli cerebro-spinali dell' uomo idrofobo.

123 *Alterazioni anatomo-patologiche del fegato, dei reni dei polmoni, nell'avvelenamento da formalina (formalin poisoning). G. Riggio.

124 Production of Specific Antibodies by Means of Injection of Pleural and Peritoneal Exudates and Transudates. C. Quadrone (Turin).—Sopra la formazione di anticorpi specifici ottenuti mediante Iniezioni di essudati e transudati pleurici e peritoneali di natura diversa. (Commenced in No. 24.)

125 Alcune laparotomie importanti. A. Albanese (Palermo).

126 (No. 26.) *Poliartrite diplococcica. A. Baduel (Camerino).

127 La narcosi col cloruro d'etile. Studio critico riassuntivo su oltre 500 casi di narcosi (ethyl chlorid). V. Gaudiani.

128 *Azione del saccaromyces cerevisiæ sul bacterium coli nelle gastroenteritite infantili. Puoti.

123. **Intoxicant Action of Formalin.**—Riggio's conclusions from his various groups of experimental researches are to the effect that formalin is a poison which induces intense hyperemia in the organs by which it is probably eliminated. This occurs both when the poison is administered subcutaneously or by inhalation. The hyperemia is so intense that it induces hemorrhages in the liver, kidneys and lungs. The formalin has also a destructive action on the cells of these organs, as he shows in detail.

126. **Diplococcus Polyarthritis.**—Baduel's patient had first an acute pneumonia. This was followed by a slow suppurative process in the pleura in the course of which developed what was apparently an articular rheumatism, but was found to be a diplococcus affection. The syndrome had many points in common with what Marie has described as "pneumic osteo-arthropathy deformans." The joints were enlarged and the nail-

curved. Marked improvement was observed after a course of treatment with a solution of Castrocaro salts.

128. **Yeast in Infantile Gastroenteritis.**—Puoti has observed great benefit from the administration of brewers' yeast in infantile gastrointestinal affections. The symptoms are much improved, but the colon bacillus *in vitro* is not modified by the yeast. He explains its favorable action as possibly due to a modification of the toxic products of the bacteria or to its influence on the organism itself, re-enforcing its resisting powers.

Medizinskoe Obozryenie, Moscow.

Last indexed XLII, page 934.

129 (LX, No. 18.) *Gonorrheal Vulvo-vaginitis in Children. A. P. Rudsky.—O dyetskom pereloinom vulvo-vaginitye.

130 *Diagnosis of Organic Tricuspid Insufficiency Complicating Affections of Valves and Orifices of Left Heart. S. I. Schwartz.—O prizhiznennom raspoznavanii org. nedostatotchnosti trekhstvortchatago klapana, etc.

131 (No. 19.) Ob amyloidykh opukholyakh conjunctivy glaza (tumors in conjunctiva). I. F. Pozharisky.

132 27 Cases of Bone Formation Within the Eye. Ibid.—27 slutchaev obrazovaniya kosti vnutri glaza.

133 *Primyenenie limonnokislol myedi pri trachom (cupric citrate in trachoma). K. A. Sukhoff.

134 (No. 20.) Cholecystectomia plus Choledochotomia. A. T. Kablukoff.

135 *Clinical Import of Cryoscopy of Urine in Case of Pleural Effusions. P. S. Usoff.—Po povodu klin. znatcheniya kriоskopii motchi pri eksudativnom plevrit.

136 *Influence of Diphtheria Toxins on Heart and Respiration of Animals. Krasnoff.—Vliyanie diph. toksina na serdtze i dykhanie zhevotnykh.

129. **Gonorrheal Vulvo-Vaginitis in Little Girls.**—Rudsky has had occasion to treat 14 cases, and comments on the tedious course of this affection. He found that the children tolerated protargol or largin well, and he used them in a .5 to 1 per cent. solution. In every instance the urethra was involved and required the silver treatment. Eczema of the parts and anemia were the most annoying complications. He introduced the solutions into the vagina with a soft catheter. His review of articles on the subject includes a list of 64, all of European origin.

130. **Diagnosis of Organic Tricuspid Insufficiency Complicating Other Cardiac Affections.**—The first of the three cases reported with great detail was a case of mitral stenosis plus tricuspid insufficiency, with induration in one lung, chronic tumefaction of the spleen, cardiac cirrhosis of liver and universal edema. The second was one of mitral and tricuspid insufficiency, pericarditis with adhesions and arteriosclerosis. The third, a case of a mitral affection with insufficiency of the tricuspid and arteriosclerosis. Schwartz summarizes further 3 other cases of organic tricuspid insufficiency observed during a recent trip to Germany. His conclusions from study of this material are that organic tricuspid insufficiency complicating a lesion of the orifice of the left heart, is of more frequent occurrence than is generally recognized. The principal sign is the comparatively insignificant enlargement of the area of cardiac dullness toward the right, accompanying other symptoms (positive vein- and liver pulse), which, in case of relative insufficiency of the tricuspid valve, are usually accompanied by extreme degrees of dilatation of the right ventricle. The majority of authors mistakenly expatiate on the unfailing excessive dilatation of the right ventricle as the inevitable condition which differentiates organic tricuspid insufficiency. Among the auxiliary signs, secondary in importance, may be mentioned the tendency to recurring ascites and induration of the walls of the jugularis, manifested by the behavior of the pulse wave. The further course of the cases confirms the correctness of the diagnosis on this basis. Our knowledge in regard to the course and the influence of organic tricuspid insufficiency on the course of other cardiac defects is contradictory, confused, inadequate and even without any positive basis. Further study of these questions is urgently needed, and for this it is indispensable that clinical histories should be collected and published, recording the incipient phases. As a contribution to the subject he presents these 3 cases with the postmortem findings in one. They contradict in certain points the statements in the textbooks, with the exception of Merklen's work.

133. **Cupric Citrate for Trachoma.**—Sukhoff's conclusions from observation of 17 patients with trachoma, treated with cuprum citricum, are to the effect that this drug is excellent for the purpose. The applications are comparatively painless, and the absence of all irritating properties allows the treatment to be repeated two or three times a day, which ensures the rapid subjugation of the pathologic process. He used a 5 or 10 per cent. strength.

135. **Cryoscopy of Urine in Case of Pleuritic Effusions.**—Usoff has been testing Koranyi's assertion that a convenient means of obtaining information in regard to effusions is afforded by cryoscopy of the urine. The quotient of the freezing-point divided by the percentage of sodium chlorid enables the course of the effusion to be determined. This quotient parallels the variations in the amount of the pleural effusion, that is, it becomes larger in case of accumulations of fluid in the body, and grows smaller as the fluids are eliminated. Usoff gives the findings in 5 cases. They demonstrate that the quotient is liable to vary from other causes as well, fever, fluctuations in the amount of urine, etc., and that cryoscopy, therefore, can scarcely be depended on for reliable information.

136. **Influence of Diphtheria Toxin on Heart and Respiration.**—Krasnoff noted paralysis of the vasomotor centers in the medulla oblongata, and of Goltz' center in the course of experimental diphtheria in guinea-pigs. The peripheral vaso-constrictor apparatus remained unaffected. The paralysis of the vasomotor centers caused progressive decline in the blood pressure at the height of the intoxication. The heart, secondarily irritated in consequence of the changed conditions in the blood vessels and the asphyxia, feels the effect of the toxin independently in the final stage of the intoxication, the cardiac rhythm becoming irregular, although the excitability and functional activity of the heart are retained. Acute changes in the inhibiting apparatus were also observed, passing through two phases, first extreme excitability and then, paralysis of the vagus. In connection with the paralysis of the vasomotors an acute drop in the temperature was observed. Death occurred from paralysis of the respiratory apparatus.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL APPLICATION OF THE ROENTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois, and Eugene W. Caldwell, B.S., Director of the Edward N. Gibbs Memorial X-Ray Laboratory of the University and Bellevue Hospital Medical College, New York. Second Edition, Thoroughly Revised and Enlarged, with 195 Illustrations, Including Four Colored Plates. Cloth. Pp. 690. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

RADIOTHERAPY, PHOTOTHERAPY AND HIGH FREQUENCY CURRENTS. The Medical and Surgical Applications of Radiology in Diagnosis and Treatment. By Charles Warren Allen, M.D., Professor of Dermatology in the New York Post-Graduate Medical School. With 131 Engravings and 27 Plates. Cloth. Pp. 618. Price, $4.50 net. Philadelphia and New York: Lea Brothers & Co.

NORMAL HISTOLOGY. By Edward K. Dunham, Ph.B., M.D., Professor of General Pathology, Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, New York. Third Edition, Revised and Enlarged. Illustrated with 260 Engravings. Cloth. Pp. 334. Price, $2.75 net. New York and Philadelphia: Lea Brothers & Co. 1904.

A TEXT-BOOK OF PATHOLOGY. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia. With 350 Illustrations, a Number in Colors. Cloth. Pp. 818. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

ILLINOIS STATE BOARD OF HEALTH REPORT OF SANITARY INVESTIGATIONS OF THE ILLINOIS, MISSISSIPPI AND MISSOURI RIVERS with Relation to the Effect of the Sewage of the City of Chicago and the Sanitary Conditions of the Water Supplies of the Cities of Chicago and St. Louis. Cloth.

BACTERIOLOGICAL AND CLINICAL STUDIES OF THE DIARRHEAL DISEASES OF INFANCY with Reference to the Bacillus Dysenteriæ (Shiga) from the Rockefeller Institute for Medical Research. Paper. Pp. 202. Edited by Simon Flexner, M.D., and L. Emmett Holt, M.D. 1904.

A PHYSICIAN'S PRACTIAL GYNECOLOGY. By W. O. Henry, M.D., Omaha, Neb., Professor of Gynecology in the Creighton Medical College. With 5 Full-page Illustrations and 61 Illustrations in the Text. Cloth. Pp. 229. Lincoln, Neb.: The Review Press. 1902.

REPORT OF THE HEALTH OFFICER OF THE DISTRICT OF COLUMBIA, 1903. Cloth. Pp. 300. Washington: Government Printing Office. 1903.

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Original Articles.

FURTHER STUDIES OF THE INTRACELLULAR BACTERIAL TOXINS.*

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For the past eight years much of my time, so far as it could be given to research work, has been devoted to a study of the intracellular toxins of bacteria, and the purpose of this paper is to briefly state what I have accomplished along this line, and to formulate the theoretical conceptions that have grown out of this investigation. In this work I have been aided by several most competent assistants and students, all of whom have labored without any remuneration worthy of mention, except that which comes to everyone who engages in scientific research intelligently and conscientiously. In 1896 Perkins and I[1] reported the presence in a toxicogenic bacterium found in poisonous ice cream of an active body that proved to be soluble in alcohol, and in this respect, at least, as we shall see later, similar to the toxins which we have recently been studying.

In 1900, with McClymonds,[2] I was able to demonstrate that the colon germ, so frequently found in cheese, produces no soluble poison, but that the cell substance is markedly toxic. The bacterial cells were steamed and subsequently exposed for several days at 37 degrees to artificial gastric juice without destruction of their toxic properties. In 1901, with the aid of Cooley and Gelston,[3] I was able to make substantial advances. The large tanks, so necessary in order to obtain bacterial cell substance in large amount, were devised and put into operation. Without these the work since accomplished could not have been done, because the production of large amounts of bacterial cell substance free from constituents of the culture medium and free from contamination was essential before the chemistry of the cell could be successfully investigated. In a paper before the Association of American Physicians in 1901 I was able to make the following statements concerning the toxin of the colon bacillus:

1. The toxin is contained within the cell, from which it does not, at least under ordinary conditions, diffuse into the culture medium.

2. The toxin is not extracted from the cell by alcohol or ether.

3. Very dilute alkalies do not extract the toxin from the unbroken cells.

4. The unbroken germs may be heated to a high temperature with water without destruction of their toxin.

5. Boiling with a 0.2 per cent. aqueous solution of hydrochloric acid has but little, if any, effect on the germ cell or its contained toxin.

6. Heating the germ substance for an hour at the temperature of the water-bath with water containing from 1 to 5 per cent. hydrochloric acid breaks up the cell and lessens, but does not destroy, the toxicity of the cell content. Prolonged heating may render the toxin inert.

In the paper referred to I spoke several times of the bacterial cell wall, a structure which I am now satisfied has no existence.

In 1902 my students were able to make the following advances:

(*a*) Detweiler[4] showed that the cellular substance of micrococcus prodigiosus, bacillus violaceous, and sarcina aurantiaca and sarcina lutea contains poisonous bodies.

(*b*) Wheeler[5] demonstrated the presence in the cell substance of sarcina lutea of two carbohydrates, a nuclein body yielding xanthin basis (since obtained in crystalline form), and a proteid yielding hexon bases (also since obtained in crystals), thus showing that the cell is made up largely of a glyco-nucleo-proteid molecule.

(*c*) Leach[6] split up the colon bacillus, and proved that it also contains in its molecular structure carbohydrates, nuclein and proteid.

(*d*) Marshall and Gelston[7] determined with great accuracy the toxicity of the colon germ substance, and showed that with this immunity could be obtained, although it was neither marked nor permanent. The germ substance is, moreover, not a favorable agent to employ in inducing immunity on account of its insolubility.

(*e*) Gelston[8] found an intracellular toxin in the bacillus of diphtheria, and showed that commercial antitoxin gives no protection against the intracellular poison.

(*f*) J. Walter Vaughan[9] demonstrated, contrary to the findings of all other investigators along this line, that the anthrax bacillus does produce a poison, and that it is intracellular.

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee.

1. Ein in Eiscreme und Käse gefundener giftproducirender Bacillus, Archiv. f. Hygiene, 1896, xxxiii, 308.

2. Bacteriologic Poisons in Milk, Jacobi Festschrift, p. 108.

3. The Bacterial Toxins, Trans. Assn. Amer. Phys., 1901; The Toxin of the Colon Bacillus, THE JOURNAL A. M. A., Feb. 23, 1901; Amer. Med., May, 1901.

4. The Toxicity of the Dry, Sterile Cells of Certain Non-pathogenic Bacteria, Trans. Assn. Amer. Phys., 1902.

5. The Chemistry of Sarcina Lutea, Trans. Assn. Amer. Phys., 1902.

6. The Chemistry of Bacillus Coli Communis. Trans. Assn. Amer. Phys., 1902.

7. The Toxicity of the Cellular Substance of the Colon Bacillus, Trans. Assn. Amer. Phys., 1902.

8. The Intracellular Toxin of the Diphtheria Bacillus, Trans. Assn. Amer. Phys., 1902.

9. The Anthrax Toxin, Trans. Assn. Amer. Phys., 1902.

In 1903, Wheeler[10] made some investigations which, in my opinion, have thrown much light on the problem, inasmuch as they lead to the suggestion that the bacterial cell is essentially a chemical compound of definite and constant composition. It was found that when the cellular substance is extracted with dilute acids, the portion split off is practically the same whether 0.1 or 1 per cent. acid be employed. Furthermore, it was demonstrated that the amido-nitrogen split off with acid is the same, whether 1 per cent., 5 per cent., or 33 1/3 per cent. sulphuric acid be used.

Leach[11] obtained additional information along the same line by the action of mineral acids on the colon bacillus.

McIntyre[12] applied my methods to bacillus pyocyaneus, and demonstrated the existence of an intracellular poison in this organism.

Munson and Spencer[13] showed that the hepatic cells of vertebrates may be split up with the production of a poisonous group.

During the present year, Wheeler and I have been able, by acting on the germ substance with sodium alcoholate, to split off and obtain in soluble form highly poisonous groups. This has been accomplished with the colon, typhoid and anthrax bacilli, and with all of these we have produced antibodies which neutralize the toxin, but so far we can not speak with certainty concerning their antibacterial action. The colon toxin immunizes guinea-pigs against both itself and the living germ, but with the other organisms experiments have not been carried far enough to justify a statement one way or the other. The colon toxin split off from the germ substance is still a complex body, and gives the biuret and Millon reaction. It is freely soluble in water and absolute alcohol and insoluble in ether, petroleum ether and chloroform. The alcoholic solution as obtained from the germ substance by the action of sodium alcoholate contains two bodies, or rather two groups of bodies, one of which is poisonous, while the other is not actively so, at least. The toxin is precipitated from alcoholic solution by platinum chlorid, while the non-toxic body is left in solution. Of the mixture of the two obtained by evaporation of the alcohol in vacuo, 8 mg. is the minimum lethal dose for guinea-pigs weighing from 300 to 400 grams, but only 15 per cent. of this mixture is toxic. This makes the minimum lethal dose of the toxin between 1 and 2 mg., or one part to from 300,000 to 400,000 parts of body weight of guinea-pig. By administering gradually increased doses of this toxin, guinea-pigs are immunized, and when such immunized pigs receive 2 c.c. of a twenty-four-hour culture of a virulent colon bacillus, they are but slightly affected, while controls invariably die within from ten to twenty-four hours.

That this is the specific toxin of the colon bacillus, it seems to me there can be no doubt, because it gives immunity in the guinea-pig at least, to both dead and living cultures of the germ. This toxin is, I believe, composed of a haptophore and a toxophore group. Concerning the nature of the former, I am not prepared as yet to express an opinion. There are certain reasons for suspecting that the toxophore group is a neurin. These reasons are both chemical and physiological. Neurin is a highly poisonous body that is not decomposed on being boiled with sodium alcoholate; so is the colon toxin. Neurin acts on the respiratory center and arrests the respiratory movements, while the heart continues to beat normally. This is especially marked with our toxins, those obtained from the colon, typhoid and anthrax bacilli; most marked with the last mentioned. When this poison is injected intravenously in doses of a fraction of a milligram, the respiratory movements cease immediately, while the heart continues to beat for five minutes or even longer. It will be understood that these are only suggestions that the toxophore group is a neurin body. They are by no means proofs, and I hold the right to change my opinion on this point after further investigation. As Behring has suggested, the toxophore group may be the same in a number of different pathogenic bacteria.

When the dried colon germ substance is heated with sodium alcoholate, about one-third of the cellular substance goes into solution in the alcohol, while the rest of it remains out of solution. All the toxin is dissolved in the alcohol, provided the extraction be repeated three or four times, but, as has been stated, of the one-third of the germ substance that goes into solution in the alcohol, only about 15 per cent. is toxin.

The part of the cell substance insoluble in alcohol is soluble in water, wholly on addition of traces of acid, and while non-poisonous, it is scarcely less interesting than the toxic part. The aqueous solution contains a hemolysin and a group that splits up the hemoglobin into hematin and a globulin. The hemolysin is precipitated from the aqueous solution by the addition of acid and the application of heat. It is thermo-stable, and can be heated to 110 degrees without appreciable loss of its hemolytic properties. This promises to give us a rare opportunity of finding out something more definite than is known up to the present time concerning the nature of hemolysins. I may say that traces of hemolysin have been previously found in colon cultures, and have been studied by Kayser,[14] who also found it to be thermo-stable. This hemolysin is not active at low temperatures, and requires an incubation period before it manifests its effects. So far as I know, this is the first time that it has been demonstrated that a hemolysin can be obtained by splitting up the bacterial cell with chemical agents. It will probably be found that bacterial hemolysins are chemical groups in the bacterial molecule, and that those found in solution in culture media result from the normal disintegration of the bacterial molecule, which is always taking place with more or less rapidity. I know of no previous observation of the group that splits up the hemoglobin molecule with the formation of hematin. This body is now being investigated by Cooley in my laboratory, and a report of the work will be made later.

Uniformly the bacterial toxins, so far as we have studied them, lower the temperature of guinea-pigs. This is true of both fatal and non-fatal doses. If the cellular substance of the colon bacillus be thrown into the abdominal cavity of a guinea-pig, the temperature begins to fall within two hours, and continues to do so as long as the animal lives, provided the dose is a fatal one. If at any time the temperature ceases to fall and begins to rise, even after it has fallen below 95 F., the recovery of the animal can be safely predicted. When the split-off toxin is injected the fall

10. The Action of Mineral Acid on the Cellular Substance of Bacillus Typhosus, THE JOURNAL A. M. A., 1904, xlii, 1000.

11. The Chemistry of Bacillus Coli Communis, Ibid., p. 1003.

12. The Intracellular Toxin of Bacillus Pyocyaneus, THE JOURNAL A. M. A., 1904, xlii, 1073.

13. The Extraction of a Toxin from Liver Cells, THE JOURNAL A. M. A., 1904, xlii, 1075.

14. Ueber Bakterienhämolysine, in Besonderen das Colilysin, Zeitschrift f. Hygiene, 1903, xl, 118.

begins in a few minutes and continues to do so if the animal dies. In case of recovery, the moment of change for the better is indicated by the beginning of a rise of temperature. This matter also, as well as the destruction of the bacillus in the peritoneal cavity of immunized animals, is being studied in detail by V. C. Vaughan, Jr., and we hope to give more accurate information concerning the relation of the infectious diseases to temperature.

When the sterile germ substance of the colon bacillus is thrown into the abdominal cavity of a guinea-pig, a hemorrhagic peritonitis results. When the split-off toxin is used in the same way death results, provided the dose be large enough, in a few minutes, and there is no evidence of irritation of the peritoneum. When the dose is not fatal, recovery from the split-off toxin is apparently complete within two or three hours. When the soluble toxin is injected intravenously, death occurs within from five to twenty minutes, or with very minute doses there is no apparent effect.

CONCLUSIONS.

The investigations which I have hastily outlined have led me to the following conclusions:

1. The colon bacillus in its essential part is a chemical compound as truly as sodium sulphate or phenylhydrazin.

I have been convinced of this by the following facts, ascertained in our investigations:

(*a*) When treated with dilute mineral acids, the body split off from the germ substance is uniform, both qualitatively and quantitatively, whether the acid employed be 0.1 per cent. or 1 per cent.

(*b*) The amount of amido-nitrogen split off is the same, whether 1 per cent., 5 per cent., or 33 1/3 per cent. sulphuric acid be used. These findings indicate that the germ substance has a definite chemical composition, and that cleavage occurs along a definite line under the influence of the acid. That the toxic, hemolytic, hemoglobin splitting, carbohydrate, and other groups are chemically combined in the cell, is indicated by the fact that they are not extracted by agents acting physically as solvents, but are separated only by those agents that split up molecules.

2. The colon bacillus is a chemical compound, in whose molecule we have demonstrated the existence of the following groups: Nuclein, amido, diamido, monoamido, carbohydrate, toxic, hemolytic, and hemoglobin splitting. Graphically, we may represent the colon molecule as in Figure 1.

There may be, and probably are, many other groups; then, each of these may, and probably does, contain subgroups. Besides, these groups are attached to one another to form a highly complex molecule, and the lines along which the molecule splits up depend on the kind and the amount of the energy applied. The force with which these groups are held in the molecular whole varies in strength, consequently some groups are easily split off, while others are separated only under the influence of relatively powerful agents. The toxic group in the molecule of some pathogenic bacteria drops off in the presence of moisture and at a temperature of 37 C. This is true of those germs, such as the bacilli of tetanus and diphtheria, that are said to form soluble toxins. Many germs also have hemolytic groups, which become detached from the molecule under similar conditions. Some of the groups in the bacterial molecule are essential to the vitality of the cell. Such I suppose to be the case with the nuclein group, while others are not essential. The latter is probably true of the toxic group in certain bacteria, and this explains the fact that most pathogenic bacteria can be attenuated by growth in certain media, or under certain unusual conditions of temperature.

3. Every cell in the animal body contains complex molecules similar to those of the bacillus. As has been stated, my students, Munson and Spencer, have shown that a poison can be split off from the liver cell by the action of dilute mineral acids, and next year I hope to study the action of sodium alcoholate on these and other cells of the animal body.

4. The reaction of the colon molecule and a body molecule or cell is chemical, just as much so as that between sulphuric acid and calcium carbonate. When these two molecules are brought within the range of chemical attraction, if the chemism between a group in the one and a group in the other is greater than that which holds these groups in their respective molecules, a reaction takes place. Each group is split off from its molecular combination, and the two combine to form a new molecule; and the injury done the bacillus or the cell depends on the group that has been abstracted. No bacillus molecule can do the body cell harm unless such a reaction takes place. It also follows that a toxin split off from a bacterial molecule and injected in the free state into an animal does harm, or breaks down the body molecules more promptly than when the unbroken bacillus is introduced, as sodium chlorid is not a poison,

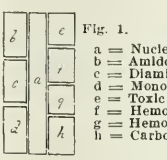

Fig. 1.

a = Nuclein group.
b = Amido group.
c = Diamido group.
d = Monoamido group.
e = Toxic group.
f = Hemolytic group.
g = Hemoglobin splitting group.
h = Carbohydrate group.

Fig. 2.—Body cell.

but if it be broken up into its constituent base and acid, either of these, when introduced into the body, destroys the first cells with which it comes in contact. This is, I think, nicely illustrated with our colon toxin. The living culture or the dead germ substance, when placed in the abdominal cavity of a guinea-pig, requires from ten to twenty-four hours to kill, because the colon molecule must be split up before the toxic group becomes active, but when the free toxic group is employed, it may kill within as many minutes, because it is ready to combine with groups in the cell instantly on coming within range of their chemism. Moreover, when the free toxin or toxic group is thrown into the abdominal cavity, it requires a longer time to kill than when injected intravenously because, in either case, it reacts with the cells with which it first comes in contact, and with which it is capable of combining. When injected intravenously, some part of the free toxic group comes in contact with the cells of the respiratory center, and death, or at least arrest of the respiratory movements, is almost instantaneous.

5. If this conception of the reaction between bacillus and cell be true, the formation of antitoxins is capable of an explanation, which seems to me simpler than any yet proposed. This may be illustrated by the accompanying figures.

Suppose that the chemical attraction between group "c" in the bacillus molecule, and group "m" in the cell molecule, is greater than that which holds these groups in their respective molecules, then these groups will be

broken away from their molecules and unite to form a new molecule, which, being saturated and stable, is not harmful. The injury done to the cell will depend on the importance that group "m" bears to the functioning power of the cell, and the injury done to the animal depends on the number of cells whose physiologic function is thus interrupted. I take it that a true toxin—understanding this term to apply only to those agents which are capable of producing antibodies in the animal organism—does not completely destroy cells. It injures animal cells, but leaves them in such a condition that they can repair themselves. Indeed, it seems to me that no other explanation is, at present, at least possible, because the formation of the anti-body is dependent on this process of repair, and an agent that destroys the body cells of the animal is a poison, but not a toxin It is not only possible, but probable, at the present time, that at least one pathogenic organism, the tubercle bacillus, produces a poison which is not a toxin. In the case of the toxins which I have been studying, I would explain their lethal effects on the animal as follows: The toxic group of the cell has a special chemical affinity for a certain group of the body cells that control respiration. It does not destroy these cells, but throws a certain number of them out of commission, so to speak, and if this number be great enough, respiration ceases and the animal dies. However, careful tracing of the respiratory movements, before one commits himself positively to this theory, will be necessary. I can not resist the temptation of suggesting the possibility that a cell toxin leaves the nuclein group of the cell intact, while the cell poison breaks up this group, and consequently permanently destroys the cell and renders the formation of an antibody impossible.

When the toxin is introduced into the body the injured cell, by virtue of its chemical attraction, repairs its loss by splitting off from the nutritive substances within the range of its chemism groups of "m," and in doing this it splits off more "m's" than it can use, and the excess becomes the antitoxin of the blood serum. With this exception it is easily understood why the number of antitoxins that may be formed is practically unlimited in number and why each is specific. As group "e" in no two kinds of bacterial cells is identical, the group split off from the body cell will not be identical.

In concluding, I wish to express my high appreciation of Ehrlich's theory. In my opinion it is the most valuable theory ever presented to scientific medicine, and deserves to be ranked with the theory of gravitation and with that of ether, and I think that it is not too much to say that its author has done more to stimulate scientific research than any other man in the profession, and it is with much hesitation that I have suggested the modification of Ehrlich's theory set forth in this paper. The ideas which I have expressed have grown out of a study of Ehrlich's theory, and if there be in these ideas anything of a permanent value, I hope that they may be considered a tribute to his genius. While, on the other hand, if my suggestions prove to be without value, they can not, in any way, detract from the honor due him whom all workers in this line regard as the master.

The details of experimental work done in my laboratory along the lines of this paper will appear in later papers in THE JOURNAL.

DISCUSSION.

DR. JAMES J. TERRILL, Galveston, Tex.—If the cell were rotated and the "m" band as represented in Dr. Vaughan's diagram—if that cell is capable of replacing that "m" with, say, one, two or a hundred times, why is it not possible that the body which contains "e" (the colon bacillus, for instance, which still retains, according to this theory, its nucleus separate and intact)—why does not that have the power of replacing this "e" one, two, three and a hundred times, and therefore nothing be gained in this matter? I would like to put that question to Dr. Vaughan and hear his explanation of his theory.

DR. JOSEPH CLEMENTS, Nutley, N. J.—We have before us a great problem—that of infection and immunity. We have the facts, by the interpretation of which we are to solve this great problem, and these facts are of two kinds—first, the protoplasmic activities of the organism in which the infection or immunity is to obtain, then the other factors (which I may term the external factors), which are the so-called germs and toxins. Are we not looking too much at one end of this question? Are we not dealing too much with the external parts of the factors, to the exclusion, somewhat, of the other—the more important—part, which is the protoplasmic activities, so that we can not really and absolutely and correctly interpret the phenomena on this principle and this basis? We shall have to turn our attention a little more to the other side of it—to the protoplasmic activities of the organism in which this great problem is being worked out.

DR. HENRY SEWALL, Denver—If I have rightly understood my studies in immunity, the treatment of bacterial substances with hydrochloric acid is one of the means by which toxins are turned into toxoids. I would like to know if Dr. Vaughan's researches have not thrown some light on the essential difference between the toxin and the toxoid. It would seem as if the difference between poisonous activity and the production of immunity might be cleared up by such work as this.

DR. S. J. MELTZER, New York City—One of the constituent chemical groups of the colon bacillus was designated by Dr. Vaughan as hemolytic. These groups were obtained after the bacterial bodies were exposed to the chemical action of sulphuric acid. Hemolysis can be produced by many different methods. For instance, by osmosis, as in the hemolysis caused by water or any hypotonic solution: or by chemical actions, as in the effects of bile acids, etc.; or by biologic methods, as in the effects of alien serum. In the last case the hemolytic effect is not due to osmosis nor to any known chemical action: it is, so to say, a vital phenomenon. I wish to call attention to the difference between the hemolysis of the colon bacillus spoken of by Dr. Vaughan and the bacterial hemolysis spoken of by other bacteriologists. The hemolytic effect of the tetanus bacillus is a purely biologic phenomenon and is equal in its effect to that of alien serum, while the hemolytic effect of the profoundly disintegrated colon bacillus is apparently only of a chemical nature. Dr. Vaughan tells us that a colon bacillus is nothing but a chemical mechanism. It consists of six definite chemical groups, perhaps more, but the bacillus is nothing but a combination of these groups. We know that all living organisms contain a good many chemical groups. Does Dr. Vaughan mean to convey the view that the colon bacillus consists of nothing else but these chemical groups? Perhaps I misunderstood him. But if this is, indeed, his view, then I for one would not be converted to it until Dr. Vaughan, or someone else, succeeds in creating a colon bacillus by putting together all the constituent chemical groups without the aid of a living bacillus—were the creation only a very modest colonculus. Until then I will be grateful to Dr. Vaughan and other eminent chemists for establishing many more definite chemical groups as constituents of living organisms, but will stick to the belief that these organisms possess, beside the chemical groups, some other factor which for a great many years to come we will have to designate as vital.

DR. VICTOR C. VAUGHAN—I shall answer as best I may these questions. The one about the possibility of the colon bacillus rebuilding itself is an interesting and proper question. This is exactly what does happen when the bacillus grows in the body. In the animal that is not immune, the colon bacillus builds itself and continues to elaborate poison until it kills.

In regard to Dr. Meltzer's question, I may say that I am not trying to solve the problem of life. I am studying the material of which the colon bacillus is composed. The question of the origin of life is too big for me to undertake to discuss. I imagine that life is something more than matter, and, as stated before, I am simply discussing the material out of which the cell is built. I have used the term hemolysis, not in a biologic but in a chemical sense, and exactly as I understand it has been largely used by Ehrlich and all others working on this subject. I can precipitate the hemolysin, wash it free from other substances, put it into the blood and study its action. I have certain reasons for believing that there is a toxoid group in the colon cell. This point I have not gone into in the paper but hope to do so in a later communication. I have formulated the theory which I have offered because some theory is necessary in order to do systematic and scientific work.

DR. WINFIELD S. HALL, Chicago—I have been very deeply impressed with the character of this work which Dr. Vaughan and his associates in his department have been doing for a number of years, and I feel that this Section is very highly favored in receiving from Dr. Vaughan so clear a statement of the work that he has done and of the hypothesis on which he is working for future results. I can not help feeling that in this work he is really laying the foundation of a broad, scientific basis for the whole subject of toxins and of immunity and immunization. I believe that the discovery of diphtheria antitoxin was a chance discovery. Several of these discoveries have been made, but the relation of these individual toxins and antitoxins, the one to the other, has been purely hypothetical. I believe that the work of Professor Vaughan and his associates will result in clearing up this whole subject, now only hypothetical, and in giving to the world a science of immunization. I wish to offer a resolution, not of thanks, but of appreciation. Dr. Vaughan is not working for thanks; but appreciation helps along a little occasionally, and I move a vote of appreciation to Dr. Vaughan and his department for this epoch-making work that he is doing.

[The resolution was adopted by a unanimous vote.]

PRIMARY MALIGNANT ENDOTRACHEAL TUMOR.

PRELIMINARY REPORT.*

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AND

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PHILADELPHIA.

This case is of interest from not less than three standpoints: First, that of the physician, because of the importance and extreme difficulty of diagnosis; second, that of the surgeon, because the treatment is purely operative, and third, that of the pathologist, not only because of the rarity of malignant growths in this situation, but because of the histologic structure of this tumor. This paper is directed especially to the pathology.

Primary tumor of the trachea is exceedingly rare, and, according to Scheuer,[1] but 22 per cent. of these are primary malignant growths.

Sir Morell Mackenzie,[2] after sixteen years of experience, saw but four cases of tracheal tumor, and it is probable that but one or two of these were primary and malignant.

Only twenty-eight cases of this disease are reported, most of which were discovered at autopsy in Germany or Austria.

In 1882 Delafield[3] reported a case of primary carcinoma of the bronchi, which invaded the trachea to a very slight extent. A number of cases of secondary invasion of the trachea by laryngeal carcinoma have been reported. A careful search through American medical literature failed to disclose a case of primary malignant endotracheal tumor.

History.—The patient, a woman, aged 34, married, living in a malarial district, had always enjoyed good health until the present trouble began, although her husband, a physician, observed that she had been rather pale during the past year or two.

In the summer of 1903 a slight cough began, uninfluenced by treatment, and in August dyspnea and expectoration were superadded. The sputum was thick, tenacious, blood-stained and mucopurulent, reaction neutral, and showed, microscopically, squamous epithelium, blood, diplococci, staphylococci, streptococci, but no pneumococci, tubercle bacilli nor yellow elastic tissue. A second examination gave similar results and the quantity for twenty-four hours was 400 c.c. There was no fever and these symptoms gradually increased in severity until Nov. 27, 1903, when she was seen for the first time.

General Examination.—The dyspnea was extreme, of the inspiratory type like that observed in laryngeal obstruction. Each inspiration was prolonged, labored and accompanied by insinking of the supraclavicular and infraclavicular fossæ and retraction of the base of the thorax. The rate of respiration and pulse was usually about normal.

The constant struggle for breath, interrupted by frequent paroxysms of coughing, caused sleeplessness and exhaustion. A few bronchitic râles were heard over both lungs, otherwise the examination of thoracic and abdominal contents and urine was negative.

Laryngoscopic Examination.—This examination, which was rendered extremely difficult by the dyspnea and paralysis of the right vocal cord, showed a swelling in the lower portion of the trachea, the surface of which was the same color as the tracheal mucous membrane. This swelling was erroneously interpreted as indicating external pressure on the walls of the windpipe. Two fluoroscopic and skiagraphic examinations gave negative results. As an absolute diagnosis was impossible, a probable diagnosis was made of a tumor, possibly aneurismal, pressing on the trachea in the region of the innominate artery. An exploratory operation was advised, but was declined by the patient. (The autopsy demonstrated that this probable diagnosis was erroneous.) The prognosis was absolutely unfavorable.

Death.—A few weeks later aspiration bronchopneumonia occurred, accompanied by a fever ranging from 101.2 to 103.8 degrees F., which disappeared on the ninth day. Suffocation and exhaustion, preceded by deep cyanosis, caused death on Jan. 1, 1904, seven months after the onset of the first symptoms.

Autopsy.—The autopsy was performed ten hours after death. The brain and spinal cord were not examined, and there was no thoracic aneurism nor tumor. With the exception of a tracheal bronchitis, the examination of the thoracic and abdominal contents revealed nothing of importance.

At or about the lower third of the anterior wall of the trachea was a papillomatous tumor about the size of the distal phalanx of an adult finger, which extended almost to the bifurcation of the trachea and measuring 5x3½ cm. This tumor caused extreme stenosis and occupied more than three-fourths of the lumen of the tube.

Immediately beneath this growth were a few moderately enlarged glands about the size of a marrowfat pea, which were firmly adherent to the outer wall of the windpipe. This region corresponds to the place where the innominate artery

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. Ueber tracheal Tumoren. Inaug. Diss., Muchen, 1893.

2. H. Crutchley: London Lancet, 1884, vol. ii, p. 822.

3. New York Med. Jour. and Obst. Rev., 1882, p. 406.

comes in close relation with the trachea, at which point the recurrent laryngeal nerve was compressed by the enlarged glands and inflammatory exudate.

PATHOLOGIC EXAMINATION BY DR. JOSEPH McFARLAND.

Macroscopic Examination.—The specimens submitted for examination consisted of the larynx, trachea, the upper extremities of the bronchial tubes, with the adjacent lymphatic glands and tissues of the roots of the lungs. The trachea was opened posteriorly so as to reveal on the anterior wall midway between the cricoid cartilage and bifurcation a fairly well circumscribed neoplasm. This formed for the most part a somewhat flattened, tabular swelling, whose greatest diameter was about 5 cm. and least diameter about 3½ cm. The surface appeared villous when the specimen was first examined in physiologic salt solution, but became slightly roughened

Trachea cut open longitudinally, showing the tumor just above the bifurcation. Its originally villous character has been lost through the action of the preserving reagents. The color corresponded exactly with that of the tracheal mucous membrane. (About natural size.) A, The tumor; B, lymphatic nodes of which two were infiltrated.

Section through the superficial portion of the tumor showing the villous connective tissue prolongations (A), the nests of cells (B) and a peculiar cornified cell (C). (×400.)

Section through the base of the tumor showing the disorganizing mucous glands (A) in the upper right-hand half of the drawing, and the squamous epithelium composing the tumor itself in the lower left-hand half of the drawing. (x500.) Nests of squamous cells (B).

after having been placed for exhibition in Zenker's solution.

The tumor had the same pinkish color as the mucous membrane of the trachea. There seemed to be no ulceration, the right half of the tumor, consisting of two fairly good-sized nodes, must have considerably obstructed the lumen of the tube during life. The borders of the growth were, therefore, slightly elevated and differentiated from the normal tissue. When a section of the tumor and tracheal wall was made, it was found that its extension into the substance of the trachea was accompanied by loss of substance, that the cartilage rings of the organ had disappeared and that its wall had been reduced to the layer of connective tissue. The lymphatic nodes about the bifurcation of the tumor were slightly enlarged, and one at least presented small nodes as if from secondary invasion by the tumor, and on microscopic examination this was found to be correct. The nodes thus invaded were immediately beyond the tumor and were adherent to the trachea wall. A portion of the esophagus, fortunately that part underlying the tumor, had been removed together with the trachea, and when opened showed no abnormality. There seemed to be no connection whatever between the neoplasm of the trachea and the tissues of the esophagus.

Microscopic Examination.—Examination of the microscopic section with the hand lens showed that the cartilaginous rings of the trachea were not completely destroyed beneath the tumor, but that the tumor invaded the trachea wall between the cartilaginous rings and partly surrounded them. Under the microscope the entire structure of the mucous membrane was disturbed by the neoplasm. In the lower layers of the mass were found mucous glands not showing any marked departure from the normal, but these glands seemed to extend upwards into the tumor mass, and as one followed them in this direction their cells became more and more degenerated until rounded openings devoid of cells were occasionally observed.

From the connective tissue of the tracheal wall prolongations extended inward, branching so as to have a dendritic appearance. These were covered by layers of epithelial cells of a peculiar flattened spindle shape, the superficial layers of which were in process of active desquamation. In the depths of the tumor this desquamation caused the spaces between the dendritic outgrowths to be filled with a seminecrotic mass of desquamated cells. The interspaces between closely approximated villi not infrequently contained cells massed together in a manner suggestive of the epithelial pearls of the common forms of squamous epithelioma. In these cells various peculiar inclusions may be observed. The cells on the terminal branches of the villi desquamate singly and in masses, so that the surface of the tumor presents a very much frayed appearance.

As has already been suggested, the invasive nature of the tumor was shown by the metastatic growths in the adjacent lymph nodes, in one of which there was a nodule ½ c. in diameter, distinctly circumscribed and corresponding in all its histologic details with the primary growth. The situation of the tumor, the peculiarity of the cells of which it was composed, the partial cornification of the cells, suggest that the tumor had developed from an inclusion of esophageal epithelium in the wall of the trachea during embryonal life, and we are lead to believe that this is the true explanation of the origin of the growth.

The Word Neurasthenia.—The *Lancet*, April 30, begins an editorial article as follows: "Invented by Beard, of America, in the 'sixties' to describe and to include a class of nervous affections more common in America than elsewhere, the term 'neurasthenia' has been used with great elasticity," etc. It is true that we owe much of our knowledge of neurasthenia to the late Dr. Beard, but he did not invent the word, says the (N. Y.) *Medical Record*. Old Ludwig Kraus defined it in his "Kritisch-etymologisches medicinisches Lexikon," the third edition of which was published in Göttingen in 1844, long before Beard dealt with the subject.

REGENERATIVE CHANGES IN CIRRHOSIS OF THE LIVER.*

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In the literature and in the text-books of pathology little reference is made to the evidences of regeneration in cirrhosis of the liver. It is true that it is stated that regenerative changes are evident in certain cases leading to the production of adenoma-like nodular masses of liver tissue, and there is in general a tendency to regard the bile duct-like structures which occur in the fibrous bands as newly formed and as representing an effort toward the restitution of the liver to its original bulk. Especial stress is, however, usually laid on the degenerative changes in the liver cells and the anatomic picture presented by a cirrhotic liver is commonly looked on as the expression of a steadily progressive destructive process.

Kretz[1] only, so far as I can see in the literature at my command, has especially emphasized the importance of the regenerative changes in the ordinary type of cirrhosis and the fact that the anatomic condition as found at autopsy is probably the product of numerous attacks of some destructive affection from which the liver has more or less completely recovered. He discusses these changes briefly in a variety of conditions in an earlier paper, and in his later communication speaks particularly of the disturbed anatomic arrangement of the liver tissues in cases of advanced cirrhosis and of the consequent obstruction to the circulation. His attention is particularly attracted to the masses of liver tissue which he thinks are no longer to be regarded as acini since they have lost the typical architecture of the acini and the typical relation to the blood vessels. He states that many of these nodules are without central veins—others have central veins at their edges, while within the nodule the capillaries are so distorted that injections through the portal vein pass more readily to the hepatic veins by way of the fibrous tissue than through their substance, and even that the blood from these masses reaches the central vein by way of the fibrous strands. He regards these isolated masses of liver tissue as largely new formed and defines cirrhosis as essentially a combination of focal or localized recurring chronic degenerative processes with regeneration.

All of the studies of regeneration in cirrhosis are based on the experimental work of Ponfick, Podwyssozki, von Meister and others, and the anatomic observations of Marchand, Meder, Stroebe, Barbacci and others who have investigated the late results of those destructive processes loosely classed under the name "Acute Yellow Atrophy of the Liver," in which conditions for the study of regeneration almost identical with those produced experimentally are presented.

It is well established, as I have also pointed out in a previous paper,[2] that in those cases in which, after extensive destruction of the liver substance, the individual survives for a considerable time, not only is the débris of the necrotic liver substance removed and scar tissue

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. Kretz: Ueber Lebercirrhose, Wiener klin. Woch., 1900, vol. xiii, p. 271.

2. W. G. MacCallum: Regenerative Changes in the Liver After Acute Yellow Atrophy, Johns Hopkins Hospital Reports, 1903, vol. x.

formed throughout the skeleton of the liver thus left without cells, but the specific elements which remain evince an extraordinary power of reproducing themselves, tending by this hyperplasia to replace the lost tissue. This repair takes place according to Marchand in three ways:

1. By hyperplastic proliferation of the larger intact remains of the gland parenchyma.

2. By proliferation of isolated liver cell clumps or remains in the region of the most intense destruction.

3. By proliferation of the interacinous gall ducts which, in conjunction with the latter, form new liver cell strands.

Of the cell tubules making up the last group he says elsewhere that they are by no means to be considered as atrophic rows of liver cells, but are doubtless new formed. In their production not only the small interacinous ducts, but also those liver cells which have escaped destruction in the acinus, take part. While the first grow from the periphery into the loose meshwork of the acinus, the isolated liver cells in proliferating provide them with new formative material.

In the case reported by me it was possible to support these views in their entirety, with perhaps the exception of the last point. That this process of the combination of sprouting bile ducts with proliferating isolated liver cells could not be seen, was doubtless due to the fact that in that particular case in the area of most intense cell destruction all the cells of the acini were destroyed or so far degenerated that they were incapable of any participation in the regenerative process, and regeneration necessarily resulted from a proliferation of the bile ducts alone. I regret, therefore, that my statement should have been regarded by Professor Marchand as an opposition to his views,[3] since it was merely intended to describe the conditions in a special case.

I have there expressed the view that whenever the highly differentiated liver cells remain, the regeneration is simply enough effected by their proliferation. Where, however, they are all destroyed the less highly differentiated but genetically identical cells of the bile ducts proliferate and subsequently become specialized in form and function until they are indistinguishable from liver cells. To what extent, then, can these principles be shown to be active in cases of cirrhosis?

The material at my disposal consists of those cases of cirrhosis of the liver which were found in the series of 2,300 autopsies which were performed at the Johns Hopkins Hospital, together with a few miscellaneous cases from other sources, in all sixty cases. For the present, instances of cirrhotic changes in connection with chronic passive congestion, tuberculosis, syphilis, tumors, abscesses, etc., have been left out of consideration.

The general anatomy of the cirrhotic liver is so universally well known that I need not dwell on it here. The difficulty of making a sharp distinction on purely anatomic and histologic grounds between the generally established classes of atrophic cirrhosis, hypertrophic cirrhosis, etc., is also well recognized, and the clearing up of the processes under discussion may throw some light on it.

Kretz claims that a source of confusion in the study of cirrhosis of the liver lies in the tendency to explain the nodular masses which occur there on the basis of the normal acinus, whereas they are very different, the difference being largely in the loss of their central veins, a process for which he offers no satisfactory explanation.

3. Perzina: Inaug. Diss., Leipsic, 1903.

These nodules vary greatly in size, sometimes forming masses which project above the surface of the liver or stand out sharply on the cut surface, distinct in color and consistence from the surrounding tissue. It is to these very large nodules that reference is especially often made in connection with hyperplastic and regenerative changes in cirrhosis. Often they are composed of very large masses of liver tissue with central vein and radially arranged cell strands in every way like a magnified liver lobule. In other cases, however, they are masses of numerous lobules or portions of lobules, no one of which very greatly exceeds the normal lobule in size. As we proceed to the smaller and smaller nodules there are fewer masses which resemble a complete acinus. Many consist of masses of somewhat atypically arranged cells in which no central vein can be seen. Of course these may be explained as lobules cut tangentially. Others have the central vein situated near to one side or even at the extreme margin, or sometimes one may recognize the central vein embedded in loose connective tissue at a slight distance from the edge of the nodule.

Here the question arises as to what we are to consider the true normal form of the lobule or acinus. Obviously on embryologic grounds the lobule should be the mass of tissue which is drained by the ultimate branch of the bile duct, but mainly on account of the peculiar abundance of connective tissue in the liver of the pig which outlines lobular masses, the highly irrational plan of adopting the efferent vein as the center and index of the position of the lobule has become firmly established. This, however, is justified by the very distinct demarcation of such masses of tissue and by the fact that these masses do behave more or less as individual structures under the stress of circulatory disturbances, etc. If now we inject the hepatic vein with colored celloidin and then clear up or corrode the preparation, it will be found that the vein branches very profusely and at the periphery of the liver there are even found anastomoses between the adjacent branches. Reconstructions of such a liver now show that the lobules are by no means isolated, rounded, cylindrical or polyhedral masses with a single central vein, but that the liver tissue really forms a sort of thick mantle for the hepatic vein and its branches interrupted when the vein becomes too large by the approach of another similar mass (Mall). Thus a lobule has a very complicated outline and the areas of tissue which are usually regarded as cross-sections of the acinus are in reality cross-sections of a branch only of the coherent mass which in its entirety answers to the definition of the lobule in this somewhat broader conception. This, as is readily seen, is not fundamentally different from the current idea, but it is of interest in explaining some of the relations seen in cirrhosis. It is also true that in many of the acini there are side branches of the central veins, about which the liver cells are radially arranged, but which do not thereby produce much disturbance of the general outline of the lobule; with the increase of their surrounding liver cells such a system would probably constitute a branch of the lobule.

One may readily convince oneself of the truth of the statement which has been repeatedly made, that in cirrhosis of the liver there may be masses of liver cells as large in cross-section as the branches of the normal acini, which have no central vein and the cells of which are arranged in more or less parallel rows, but not radially, about such a point. Other such masses are found in which a central vein is visible eccentrically placed, sometimes even at the very margin of the mass. Some-

times one can see what appears to be a central vein in the connective tissue adjacent to the mass of liver cells. Unfortunately I have had no opportunity as yet to inject the hepatic vein in an advanced case of cirrhosis of the liver; by such a method one would be able to recognize easily all the relations of such branches as had not been obliterated.

In the study of the changes after acute yellow atrophy or other destruction of a large part of the liver tissue referred to above, it was easy to reach an obvious explanation of these relations. In some instances the lobules were intact, and then after the hyperplastic process has run its course large symmetrical lobules resulted with the central vein in its normal relations. Of other lobules half of the tissue was destroyed, only the skeleton of the connective tissue remaining from the other half. From such, large masses were produced with the central vein at one margin. In case only a sector of the lobule remained there ensued the formation of a larger wedge-shaped mass with the central vein at the point of the wedge. Finally, at any given level, all the cells of the lobule might be destroyed except a group originally situated toward the periphery. Then there would arise the enlargement of this mass into a mass of irregular form, the original central vein of which might be situated at some distance in the connective tissue skeleton. Now, as this skeleton usually collapses to a great extent and becomes overgrown with scar tissue, the central vein may become very inconspicuous or even completely obliterated, and hence the appearance of lobules or nodular masses without any central vein.

Precisely this process can be demonstrated in most instances of cirrhosis of the liver, more easily and plainly in the coarsely nodular forms than in the finely granular or smooth cirrhotic livers.

To form a clear idea of the conditions which result from such a process, single sections of the liver will not suffice. The nodules, which appear to be entirely isolated masses of liver cells in a single section, usually prove in serial sections to be merely the outlying spurs of other ramifying, irregular conglomerates. Really isolated groups of cells do occur, but are relatively rare.

From the study of serial sections one gains the idea that instead of the normal, smoothly outlined, branching acini, we have here acinoid masses with extremely irregular gnawed-out outlines, the erosions being often so deep as to expose on many sides the branching central vein or even so deep as to completely cut off portions of the lobule.

Were the process to stop there this explanation would be much more evident than it is; on the contrary, regenerative hyperplastic changes occur in these injured lobules so as to restore to a great extent their rounded outlines and to bring them back to their original bulk or even to a bulk greater than that of the original lobule. This occurs expansively in the remains of the liver tissue, and although if one were to model such a mass it might in outline roughly resemble the model of a normal acinus, the introduction into the model of the central vein would at once show what an extremely irregular eccentric structure such a rehabilitated lobule really is. Instead of the branching central vein with its uniform mantle of liver cells we would find the vein quite exposed in places, surrounded by cells in other places, and in still other places large, irregular clumps of cells might be applied to one side of it or throughout some distance be separated from it entirely.

Reconstructions from hardened livers without any injection of the hepatic veins are, therefore, of relatively little value, but when a suitable case presents itself it will be possible to illustrate this point very graphically by means of a proper wax model.

The radial measurement of these nodules must also afford an indication of the increase in size over the normal. This could be effected best by the measurement of such a model as mentioned above in which one could be sure of measuring the line at right angles to the central vein where the lobule has its greatest radius. Only the extreme measurements would be of value, for elsewhere one could not be sure whether he were dealing with the original thickness of the lobule or with the thickness resulting from primary atrophy and secondary hypertrophy. The extreme measurements found in serial sections, however, where one is careful to measure the real radius (not an oblique radius) at its greatest length, will practically correspond with this, and while it must vary greatly in different cases (being often greatest in the cirrhosis of children, which is notoriously coarsely granular owing to the active power of regeneration in children), it will at least prove that enlargement has occurred. So, for example, while the average radius of the lobule (i. e., thickness of the mantle of cells about the central vein) in a number of normal livers was found to be about .66 mm., acini were found in advanced cases of cirrhosis which measured from central vein to periphery, 1.00 mm. or more.

Positive evidence of hyperplasia are abundantly present in these acini. Cirrhosis is, of course, a chronic process of long duration, so that it is not surprising that in most cases mitoses are seldom seen. From the study of the early stages, however, it is seen that mitosis is then extraordinarily abundant in the liver cells and that it occurs as an almost immediate sequence of the destruction of the rest of the liver cells. Such necroses destroying a portion of lobule occur, as is well known, and as Dr. Opie has recently emphasized, as the result of a great variety of infections and toxic processes, and in one such case at least which Dr. Opie has brought to my notice I was able to find numerous karyokinetic figures in the peripheral parts of the lobule, while the cells of the central part, although necrotic and devoid of nuclei, were still present in almost their normal position and arrangement.

Similarly, in another case, which I must regard as an early stage in the production of cirrhosis of the liver, the cells throughout the remnant of the lobule, even after a certain amount of scar tissue had been formed in the periphery, were in a state of active division.

Ponfick showed, as has been mentioned in the previous paper referred to, that although mitoses were abundant in the early stages after the extirpation of portions of the liver, they were represented in the later stages only by such conditions as are almost constantly seen in cirrhosis and in the regenerating liver after acute yellow atrophy, i. e., the presence of two or more nuclei in a single swollen cell, the occurrence of large, clear cells with convex outline, etc. Further, one may frequently observe side by side in such a mass, cells which retain the usual form and sometimes deep pigmentation, and cells which are much larger and plumper and are relatively free from pigment. These latter may even form masses of thick columns so arranged in a rounded form as to compress by their expansile growth the neighboring non-proliferating liver cells. One can scarcely escape the conclusion that these are new formed cells.

If now we turn from the recognizable liver tissue to

the remaining tissue we find conditions about which there is perhaps more ground for controversy. As to the significance of the fibrous tissue there has been much discussion, but the weight of opinion is now against the idea that it constitutes a primary new growth of connective tissue which by its contraction compresses the liver tissue and causes the destruction of that tissue, which is apparent in any advanced cirrhosis. Briefly, examination of a section of almost any advanced coarsely granular cirrhosis will show at once that part of the connective tissue is the pre-existing fibrous skeleton of the liver, for it is frequently easy to make out the collapsed framework of the lobule from which the liver cells have been destroyed and eliminated; part of it is the tissue which originally surrounded the vessels and bile ducts and part of it is new formed in the sense that a scar appears to take the place of more highly specialized tissue which has been destroyed. That this scar may by its later contraction constrict the highly specialized elements that are enclosed within it can not be denied. Beside these things which we have described there are the bile ducts and bile duct-like structures whose rôle in cirrhosis has given rise to the most active discussion. The literature on this question has been so well reviewed by Meder and others who have considered the similar or identical structures in connection with the regenerative processes following acute yellow atrophy, that it is not necessary to repeat it here. It may be well, however, to review briefly the anatomic conditions as exhibited by our series of cases.

It has been shown that the disturbance in the structure of the liver indicates that a destructive process, affecting chiefly the peripheries of the lobules, but sometimes extending so deep as to involve the whole diameter, leaves behind it a collapsed skeleton which soon becomes almost indistinguishable from the pre-existing connective tissue about the portal spaces and which, with the coincident growth of new scar tissue, is quite merged into the wide bands of fibrous tissue which run through the liver. This in itself would bring about a concentration of the pre-existent bile ducts on the disappearance or collapse of the liver lobules. The bile duct-like structures sometimes present only in small numbers, sometimes very abundant, lie for the most part in this tissue, and it is naturally of interest to us to know whether they lie in the skeleton of the old lobule or not. Since, however, the greater part of the fibrous tissue coincides with this, or is new formed, we may regard this relation as very close. The point of dispute is, therefore, whether the structures are to be interpreted as compressed or otherwise modified liver cells undergoing a retrogressive process, i. e., the remains of the injured constituents of the lobule, or as newly-formed strands arising from the bile ducts, or possibly as a combination.

Now the condition actually found is about as follows: Where the lobule is relatively intact there are relatively few bile duct-like structures at its margin communicating with the liver cell strands, as in the normal liver. Where the erosion or dismantling of the lobule has been extensive there is a wider strand of fibrous tissue and the bile duct-like channels are numerous; and one may distinguish the main bile ducts, which are unmistakable, and are lined with cylindrical epithelium. Many of these are obviously elongated and even spirally twisted and branched. Beside these there are smaller channels with narrow lumen and a lining of cubical or flattened cells. These, too, branch and sometimes anastomose and many of them are continuous with the liver cells of the adjacent side of the lobule. When the destruction of the lobules has been very widespread and the fibrous band is very wide, it is frequently found that no such connection takes place, but another change is substituted, which will be described later.

It is perfectly conceivable, therefore, that the portions of these strands in connection with the liver cells for such a distance as would correspond with the remainder of the radius of the old lobule, may represent compressed or modified liver cells, and it is not possible to bring absolute proof in all cases that this is not so. Frequently, however, the ducts are very much longer than could be accounted for in this way, and it will be decisive in this regard to search for evidence as to whether their cells are in a stage of degeneration or retrogression, or in a condition of progression or proliferation. Sometimes the strands of fibrous tissue are so narrow and the duets so short that this latter point alone could yield a decision.

In a case which presented itself recently at the Johns Hopkins Hospital the state of the liver seems to throw some light on the process.

CASE I.—Autopsy, 1829. This was the case of a man who died after a brief illness, in which icterus, delirium, etc., were prominent symptoms. The liver was pale greenish-yellow in color, quite smooth, and on section showed the lobules very distinctly as slightly prominent, rather opaque, greenish-yellow masses. The consistence of the liver was slightly increased, but there was, macroscopically, no distortion of its structure. Microscopically, there was found to be a slight irregularity in the form of the lobules, with a moderate increase in the periportal connective tissue. The liver cells in the lobules were not homogeneous in appearance, but some, chiefly the more peripheral, were greatly enlarged and so loaded with fat that the protoplasm appeared as a delicate web. The nuclei were all well preserved. The remaining cells were small and flattened, and frequently arranged in double rows so as to present a rather wide lumen. Their protoplasm stained rather deeply and was not granular to the degree seen in the normal liver. In both of these types of cells abundant mitotic figures could be seen. In the connective tissue strands, but continuous with the liver cells, there were numerous ducts, readily distinguishable from the duct-like strands of liver cells in the lobule. In these, numerous mitotic figures were found. The bile ducts proper were not especially altered, but occasionally mitoses were found in their cylindrical cells.

In this case, with the typical formation of bile duct-like strands in the connective tissue, it is clearly seen that these structures are by no means degenerative in character, but are due to an active production of new cells by an intercalated mitosis. In the advanced cases of cirrhosis such distinct evidence of proliferation of the cells of the ducts is usually not to be found, but the great length and tortuous branching which often characterizes them, and the good state of preservation of their cells makes it practically certain, in the light of this case and of the cases of regeneration after acute yellow atrophy, that they are due to a proliferative process. Their lack of resemblance to the elongated red staining cells so familiar as the result of compression of the liver by tumors or abscesses need scarcely be mentioned.

While these strands must be regarded as progressive in character we can not be sure that they are exclusively derived from the bile ducts. Where the case can be observed in the early stage, as in the one described, the continuity of the duct with the liver cells is often to be made out, and even when this continuity is broken through, as it must be in most instances, no greater difficulty in the reinstatement of the continuity need be anticipated than in the fusion of the edges of proliferat-

ing epithelium which approach one another to heal over an ulcer in the intestine or a wound in the skin.

In the case described above there was, further, the modification in the liver cell strands, which produce an appearance something like that of the bile ducts, but since these cells were in active mitosis they could not be compressed or degenerating. On the contrary, it seems probable that they should be regarded as a reversion to a less highly specialized and temporarily nonfunctional form for purposes of reproduction, and in all probability in a later stage such cells would have regained the ordinary appearance of liver cells. A similar modification in the liver cells was pointed out to me by Dr. Opie in another case, in which, as a result of appendicitis with generalized acute peritonitis, there was widespread necrosis of the central portions of the lobules. In this case, in which death occurred so soon that the necrotic cells were all in their original position, many strands of the intact liver cells within the lobule had assumed the form described in the other case, although there was nowhere any proliferation of connective tissue and I was able to find abundant mitotic figures among these intact cells of the lobule.

Thus, while we can not say absolutely that the injured liver cells in a compressed state do not constitute some part of the duct-like strands found so abundantly in the wider bands of fibrous tissue, the weight of evidence is entirely in favor of the idea that these are the result of intercalary proliferation by mitosis in the bile ducts or, perhaps, in peripheral portions of the liver cell strands which remain in continuity with the pre-existing bile duct. Where the liver cell strands are interrupted or destroyed, partial or complete collapse of that portion of the lobule results, but whatever cells are left in the direction of the large bile duct proliferate and reinstate, if possible, the connection with whatever cells remain in the lobule. If liver cells are left in connection with the duct they proliferate with the same end in view.

This brings us to another point, perhaps the most important, in showing this proliferative power of the bile ducts in the older cases of cirrhosis. Often the connection with the liver cells is not reinstated and the bile ducts are left ending blindly in the connective tissue. Such ducts may often be shown to give rise to isolated bulbous masses of cells which gradually acquire the characteristics of highly specialized liver cells. That they are newly formed is shown by their form, their fresh appearance, and by the lack of pigment frequently found in the adjacent old liver cells. Further, it is interesting to note that one may be certain that they are actually formed from the bile duct epithelium and not merely isolated from the neighboring lobule by the fact that specialized pink-staining liver cells may be found not only in the bulbous extremity, but also intercalated singly among the ordinary cells of the ducts. These are, therefore, in every way like the bulbous sprouts which are described in the case of regeneration after acute yellow atrophy, and indicate very clearly not only that the so-called newly formed bile ducts really are newly formed bile ducts and not compressed liver cells, but that they possess a very considerable power of producing new liver tissue.

All of these processes taken together show that we must regard the cells of the bile ducts and the liver cells as identical and equivalent as far as regeneration is concerned, and that while the liver cells are specialized for functional purposes, they are perhaps a little more ready but no more potent in the reproduction of new liver cells than the epithelium of the bile ducts. It is, therefore, of little moment to determine whether doubtful cells are liver cells or bile duct cells, the essential point in this study is the proof that these cells are proliferating and not degenerating.

Of the degenerative changes which are in progress throughout the cells of the lobules and of the inflammatory reaction so frequently seen in the intervening tissues I shall not speak. Nor of the somewhat unsatisfactory classification of the forms of cirrhosis on anatomic grounds, although the idea is of interest that the difference between the hypertrophic or intralobular form of cirrhosis and the annular atrophic or portal cirrhosis lies in the distribution of the necrotizing process which affects the liver cells and which, as Dr. Opie has recently emphasized, depends so largely on the circulation of the lobule.

CONCLUSIONS.

In conclusion we may state that in the ordinary type of interlobular cirrhosis there is a primary destructive process leading to the disappearance of portions of the cell mantle surrounding the central vein of each lobule. The framework of the lobule persists but usually collapses, and there is produced an irregular lobular mass in which the central vein is in places left more thinly covered by the radial strands of liver cells, or even completely exposed and surrounded only by the connective tissue framework. The remaining liver cells proliferate rapidly by mitosis and generally increase the size of the portion of the lobule which is left. In this process they sometimes assume temporarily almost the form of bile duct cells. The connective tissue bands which run through the liver and separate these irregular hypertrophied remains of lobules consist of pre-existing connective tissue together with some which is newly formed. Numerous bile duct-like canals course through these bands and it is thought that these are produced by proliferation from the pre-existing bile ducts. The degeneration of compression of liver cells in the production of this appearance is not thought to be of importance. That the canals are composed of proliferating cells is shown by reference to a fresh case in which mitoses were abundant in their walls and by the fact that they frequently sprout out to form isolated bulbous masses of new liver cells. The bile duct epithelium and the liver cells are shown throughout these processes to be equivalent so far as the regeneration of the liver tissue is concerned.

The anatomic picture presented by a cirrhotic liver is, therefore, usually one in which the regenerative processes are the most striking, the destructive process being sometimes evident, sometimes entirely past and represented only by the widespread scars.

Cirrhosis of the liver may be defined as a chronic disease in which destructive processes, probably often repeated, result in a loss of the functional liver tissue immediately followed by the formation of a scar, the healing process, and later by an attempt at the restitution of the liver to normal by regenerative processes.

DISCUSSION.

Dr. Felix Adler, New York City—At a very early stage in the experimental cirrhosis of the liver is seen the proliferation going on in the interior of the bile ducts—larger bile ducts, common smaller bile ducts down to the very minute ones—where no liver cells could possibly go. The proliferation of epithelium is followed by the widening out and distortion of the basilar membrane and finally the sprouting into branches. This occurs at a very early stage, for in-

stance, in that form of experimental cirrhosis which can be induced by the feeding of tobacco, and it bears out Dr. MacCallum's theory very thoroughly that at so early a time, when the cirrhotic condition—when the affection of the interstitial tissue—is progressing and is at a very early stage, the bile ducts begin to sprout and proliferate.

DR. E. LIBMAN, New York City—Some years ago I saw the liver of a child supposed to be suffering either from sepsis or hypertrophic cirrhosis, with fever; the entire period of observation only extended (so far as could be determined) over four or five weeks; and it turned out, at the postmortem, to be a case of sepsis, with abscesses of the kidneys. It was interesting to know that in that liver there were in five weeks an increase in connective tissue, and many of the changes which Dr. MacCallum has pointed out; it is particularly interesting because Dr. MacCallum mentions that the changes can come early.

DR. JOSEPH MCFARLAND, Philadelphia—Did I understand Dr. MacCallum to say that he thought the changes in cirrhosis of the liver were primarily necrotic and secondarily productive, or the reverse?

DR. WALTER L. BIERRING, Iowa City—It would seem to me that we might include in these regenerative changes, referred to in connection with cirrhosis, also that condition known as cirrhosis carcinomatosis, which is a sort of adenomatous hyperplasia taking place in a cirrhotic liver. There is a definite new growth of cells which resemble hepatic glandular cells, and frequently take on an atypical growth, subsequently undergoing a certain necrosis or fatty degenerative change and presenting to the naked eye yellowish-white or softened areas in the cirrhotic tissue. The term "carcinoma in cirrhosis" or cirrhosis carcinomatosis is usually applied to this regenerative process.

DR. W. G. MACCALLUM—Although I have not paid special attention to the forms of cirrhosis resulting from biliary obstruction, the anatomic conditions in those cases which occurred in our series have been practically the same, with the exception of the addition of the continued inflammation about the bile ducts. The hypertrophic or intralobular cirrhosis may perhaps be explained in the same way, excepting that there the cell's destruction has occurred diffusely throughout the lobule, leaving scattered cells from which regeneration occurs. In answer to Dr. McFarland's question I feel quite convinced that cirrhosis of the liver is not due to a primary growth of connective issue; we must, with Ackermann, regard the cirrhotic liver as a condition in which a primary destruction of the liver cells has been followed by scar formation. Dr. Adler's observations seem to me to correspond very closely with what I was able to observe in the case of which I have spoken as an early stage of cirrhosis, and in which in the delicate bands of fibrous tissue new bile ducts in the form that Dr. Adler has described, were found. With reference to Dr. Bierring's remarks I may refer to the paper of one of our students[1] wherein was expressed the idea, really suggested at first by Weigert, that in all probability the cirrhosis of the liver had been the result of destructive and degenerative changes, of healing, and of a subsequent regenerative process, which in Weigert's phrase had overstepped the mark and had gone on to the formation of a true tumor which could produce metastases. I have been particularly interested in the early appearance of these regenerative changes to which Dr. Libman refers. The necrotic liver cells may still be present where abundant mitoses in the intact cells are visible. Quite the same thing I think must be familiar to you all in the cases of acute nephritis in which the destruction of many epithelial cells stimulates the production of mitotic figures in those that are left, while, although regenerative changes are certainly present in the chronic nephritis, one is no longer able to find mitotic figures in such kidneys.

1. Catherine Travis: Johns Hopkins Hospital Bulletin, vol. xiii, 1902, p. 108.

Bartholin's glands are named for Thomas Bartholin, a Danish physician, who was born at Copenhagen in 1619 and who died in 1680.

HEART DISEASE AS AN OBSTETRIC COMPLICATION.*

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For many years heart disease has been recognized as an important disturbing complication of pregnancy, labor and the puerperium, while on the other hand, careful attention has been directed to the deleterious influences of pregnancy, labor, etc., in the causation of heart disease. This subject has furnished several interesting pathologic questions that are not yet solved, and some questions of management are not yet agreed on. I do not hope to add new facts, but especially to direct attention to a few points in the management of this complication that are somewhat frequently overlooked.

The term heart disease is a broad one, and of course embraces many different pathologic conditions. It might be of advantage to separately consider some of these different conditions, and especially to distinguish between diseases of the myocardium and those of the endocardium. However, in a general paper, we may adopt the usual custom of considering together all these conditions.

Heart disease may arise and develop during the pregnant or puerperal state, and be due to it, or it may have existed previous to pregnancy, and influence the course of pregnancy or labor, or be itself influenced by them. An example long recognized of heart disease arising during the puerperium is furnished by cases of endocarditis resulting from puerperal infection. Another condition less known is that of myocarditis resulting from the toxemia of pregnancy. A parenchymatous degeneration of the myocardium is a common and characteristic finding in postmortem examinations of women dying of gravidal or puerperal eclampsia. Careful study of the heart and circulation during an attack of eclampsia confirms the belief that myocardial degeneration is a common condition in eclampsia, and also probably in the large number of cases of eclamptogenic intoxication when convulsions do not supervene. The lesion is of all degrees of severity from a slight cloudy swelling to a very serious fatty degeneration. Corresponding to the anatomic changes the symptoms are from those of a slight disturbance of the pulse on exertion to the most serious circulatory disturbances consisting of general edema, and especially edema of the lungs, coughing and spitting blood, nausea and vomiting, dyspnea and palpitation. The frequency of this condition, if it corresponds to the frequency of the disease, is several times as great as that of eclampsia, being found, perhaps, in 1 per cent. of all pregnancies.

Fritsch and Loehlein have also called attention to the fact that a systolic murmur heard over the base of the heart and propagated along the vessels is found very frequently in the puerperium and occasionally during pregnancy. It resembles in some ways the murmurs of anemia and chlorosis, but its mode of production and its significance are not determined.

In this connection a word may be said concerning the much-debated question of hypertrophy and dilatation of the heart during normal pregnancy. First Larcher and some others found, in postmortem examinations of women dying in labor, that the weight of the heart is greater than in case of the non-pregnant women. These

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data have been questioned, but more carefully made examinations have shown some increase in weight of the heart in pregnancy. The efforts of Ducrest and others to measure the thickness of the heart walls are less convincing in the results, because of the great differences in the amount of contraction of the heart muscles and the resulting differences in the thickness of the walls.

Duroziez demonstrated an increased area of heart dullness in the latter part of pregnancy which corresponds to the shadows shown in the Roentgen pictures recently made and published by von Rosthorn. These findings, however, do not prove an enlargement of the heart, but rather such a change in its location in reference to the anterior chest wall as to bring more of it in contact with the wall. Fritsch has held that the heart is not hypertrophied, but rather slightly dilated to accommodate a greater amount of blood.

The question is intimately related to the physiologic problem of the change in the circulation during pregnancy and labor. Has the heart more work to do during pregnancy? The amount of work to be done by the heart depends on the amount of fluid to be kept in circulation and the resistance of the tubes or blood channels. Gescheidlen found in dogs some increase in the amount of blood during pregnancy. A more important element than the quantity of blood is that of the resistance in the tubes or vessels.

Several ways in which the resistance is probably increased during pregnancy have been suggested by different writers. Spiegelberg held that the introduction of the uteroplacental circulation caused a considerable increase in the work of the heart. Lahs then showed that dividing the current, as was done by introducing new or additional channels, would rather decrease the resistance and so the work of the heart. Other ways of increasing the resistance were then considered. The pressure on the abdominal aorta by the enlarged uterus was one. The increase in abdominal pressure, due to the growing uterus, was another. The obstruction to the pulmonary circulation and disturbance of diaphragmatic respiration, was a third. That these may be elements in the problem seems to admit of no doubt. There is, however, one cause of increased resistance that has, so far as I know, been generally neglected, but one that may be at times of more importance than all others, that is, the splanchnic congestion that is characteristic of pregnancy, and probably dependent on a vasomotor agent that may be due to the toxemia of pregnancy.

An elaboration of this theory would require the entire time of a paper, and can not now be attempted. In its favor only one very suggestive fact will be recalled: an early and a constant symptom of pregnancy is congestion of the genital region with a corresponding anemia of the surface of the body. This condition is allied to that of chronic shock, where as we know the splanchnic reservoir is overfilled and other portions of the body are relatively anemic. In such a state the contracted superficial and extra splanchnic vessels furnish an enormous resistance to the blood current, and so greatly increase the heart work. This disturbance in the circulation is one of the first and most striking phenomena of pregnancy, and must be due to it. What more probable than that it, like the nausea and vomiting of pregnancy, the kidney of pregnancy, gravidal neuritis and eclampsia, is a symptom of pregnancy intoxication.

If this be a factor in the increase of vascular resistance or of the heart work, it will evidently vary much in importance, according to the degree of intoxication in individual patients. Where the elimination is poor, as in cases of renal disturbance, the intoxication will increase, and consequently the vascular resistance.

The conclusion that may be drawn from the work that has been done in the study of the effects of pregnancy on the heart is that there is generally a slight increase in the resistance due to a number of factors, and to the work to be done which leads to a slight hypertrophy of the normal heart. Occasionally the resistance is much increased, and in addition there may be a direct poisoning of the heart muscle by the toxemia of pregnancy. The myocardial degeneration thus produced is much more important than is commonly held. This pathologic change in the myocardium with the endocarditis produced by puerperal infection constitutes the pathologic changes in the heart disease, due to pregnancy and the puerperium.

A heart previously diseased is, of course, more apt to be injured by pregnancy and labor than a normal heart. Because we know so little clinically about chronic myocardial changes, we have in mind chiefly heart disease, due to valvular lesions. Whether the lesion be mitral, aortic or tricuspid, and whether it results in stenosis or regurgitation, or both, the heart is more apt to suffer from increase of work produced by any of the modes of resistance to the circulation. The degree in which it suffers varies greatly, depending, not only on the condition of the heart, but also on the importance of the disturbing factors. When there is a lack of compensation in the non-pregnant state the strain on the heart will certainly be very great, and may lead to irreparable injury; but if perfect compensation apparently existed before pregnancy, it may be broken down. The date when the disturbance begins depends on what factors are most important in increasing the heart work. If the toxic agent manifests itself early, perhaps causing a marked degree of nausea and vomiting, the cardiac weakness may be early apparent, perhaps to disappear later under appropriate management. The toxic agent may, however, show itself later in conjunction with renal insufficiency. Here the distension of the abdomen may co-operate to increase the resistance of the circulation.

Pregnancy is apt to cause several kinds of injuries to a diseased heart. It may weaken an already overstrained heart muscle or lead to its degeneration; it may also cause a renewal of an old or latent inflammation. Of course, both of these consequences may follow as an effect of pregnancy. Which is more common or more important is difficult to say.

All of the sequelæ of heart disease may be found developing rapidly during pregnancy. General and pulmonary edema, dyspnea, bronchitis, palpitation and gastric disturbance are among those most important from a prognostic standpoint. In some cases interference with general nutrition will come to be of great significance. Rarely death may occur before labor begins.

With the commencement of labor special dangers arise. If the heart has suffered much during pregnancy and the symptoms of secondary complications have already become threatening, the outlook may be serious. But even where there have been no marked signs of cardiac insufficiency, a sudden and perhaps fatal collapse is not impossible. In the first stage the contraction of the uterus in itself does not, perhaps, increase the vascular resistance, but it is not unlikely that the vasomotor mechanism is disturbed so as to create more work for the heart. Moreover, individual voluntary efforts at bearing down cause an increase in abdominal

pressure, just as in the second stage, and thus markedly increase the heart labor. It is in the second stage that the greatest danger arises. The powerful contractions of the abdominal muscles, which in a healthy person may produce a marked cyanosis of the head and chest, may overcome a diseased and weakened organ, and sudden death result.

With the completion of labor it might be thought that the dangers are past. This, however, is found not to be the case. In the casuistic we find many instances of death occurring from a few hours' to a few days' postpartum. Much discussion has taken place concerning the conditions which are responsible for these deaths. While some have thought that the sudden filling of the venous system leads to distension of the right heart, others have held the opposite view, namely, that the sudden emptying of the abdomen leads to overfilling of the abdominal vessels and a resulting deficiency of blood in the heart. It is not unlikely that there remains after the emptying of the uterus a high degree of vascular resistance, which continues to impose too much work on the weakened heart, and to which it finally succumbs in spite of the comparative relief that it must get at the completion of the second stage of labor.

Additional dangers arise later in the puerperium. The condition brought about during the latter part of pregnancy by the disturbed circulation and the respiratory and digestive complications favor local infection and its extension if there be any contamination. If infection can be avoided there are still digestive disorders and the kidney disturbance to complicate the puerperium and make it a long and tedious convalescence.

When we now turn to consider the effect of a pre-existing heart disease on pregnancy, we find the most common and chief disturbance to be an interruption of the pregnancy. This interruption may occur at any time, but most frequently in the third and fourth months. It is no doubt due generally to disturbance of the placental circulation, which may frequently be attended with hemorrhage. On account of the imperfect placental circulation and the imperfectly oxydized and purified blood, the fetus may suffer and eventually succumb inside the uterus.

As there is little or no reason why heart disease should cause sterility, it is probable that the frequency of heart disease in pregnancy corresponds to its frequency in all childbearing women. Demelin found heart disease in about 1.3 per cent. of all pregnancies. Vinay found the frequency to be 2 per cent. If 1.5 per cent. represents the number of cases of pre-existing valvular heart disease, we must remember that nearly as many cases of myocardial disease arise during pregnancy. Many of these cases cause few symptoms and may be overlooked, unless a routine examination of the heart is made in all cases.

CARE OF THE PATIENT.

In the management of this complication, if the patient be seen early in pregnancy, the first question that arises is, shall the pregnancy be allowed to continue, or should an abortion be induced? If the valvular lesion be accidentally discovered in a patient who has perfect compensation, and is perhaps ignorant of her condition, the question of inducing abortion could not be raised. She should simply be carefully watched, and if complications arise, she should be informed of her condition. But if at first the patient knows her state, and if there are signs of disturbed compensation, the question can not be ignored. If the patient should be very anxious to have a child and object to the induction of premature labor, she should be fully informed of the danger of the occurrence of a spontaneous abortion, the risk of increased injury to the heart, and the danger from secondary complications, and even death. The plan for the conduct of pregnancy should then be mapped out.

The patient should be required to give her promise to adhere to all details in this plan and co-operate with the physician in every way. When the circumstances of the patient will not admit living up to an ideal plan, such modifications must be made as are necessary, but the physician's responsibility is satisfied only when he presents to his patient a complete statement of all the facts in the case.

If the circumstances of the patient do not allow her to undertake to follow a course of treatment that promises a successful carrying of the fetus to term, or to viability, and if she wishes an abortion performed to save herself the risks of the pregnancy, then the physician has a most difficult question to decide—the necessity of an operation. He must from the histories of previous pregnancies learn the probability of a spontaneous abortion and from the anamnesis and the physical examination determine the condition of the heart and its probable resisting and latent forces. The determination of the location and kind of murmur is of minor importance. The condition of the pulse, its variation when the hand is raised above the head, the change in the heart action by change of the position of the patient, the existence of complications, such as edema and gastric and renal disease, are among the important symptoms and conditions that determine the prognosis and the decision of the physician as to operative interference.

When an operation is decided on, it should be done at once. Waiting for a spontaneous abortion is not advisable, as it promises no safer outcome than a properly performed operation and leaves the patient exposed unnecessarily to the risks of pregnancy. The mode of operation does not differ from that which is employed for other indications. If the pregnancy be not advanced beyond the sixteenth week rapid dilatation of the uterus and removal of the egg under ether is the safest method, because quickest and attended with the least danger of infection. With proper precaution, ether may be given to a patient with heart disease without fear. Between the sixteenth and twenty-fourth to twenty-eighth weeks dilatation of the cervix with a tent or bag must precede the removal of the egg.

If the attempt to carry the pregnancy to term is decided on, one of the first questions to engage the attention is the prevention of spontaneous abortion. Mueller states that abortion occurs in about one-fourth of all cases of pregnancy complicated with heart disease. In severe cases the frequency of abortion is undoubtedly much greater. Slight strains or injuries, overexertion, wearing a corset and other conditions and circumstances that would have no bearing in a case of normal pregnancy here lead to slight uterine hemorrhage on account of the venous congestion and disturbed placental circulation. Hence anything that can act as an etiologic factor should be foreseen and avoided. The slightest indication of uterine contraction should be noticed and stopped by appropriate means. The patient should be instructed in the meaning and importance of all the signs of the beginning of uterine contractions, the backache, the heavy feeling in the pelvis simulating menstrual molimina, hardening of the uterus, etc. At the first appearance of these symptoms she should lie down and send notice to her physician.

For the prevention of the uterine disturbances which precede and cause the separation of the egg, as well as for stopping the uterine contractions, the best thing to do is for the patient to keep a horizontal position, as in this position the congestion of the uterine vessels due to gravity is best avoided. In severe cases it may be necessary for the patient to keep this position most of the time of gestation. It is of use for other reasons. The work of the heart is thereby much lessened. The work of the digestive organs may be lightened, for the amount of food required by the body is very much less when the body is at rest and protected from loss of heat. Hence rest in bed in the horizontal position comes to be the most important factor in the management of heart disease in pregnancy.

It is, however, an agent that must be controlled. A woman can not lie in bed seven or eight months or even seven or eight days without suffering from lack of exercise. The blood and lymph circulation is much dependent on the muscular contractions, without which there is a stagnation, a deficiency in secretion and an auto-intoxication that leads to malaise and disturbed nutrition. To avoid these harmful effects of inactive rest, a system of bed exercises and regular daily massage should be inaugurated. The details of such a system can not be elaborated here.

When uterine contractions indicate that the danger of abortion is imminent, we must supplement rest in bed with sufficient doses of morphin or codein to stop them. Sometimes it is necessary to continue the use of morphin for a considerable period. When it is necessary to use this drug, it is well to counteract its harmful effect on the intestinal functions by giving salines or other proper correctives.

DIET.

Aside from measures to prevent abortion, the care of pregnancy includes such dietetic, hygienic and medicinal management of the circulatory, respiratory, excretory and digestive systems as is necessary to keep them in the best possible condition. The food should be easily digestible and assimilable and carefully regulated as to quantity. Too much food throws unnecessary work on the eliminating organs, and may be a source of great danger. In the latter part of pregnancy, the digestive organs may be so affected that it is difficult for the patient to take and retain sufficient food to meet the demands of the body. The caloric value of the food should be approximately determined, in order to furnish a basis for the amount given or allowed. If a patient be most of the time in bed and reasonably protected from cold, 1,000 kilo calories is sufficient to supply all demands. If she be about more or less and use up considerable energy in exercise and heat radiation she will need 1,500 to 2,000 kilo calories. Of course, I am not considering cases of slight heart involvement which do not prevent the patient from doing her ordinary work. In such cases the needs correspond to those of a healthy pregnant woman. The food should contain all the food elements, and preferably in the proportion found in milk. Milk is indeed the best food of all if it can be obtained in good condition. As the amount required is only from one and one-half to three quarts, the quantity of water which forms a part of the milk is not excessive. When it can not be used in whole or part, a menu containing toast, cereals, fresh eggs and butter, a few well-selected and carefully cooked vegetables, and if borne by the stomach, fresh fruits will answer all requirements. All must be prescribed, and nothing left to chance or to the whim of the patient or her friends and attendants. So long as the digestive apparatus is in order, the dangers from an improper diet are not recognized. A mistake in diet may, however, upset the liver or kidneys and lead to a circulatory disturbance that reacts on the digestive apparatus, and establishes a vicious circle hard to be broken.

HYGIENE.

The hygienic management embracing regulation of exercise, sleep and rest, dress, bathing, avoidance of infection, etc., should be equally prescribed and controlled by the physician. The question of bed exercise in serious cases has been considered already. From the principles laid down in the discussion of the prevention of abortion, it is evident that physical exercise must be taken with care. Nothing that involves risk of accident should be allowed. Exercise should not be too long continued, and under no circumstances should the patient become tired. This restricts exercise in most cases to moderate walking and to riding over good roads, and proscribes tiring housework, as well as indulgence in active amusements.

If the patient is not obliged to remain in bed all the time, she should lie down at least once a day for a half hour or more. If the complications are not too disturbing, there is generally no difficulty in procuring a reasonable amount of sleep. With the appearance of dyspnea, coughing, etc., want of sleep may become serious and furnish an indication to interrupt pregnancy.

Two points should always be made in regard to the dress or clothing of the patient: First, there should be no constriction of the body of the patient with corsets or skirtbands. The skirts must be light and suspended from the shoulders. Second, the underclothing must be warm enough to protect well the skin. Skin elimination is not unimportant, and must not be checked.

The frequency, kind, temperature and duration of the baths are somewhat important matters, and must be decided on after studying the case. Sometimes a cold bath can be borne by one accustomed to it. A long hot bath is generally enervating and harmful. In the latter part of pregnancy the patient must usually be content with a sponge bath.

Of very great importance is the avoidance of infection, and especially infection of the nose, throat and lower air passages. The condition of the patient is one of lowered resistance which makes an infection easy. A tonsillitis or bronchitis will very quickly change the picture of a smoothly progressing pregnancy to one greatly disturbed, hence all exposure to infection from friends or relatives must be strictly forbidden. Pure fresh air is invaluable, but dust from any source—the house or street—should be regarded as poison.

The medicines most needed are digitalis and strychnin for the heart, morphin or codein to quiet uterine contractions, and calomel, cascara, salines or other laxatives for the bowels. Chloral may occasionally be needed as a hypnotic. Oxygen should always be provided in case of dyspnea.

INDUCTION OF PREMATURE LABOR.

In spite of the best management of pregnancy, the time may arrive when, long before the end of gestation, the condition of the patient is such as to cause grave anxiety and compel a consideration of the advisability of inducing premature labor. The indications for the operation are increased frequency of cardiac upsets, pal-

pitation, growing weakness of the heart, as shown by a weakened and more rapid pulse, and increase in edema with disturbed respiration, and a serious impairment of nutrition. The operation will be postponed if possible till the thirty-sixth week on account of the child. Of course, it may be required earlier, as in all cases of induction of labor the utmost accuracy in determining the length of gestation should be secured. All preparations for the care of the infant have been made; the incubator is at hand and the nurse instructed in managing it; oxygen is ready, both for the mother and baby.

That method of inducing labor for heart disease should be chosen that is reasonably prompt and certain, and at the same time disturbs the mother the least. When there is hydramnion or twins the membranes should be ruptured to furnish at once some relief from the abdominal distension. In other cases we would probably choose between the use of the metreurynter and the bougie. If the cervix is soft and dilatable and the woman not very sensitive to manipulation, so that one may introduce a small Voorhees bag without an anesthetic, the metreurynter method is to be preferred. When the woman is sensitive so that the introduction of the bag would be impossible without an anesthetic or when the cervix is long and hard and not easily dilatable, the bougie method is better. As is well known, the chief objection to the use of the bougie is its uncertainty, the duration of labor frequently being thirty-six hours or more. In cases of heart disease, however, the uterus is more sensitive, spontaneous abortion and labor being common. Hence the bougie generally acts more promptly than in other cases. For this reason this method may be employed here with a good deal of confidence. The details of both these methods are assumed to be familiar to all, and will not be discussed.

The essential points in the management of labor complicated with heart disease are careful watching, prompt interference when indicated, the use of ether when necessary, and the free employment of oxygen. From the beginning of labor till the completion of the third stage, and in bad cases for hours longer, the physician must be in constant attendance and watch closely the effect of labor on the heart. Every preparation for all possible operations must be made. Heart tonics and stimulants are administered as needed. One of the most important helps is oxygen. To one who has never used it in such cases its effects are magical. It not only helps the respiration, enabling a patient to lie down who has been obliged to keep the sitting position to breathe, but it also has a soothing effect almost equalling an anesthetic. It will, in fact, largely replace ether, which will rarely be needed except in cases of operation.

Operative interference may be required in any stage of labor. As a rule, there is less danger in the first stage than in the second, and so less indications for interference. If the cervix opens slowly and the heart begins to tire, it may be necessary to assist Nature. Ether is, of course, the anesthetic chosen. It is safer to give ether than not to give it, for the pain and shock are more injurious than the anesthetic. Yet the operation should be as short as possible; hence if it is necessary to dilate the cervix it is better to do so by incision than by manual or bag dilatation, unless the cervix is soft and easily dilatable. Dilatation will be followed by rapid delivery of the child, either by forceps or by turning and extraction.

There is no special rule for managing the third stage. Generally the placenta comes away promptly. If an operation has been done it may be desirable to remove the placenta at once to avoid further disturbance to the patient. Otherwise the cord may be cut short, dry dressing applied, and the patient allowed to remain quiet until the placenta comes away of itself.

In accordance with the theories of the causes of the disturbance following the emptying of the uterus, it has been advised to apply sand bags or other weights to the abdomen after the birth of the child to increase the abdominal pressure. A good bandage is probably quite as efficient. The chief thing to remember is that the danger is not passed with the expulsion of the child, and that then heart stimulants and oxygen are especially needed.

The puerperium requires as careful management of the diet, exercise, massage, etc., as did the pregnancy. During this period, which should include the full puerperal period of three months, the patient may be restored to a fair state of health. As a general rule, the mother should not try to nurse the child. The outcome depends chiefly on the thoroughness with which the patient follows the plan laid down, even to minute details. Here, as in hardly any other field of medicine, is made apparent the importance of the qualities of patient persistence in the physician and conscientious obedience in the patient.

DISCUSSION.

DR. RUDOLPH W. HOLMES, Chicago—It is very desirable to have our attention called to heart disease in its obstetric relation, for there is a very popular misconception prevalent as to its frequency and mortality. The study of heart disease in pregnancy and labor is based too largely on old statistics, compiled at a time when normal and abnormal obstetric cases were inadequately studied. The most popularly quoted paper is that of MacDonald, published in 1878, but he based his conclusions on only a few severely ill patients, where necessarily the mortality was high, from 50 to 60 per cent., according to the lesion, mitral stenosis being the most serious. Recently Fellner made a study of the heart cases occurring in the Klinik Schauta in the past ten years. He found, first, that 2.4 per cent. of pregnant women have heart affections, few only offering symptoms; second, that the mortality was 6.3 per cent., in sharp contrast to older figures—the deaths being largely limited to cases of mitral stenosis. A word might well be said regarding morphia in pregnancy. It is a moot question if morphia, exhibited in reasonable doses during pregnancy, affects the baby, but there can be no doubt that it may be disastrous to the child if administered within an hour or two before delivery, for then the center of respiration may be paralyzed and the child be unable to breathe at birth. The babies of women subjects of heart disease are weaklings and often prematurely born, making the hazard from the morphia all the greater. If morphin is to be given it should be a cardinal principle that it may be given in pregnancy to allay uterine irritability. The moment labor begins morphia should be given sparingly, and in the second stage should be contraindicated, for it offers great danger to the child. I have seen babies severely poisoned by the administration of morphia to the mother, necessitating protracted artificial respiration. The use of heroic doses of morphin in eclampsia, I believe, is responsible for many fetal deaths in that condition. In inducing labor I think that there can be no discussion but that the catheter is the most logical instrument for the purpose in this condition. If labor is to be accelerated, and the os permits it, a small flat-topped Voorhees bag may be used. A large bag ought not to be employed, because there is danger of raising the intrauterine pressure, and thereby compromising the heart action. If cervical effacement be present, I believe the cervical incisions offer a useful means of securing full dilatation and further, bleeding is produced which has a beneficial effect on the heart. Version or forceps will be employed, depending

on the conditions. I do not believe, with Fritsch, that the disturbance in the third stage of labor is due to anemia but rather to an overloading of the right heart. Therefore, in the management of the third stage of those heart cases with impaired compensation the indication should be to bleed the woman, if possible. The moment the baby is born and the cord severed, the placenta should be manually removed slowly, so that the cotyledons are torn away gradually, thus enabling one to regulate the amount of blood that is to be lost. It is a distinct advantage to have the woman bleed in order that this congestion of the right heart may be obviated. In conclusion, my remarks apply alone to those grave heart cases with a lack of compensation. The labors of women with compensated heart lesions should be conducted practically on the lines approved in normal cases.

DR. N. R. HOTCHKISS, New Haven, Conn.—It has been my misfortune in several cases of mitral disease to have the woman die from cyanosis in spite of all the precautions that were taken. I have the feeling that in mitral disease, where the patient exhibits shortness of breath during pregnancy, we should not permit the case to go on to a natural termination. The earlier labor is induced, the better for the patient. In regard to what Dr. Holmes said of the necessity of blood loss in these cases that go to termination, that is one of the most important things necessary. I have noticed a number of times that the loss of blood relieves these patients very much, and several times I have performed venesection to relieve the cardiac and respiratory dyspnea.

DR. FRANK CAREY, Chicago—While one may agree with Dr. Holmes as to the necessity of loss of blood in a given case, I can not agree with him in the general advocation of going after the placenta at once, and letting that go out as general practice for physicians. There is the possibility of infection, and one can not control the amount of blood to be lost by slowly picking off the placenta. To bleed a patient open a vessel and have no difficulty stopping the bleeding. If the placenta can be delivered within a reasonable time, say twenty or thirty minutes, I certainly should not advocate its manual removal, by the general practitioner at least.

DR. HERMAN GRAD, New York—This is an important subject. I know of nothing more formidable to cope with at the time of labor than a bad heart and damaged valves. These cases are exceedingly difficult to manage, especially if they do not present themselves until the ninth month of pregnancy. A case came under my observation recently, in which I found a mitral stenosis. While sitting quietly in a chair the patient was comfortable, but the slightest muscular exertion would send up her pulse and produce cyanosis. When labor began she was cyanosed and unable to lie down. She had to be delivered in the standing posture, with two or three persons holding her erect, and myself kneeling on the floor. It convinced me that if these cases come early in pregnancy, labor should be induced, because the woman is in too great a danger of losing her life. With regard to bleeding, I have observed that the loss of blood relieves these women, and it is astonishing to see how soon afterward they can recline in bed. The patient I mentioned passed through the puerperium in comfort. Six weeks after her confinement she went out walking. On returning home she dropped dead while going up the stairs to her apartment. No autopsy was permitted. She had murmurs all over her chest. Her mother told me that although they knew of her heart trouble, they nevertheless permitted her to marry, not knowing that pregnancy would be such a serious matter.

DR. CHARLES J. HASTINGS, Toronto, Canada—Some one has suggested the slow peeling off of the placenta to encourage hemorrhage in some cases in order to relieve the engorged right side of the heart. This strikes me as being rather unscientific. While I appreciate the value and importance, in extreme cases, of relieving the engorgement of the right side of the heart, yet I think this should be done by venesection, in the usual way. I look on the introduction of the hand into the uterus and the peeling off of the placenta as one of the most formidable and most dangerous operations of labor and should only be resorted to in extreme cases, and always with a gloved hand. In my opinion we have no more valuable drug than morphin at our command; in fact, I think there is no other to compare with it in the relief of cardiac dyspnea and shock. I have never seen any ill results to the child *in utero* follow its use, and I have had occasion to give it in many cases before the birth of the child. I do not question the possibility of its giving trouble, but my experience has not been in that direction. I think we ought to consider well before the induction of premature labor, both for the mother and child. The mental effect on the mother might be more disastrous than the continuance of pregnancy, as we often see more disastrous symptoms in the earlier months of pregnancy than later on, providing the patient is carefully watched and treated. Systematic rest, cardiac tonics, careful dieting and proper elimination usually result in satisfactory compensation. We should, therefore, be slow to sacrifice the life of the child. I have had, however, one very grave case where the patient had had two severe attacks of hematemesis as a result of engorgement of the right side of the heart. In this case, in consultation with two of my confrères, we decided to empty the uterus at once.

DR. C. S. BACON—The principal point taken up in the discussion seems to be the management of the third stage of labor, the question of removing the placenta and increasing the hemorrhage. There have been two views held as to the cause of the disturbance after the birth of the child. One, that there is an anemia of the heart, and the other, that there is an engorgement of the heart; two opposite views. It is not necessary to regard either of these conditions as the essential etiologic factor. It is certain that the embarrassment of the circulation continues after the child is expelled. The vascular resistance continues for hours; in fact, for some days. Sometimes death occurs immediately after the birth of the child, but more frequently not until some hours afterward. We may assume that the heart is called on to do an increased amount of work, and that this condition is the cause of the fatal termination. These theoretical conditions as to the relative anemia or congestion of the heart need not influence us too much. I doubt very much whether it is necessary to increase the hemorrhage by venesection or by manual removal of the placenta, as mentioned by Dr. Holmes. Remember that the patient is weak; she has been nourished improperly for months, and she has a weak, poorly nourished heart. Why make her condition worse by withdrawing blood? What the patient needs is stimulation before, during and after labor. I wish again to emphasize that the use of oxygen during labor and continued for some hours afterward, is preferable to producing hemorrhage, either by venesection or manual removal of the placenta. The danger of infection referred to by Dr. Carey must be considered, because the patient, on account of her weakened condition and diminished resistance, is more liable to infection at this time than at any other. As to the use of morphin: These children are in a weak condition, and it is probable that this weakness is the result of a disturbed placental circulation and not because of the use of morphin. I have given morphin for weeks and months, in carefully regulated doses, to prevent uterine contractions, and I am convinced that I would have had a spontaneous labor without it. The child was born and, so far as I could see, was not injured in any way. In regard to the nature of the heart lesion: The common belief is that an aortic disturbance is more dangerous than a mitral lesion, but this is not in accordance with Fellner's operations. I do not believe that this is of so much importance as is the condition of the patient. As to the interruption of the pregnancy early: Even though the woman may be in great danger, we have no right to induce labor unless she will consent to it, and I doubt very much whether we have any right to urge the patient to consent. All we can do is to make clear to her the dangers of her condition, and insist that if she wants to go to term, in spite of our judgment, that it is dangerous, then she will know exactly where she stands and will assume the responsibility herself. It is wrong to let her go in ignorance of her exact condition.

ORAL INFECTION AND STERILIZATION.*

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The lack of requisite training of medical undergraduates in dental principles is well understood by our Section. Appreciating as we do the bar to general efficiency which this defect in primary education causes, it has been for many years one of the important aims of the Section on Stomatology to endeavor to have proper instruction in dental principles made a part of the medical curriculum. To all practitioners laboring under this disqualification, oral infection will always be more or less of a bugaboo. This is due to the fact that in order to be able to comprehend any departure from a normal condition of the tissues in the dental region, it is necessary to be thoroughly familiar with the physiologic appearance of these parts.

The most important thing in oral infection is, naturally, a proper diagnosis. For this purpose it may be best to separate the subject into two subdivisions; first considering it from a standpoint of semeiology, where the local pathogenic condition is merely a symptom of some constitutional disease; and, secondly, from an etiologic standpoint, where the mouth infection may truly be said to be the exciting cause of other functional disturbances.

When we consider the vast network of fine capillaries that freely anastomose through the gum tissue, and the fact that they are the arterial terminations of one of the longest of blood courses, it is not unreasonable to suppose that in all forms of malnutrition the tissues nourished by this ultimate capillary network should be the first to exhibit symptoms due to a lack of normal nourishment. The gums, the pulps of the teeth and the lining membrane of the roots, by means of which they are properly articulated in the alveolar sockets, are the parts nourished by these capillaries.

In all diseases of the vital organs, before any other clinical symptoms are made manifest, these tissues assume a pathologic appearance, varying in character and degree according to the nature and severity of the disease. Atrophic changes are liable to be produced by numerous local causes, and thus easily mislead the student. When, however, the changes in the local appearance of the gums are merely symptomatic of some constitutional disease, the acute local symptoms continue to increase in severity with the progress of the disease, and in consequence, the clinical aspects of the gums in these vital diseases become great aids in prognosis. When the vitality of the local parts is depreciated to a sufficient degree, they become a prey to infection, and the result is seen in the condition commonly known as pyorrhea alveolaris. When the stage has been reached where the discharges emanating from the alveolar sockets cause irritation of the surface of the digestive tract, due to the absorption of the toxins by the swallowing of the same, it becomes an additional menace to the welfare of the patient.

The nature of this discharge varies considerably, due not only to the stage of the disease, but influenced materially by the character of the functional disorder. A common error of dentists in speaking of these discharges is to fail to differentiate between those of a mild, almost bland character, and those of a more irritating form of sapremia, and from this to a virulent form of purulent effusion.

If we are to consider this matter from a scientific standpoint, it is time to cry a halt on speaking of all discharges of this nature as pus, without any bacteriologic evidences of its existence. In saying this I do not wish in any manner to belittle the baneful results that frequently ensue from the absorption of toxins where the discharge is nothing more than a simple sapremia. Since pyorrhea alveolaris has become a prominent factor, not only in dental but in medical literature, it is not an unusual thing to see erroneous diagnoses of this disease made. Dental practitioners frequently confound it with simple alveolar abscesses. If this happens it is not unnatural that the medical practitioner should often make serious errors of diagnosis in purulent effusions in the oral cavity.

An interesting clinical experience in this respect will better illustrate the point in question:

Miss L., aged about 50, fell down a flight of stairs. She was bruised considerably about the face, but paid very little attention to the matter for twenty-four hours, when, on account of her suffering, she sent for her family physician, who had been attending her for some time for diabetes.

He found the patient showing some temperature, and when, after forty-eight hours, this continued to increase so that it ran up to 102.5, and her mouth filled with purulent matter, he sent for a prominent surgeon.

After a careful examination the surgeon made a diagnosis of pyorrhea alveolaris, and prescribed a camphor mouth wash. The attending physician, accepting the diagnosis made, felt that the patient would receive better attention at the hands of a stomatologist, and I was called in.

Instead of finding the patient suffering from pyorrhea alveolaris, there was a comminuted fracture of the alveolar process, extending from the first upper right molar to the left canine, and between forty and fifty pieces of fractured fragments were removed. This resulted in the loss of all the teeth in this region. On account of the diabetic condition, the delay in proper operative interference left the patient in a very precarious condition. Infiltrative absorption had already produced a condition of osteomyelitis, and only the most strenuous efforts of aseptic surgery sufficed to save the life of the patient.

In reply to the query of a prominent surgeon as to our methods of diagnosis in oral infections, I said that the same rule applied here that would apply to any other part of the body. If there were any possibility of a reasonable doubt, a diagnosis could only be made by exclusion. One of the common errors that is made in reference to this pathogenic condition, is the idea that it is confined to middle aged and elderly people. There is no age in which a patient can be said to be immune from this disease.

TREATMENT OF PYORRHEA ALVEOLARIS.

Before proceeding to consider the other types of oral infection, a few words as to the treatment of pyorrhea alveolaris may be of value. The original cause of the disorder must be properly diagnosed and brought under proper subjection. Where this is possible the prognosis is always more or less favorable if capable local treatment is enforced. It is, perhaps, unnecessary for me to state that this means the careful removal of every form of concretion and foreign substance from the teeth and roots and careful polishing of every portion of the teeth and exposed portions of the roots. This must be followed up and persisted in at very frequent intervals. The important treatment of this condition, however, is preventive treatment. It has been demonstrated by

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. E. A. Bogue, Alice M. Steeves and M. L. Rhein.

clinical observation that the frequent cleansing and polishing of the teeth surfaces (done in the proper manner) will so enhance the vitality of the dental region that functional disorders fail to produce the serious pathogenic conditions which result in mouths where this prophylactic treatment has not been used.

ETIOLOGY OF ORAL INFECTIONS.

We now come to the consideration of oral infections from an etiologic standpoint; that is to say, those cases that primarily arise in the oral cavity and are the original causes of other troubles.

First of all, in this respect it may be wise to say that there are forms of pyorrhea alveolaris due entirely to local causes. These are most commonly caused by neglect in the care of the teeth and the irritation caused by more or less extensive accretions of the calculi. It is also caused by the irritation produced from badly fitted crowns, wedges, injudicious separating of teeth and other causes which too often can be laid directly at the door of the dental attendant. Local treatment is a ready cure for all of these cases.

Perhaps the most common type of oral infection that is found is the simple alveolar abscess. This is caused by the death of the pulp of the tooth which becomes an easy prey to the first migratory bacteria.

TREATMENT OF ALVEOLAR ABSCESS.

The cure of these cases in the acute stage is a simple matter, and consists in the aseptic removal of every portion of the contents of the root canals, their thorough sterilization and subsequent hermetical sealing.

Where the disease has run a chronic course, the alveolar process in the neighborhood of the apex of the root and the outer periphery of the end of the root itself becomes necrosed. In such cases it is necessary, in conjunction with the treatment of the root canals, to surgically remove every portion of the necrosed bone and root if a cure is to be effected. Extraction of the tooth in itself will effect a cure, and of course is frequently the most efficacious remedy in infirmary practice.

At a recent meeting of the First District Dental Society in New York City, a prominent surgeon, reading a paper on this subject, made the remarkable statement that in cases of acute alveolar abscess the tooth should never be extracted until all the acute symptoms had subsided, claiming that it was dangerous to extract in this acute condition. He advised the simple lancing of the abscess, allowing the patient to suffer all the effects of purulent absorption, until, as he said, the leucocytes had overcome and defeated the bacteria.

It is unnecessary for me to place the ban of condemnation on any such practice before this Section. I merely cite it as an illustration of the fact that prominent medical men hold such peculiar views.

The main cause for opinions of this kind is due to the fact that physicians are frequently called in to see patients suffering from a more or less severe pyemia, subsequent to the extraction of some tooth. They fail to recognize the fact that the pyemic condition has been caused by lack of proper aseptic care of the wound after extraction of the tooth. In this way improper dental service is the cause of illogical medical inference. Oral infections involving the antrum should receive the same thorough treatment of removal of the focus if a cure is to be effected. When infections are absorbed through some of the many channels in the jaws, as per the inferior dental canal, speedy and radical surgical work is required to effect a cure.

Whatever the condition may be, a careful differential diagnosis must make clear the nature of the malady.

The effect on patients of any of these forms of oral infection is two-fold. In the first place, they suffer from the direct absorption of the toxins from the constant swallowing of the contaminated secretions, which tend not only to irritate the digestive tract, but in turn are absorbed into some particular portion of the tract, and frequently serve to increase or start up a chronic autointoxication of the system. This, in turn, results in the impairment of some of the functional parts of the body, and it is not an uncommon thing to see an etiologic oral infection causing constitutional derangements which are again manifested most markedly in the mouth by producing the well-known symptoms of pyorrhea alveolaris.

NEGLECT OF MOUTH INFECTION.

In closing, I wish to call attention to the serious neglect by the general surgeon of the evil effects of mouth infection. As stomatologists we realize how small a percentage of people keep their mouths in an aseptic condition. The modern operating room is replete with every aid and contrivance that can assist in aseptic surgery. Clean aseptic garments are a necessity to every attendant, the mouths of the operator and attendants are covered with sterilized materials; the hands of the operator and assistants are covered with sterilized gloves; the patient is carefully prepared for the operation in every respect, except that of his mouth, which frequently is filled with sapremic, if not with purulent effluvia. I leave it to the logical imagination to picture the result of such conditions, especially in intestinal surgery.

DISCUSSION.

Dr. E. C. Briggs, Boston—I think autointoxication in the alimentary canal plays an important part in the infection of the mouth. It has seemed to me, in my examinations of the saliva and of urine in cases of interstitial gingivitis, that I have found the most important indication for treatment to be the thorough cleansing of the alimentary canal. One patient may show uric acid diathesis and another only poor nutrition, but in most cases there is a failure on the part of the patient in his daily life to have the alimentary canal thoroughly clean, and as a result he becomes autointoxicated. I want to speak of an operation for the correction of prominent sockets of teeth, which I am not aware has been done before. It is for the treatment of cases in which the teeth, if left to themselves, erupt and, extending until they have cleared themselves of the gum, project down very far, overlapping the lower incisors and give the "gummy" smile so disfiguring to the patient. Sometimes the lower lip almost covers the upper teeth and the smile discloses only the gum. Some years ago such a case was brought to me which was very marked. This led me to do a thing which I have done in several cases since, that is, the cutting away of the gum and the alveolar process, when it was necessary, to uncover the crown of the teeth in the position I wished them to stand, that is, before they had come down and projected themselves beyond the normal line of the gum. After the cutting operation I put in a plate, but later on I found that merely enucleating the tooth seemed sufficient to avert a tendency to project downward. I have treated a score of cases in the last six or seven years. It seems to me rather a satisfactory operation and I should like to have someone else try it.

Dr. Stewart L. McCurdy, Pittsburg—Dr. Rhein's important paper is of special value to the oral surgeon whose work is confined to major operative work. Extensive wounds and absorbing surfaces are always present, and one of the most serious complications in operations about the mouth is infection. By observing Dr. Rhein's points, I think we can secure a more

aseptic field and thus guarantee a more prompt repair after operations.

DR. A. W. HARLAN, New York—Dr. Rhein's paper further emphasizes the remarks made by Dr. Latham on the incorrect use of terms. We have had a paper on pathologic irregularities, dealing with suppurations and displacements of the teeth in their sockets. We have had another paper on oral infection which practically deals with the same subject. One gentleman uses the term pyorrhea in one portion of his subject and in another says interstitial gingivitis. To an outsider, knowing nothing about the subject, this would be confusing. Interstitial gingivitis is the term that has been coined by Dr. Talbot to describe the pathologic changes that take place around the roots of teeth. It is an absolutely incorrect term for the reason that many of the lesions of the gums commence, not between the teeth, but on the labial and lingual surfaces of the teeth. It is, therefore, improper to use the term interstitial gingivitis to cover the whole field. The term which is most used describes the effects rather than the cause, and I must protest against the misuse of terms by men like Dr. Talbot, Dr. Rhein and others, because none of the terms convey the intended meaning to a non-professional person.

DR. EUGENE TALBOT, Chicago—I am surprised that such an omniscient man as Dr. Harlan should be ignorant of anything. I never thought of designating inflammation between the roots of teeth as "interstitial gingivitis," nor does the majority of the dental profession understand it so. It shows the greatest ignorance to speak of interstitial gingivitis as an inflammation between the roots of the teeth. Every physician and trained dentist knows that interstitial inflammation means sclerotic inflammation of deep-seated structures such as is found in the kidney, liver and such organs. It never occurred to me when I coined the term that it was absolutely exact; no term can be. It means a deep-seated inflammation in the alveolar process and not between the teeth any more than any other part of the alveolar process. The term is properly understood in this sense by the majority of pathologists. If there is one thing on which physician and dentist alike should be better educated, it is infection from the mouth. It will not be long before more is definitely settled about diseases of the alimentary canal, especially about autointoxication, intestinal fermentation and appendicitis. In some cases I could approximately diagnose appendicitis due to infection from the alveolar process. It is a subject which requires the attention of the medical profession and especially of the dental profession.

DR. ALICE M. STEEVES, Boston—In regard to Dr. Harlan's remarks, diphtheria conveys a definite idea to the laity. There are many infectious acute diseases of the throat that are named diphtheria by professional people, and while it does convey a definite idea to the laity, always conveys a serious idea and is not always justifiable. There are many conditions of the throat, such as follicular tonsillitis, etc., not diphtheria. Also in typhoid fever there are many conditions of the intestinal inflammations that have in the past been covered up for various reasons, perhaps imperfect diagnosis, under the term typhoid fever. As time goes on and these cases are looked into more carefully we know these cases have not all been typhoid fever. I think, therefore, that typhoid fever, diphtheria and various other affections are very likely to be used for a number of conditions without conveying any definite idea to the laity.

DR. GEORGE F. EAMES, Boston—The term interstitial gingivitis has been accepted by many for the want of a better one, but as Dr. Talbot has defined it as a deep-seated inflammation in the alveolar process, it seems to me that neither the term interstitial nor gingivitis applies to the diseases commonly included in the term pyorrhea alveolaris. Undoubtedly numerous diseases of the throat in the past have been classed as diphtheria; at the present time, however, no conscientious physician could make that mistake. The microscope settles it beyond a doubt.

DR. VIDA A. LATHAM, Rogers Park, Chicago—There are no text books that cover properly the field of oral asepsis. Dr. Hunter's and Dr. Marshall's works are the best. The dentist who meets with all classes of infection of the periodontal tissue—call it pyorrhea alveolaris, if you wish—is at times appalled at the rapid onset and far-reaching results. We see cellulitis with edema of the cheek so severe that we are alarmed. Some people put on cold compresses and advise antisepsis of the mouth, with calomel internally, which is in some cases, perhaps, contraindicated. It seems to me that this is a subject which the profession might take up with a great deal of profit, and also make a better study of the growth bacteriologically, following the lines of Miller, Vincentini and Goadby, who have tried to find some culture media on which they can grow the mouth germs. This Vincent's angina is sometimes confounded with diphtheritic infections and is a source of danger in a dental office. I believe strongly in the fact of autointoxication; also that these cases of pyorrhea alveolaris or interstitial gingivitis may be caused in many cases by profound anemia, which we know is often due to autointoxication, and these are the cases where we get a neurasthenic type from some maldevelopment through faulty metabolism.

DR. RHEIN—I had trusted that the purport of this paper would not be misconstrued. It was not my intention to make this a subject practically of dental discussion nor to bring in the mooted subject of nomenclature on this point. It is well understood by all of us how difficult it is to settle that question, so I referred to the condition as pyorrhea alveolaris, because it is the name by which it is most generally known among the medical men, and this paper is intended for the general medical practitioner. Personally, I am ready to adopt the name of interstitial gingivitis instead of pyorrhea alveolaris, if it could be generally adopted. I was much interested in Dr. Briggs' remarks regarding reimplantation, and I believe that in some cases we may get the results he speaks of. I do not believe, however, that we can get better results by reimplantation than with the same amount of surgical efficiency. The objection to implantation remains until it becomes disproved that it is only a temporary operation, unless ankylosis should set in, which is present in only a very few cases. I will take great pleasure in giving Dr. Briggs' method further attention. In regard to sterilization, there is not a general medical practitioner, unless he has been especially trained, who would understand what we mean by "placing the mouth in an aseptic condition." That is one of the things that Dr. Latham brought out. Absolute sterilization of the mouth will always remain an impossibility just as absolute perfection of occlusion will remain an impossibility to the human race. What is construed by the medical profession to be placing the mouth in as sterile condition as possible means, as a rule, to brush the patient's teeth and give him a mouth wash. A patient who is to be placed on the operating table ought to have every particle of foreign matter removed from the teeth. The teeth should be cleansed and polished by a special dental nurse and then the mouth wash properly used will place that mouth in a comparatively sterile condition so far as the mouth bacteria are concerned.

Occupations for Lepers.—A Russian physician, H. Koppel of Dorpat, of large experience with lepers, attributes their dread of entering an asylum to the lack of remunerative employment in them. He comments on the rapid course of the disease at home in comparison with the long survival in asylums, and ascribes it to the lack of medical care of the slight injuries to which their anesthetic condition renders them especially liable. At home no attention is paid to these abrasions and they entail long suppuration which undermines the general health. He advocates the introduction of various handicrafts for the lepers, making articles that can be adequately sterilized by boiling before distribution outside or any articles for consumption in the asylums, farming, casting, etc., but all with the proviso that the workers are to be paid for what they accomplish. He has found it advisable sometimes to hire out the men to neighboring farmers. They go directly to the fields and return to the asylum to sleep and eat, and the money they earn is their own. They will not work when there is no money incentive; inaction is depressing and the fear of it keeps them away from the asylums where they belong.

THE SURGERY OF THE BILIARY TRACT.

ESPECIALLY THE INDICATIONS FOR OPERATION AND THE IMPORTANCE OF DRAINAGE.*

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BOSTON.

The present communication seems to me justified only in the light of experiences which I have had during the past winter. We are still far from a satisfactory solution of many questions concerning the surgery of the biliary tract. The following are some of these questions:

(*a*) Should gallstones be removed even if they cause no symptoms?

(*b*) What is the importance of biliary drainage after opening the gall bladder or gall ducts?

(*c*) What is the best way of preventing hernia after operations on the biliary passages?

(*d*) What is the significance of the biliary fistula?

From the beginning, hernia in the scar and biliary fistula have been enough to dampen the surgeon's enthusiasm for a procedure which, in many other respects, is one of the most brilliant and effective in modern surgery.

The cause of hernia after operations on the biliary tract is the long incision and the destruction of the motor terminals of the intercostal nerves, and especially the use of drainage, which prevents immediate closure of the wound. The cause of biliary fistula is an obstruction of some kind, usually an overlooked stone, in the course of the common duct. The obstruction may be complete or it may be slight. To some degree, however, it must be present in every case of biliary fistula. Not infrequently the obstruction is the result of chronic inflammatory processes in the immediate vicinity of the common or hepatic ducts.

What more easy and effective way of preventing both hernia and fistula could there be than immediate closure of the gall bladder after the removal of gallstones, or ligation of the cystic duct after cholecystectomy, followed by secure suture of the abdominal wound?

No course of procedure can be more effective than this in preventing these two evils. Instead of hernia and biliary fistula, however, still greater evils may follow.

My own experience has shown that in all lesions of the biliary passages the most important thing to be accomplished is persistent and prolonged drainage of the gall ducts and the gall bladder. Furthermore, immediate closure of the gall bladder, cystic and common ducts, after extensive manipulations and perhaps bloody dissections, may be attended by dangers to life of no light weight, and by disasters of the first magnitude during convalescence. Post-operative complications have arisen for which there have been no precedents, and to remedy which secondary operations of the utmost difficulty and danger seem to be the last and only resource.

The occasional occurrence of a biliary fistula, for which at the operation no adequate cause could be found, presents a complication not only distressing to the patient, but mortifying to the surgeon. Furthermore, it requires an operation sometimes of much greater danger and suffering than the original one.

Three years ago the question of indications for operation in gallstone disease was discussed here before this body. The prevalence of opinion was strongly in favor of the proposition that gallstones should be removed as soon as they begin to offend. Subsequent experience among medical, as well as among surgical men, has, I believe, shown the truth of the proposition. The early removal of gallstones by mechanical art has proved brilliantly successful. This operation would have proved more brilliantly successful, however, had it been possible to make an earlier diagnosis. The weak point of to-day in the treatment of gallstone disease is our failure to recognize it early enough for a simple and uncomplicated operation.

It is not the discussion of diagnosis in these diseases, however, to which I would invite attention in connection with the question of indications for operation. It is rather the discussion of a more radical proposition: "Gallstones should be removed whenever they are known to be present, whether they offend or not, unless the patient's condition forbids operation."

In previous papers I have considered substantially the above proposition, and have advocated exploration of the gall bladder whenever there was a strong suspicion of gallstone disease. The present question differs from the other only in the fact that gallstones are known to be present; it is a question, therefore, which can arise only during the progress of an abdominal operation. It may, of course, be considered, and generally is best considered, after convalescence from the original operation, if that operation is itself a severe one.

Many interesting observations are possible on patients who are known to have gallstones, and especially when the size, shape, number and situation of the stones are known. Without going into details of this sort, however, as beyond the scope of this paper, I would say that many obscure and trivial symptoms may be explained by the known presence of gallstones. Gastric and hepatic symptoms of slight importance, and usually regarded as of no consequence, acquire a significance which is at times remarkable.

Occasionally the gallstones observed at, say, a hysterectomy or some other procedure so formidable as to forbid immediate removal, begin immediately to cause serious trouble. The onset, course and conclusion of the case is watched with extreme interest and, in the beginning, at least, with absolute knowledge of the pathologic condition. At times, I regret to say, the course is observed with keen regret that the stones were not removed at the original operation.

A woman of about 50 submitted in March to an operation for the removal of double ovarian cysts. These cysts were malignant and infiltrating. The incision was a long one, which permitted easy inspection of the gall bladder. The attachments of the gall bladder were long; the fundus was easily delivered; the contents were numerous gallstones, apparently faceted, of similar size and shape, situated in the gall bladder itself; none were impacted and none showed any tendency toward impaction. This was one of a considerable number of similar ones in which I had discovered gallstones in the course of some serious abdominal operation. In some I had removed the stones, and in some I had not. It was obviously absurd to remove gallstones from a patient hopelessly infiltrated with cancer. I therefore let the gall bladder alone. It was palpated, however, by myself and by my assistants.

During convalescence the patient became suddenly jaundiced, but without any very severe pain. The closure of the common duct was immediate and com-

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

plete. The patient, already afflicted by the discomforts of jaundice, soon showed signs of recurring cancer. The abdomen became filled with fluid. Itching of the skin was intolerable. When I saw her last she was in extreme discomfort in every way, and was soon after reported as dying.

In another case, at a hysterectomy, I discovered a single large gallstone, completely filling a moderately sized gall bladder. The woman, a patient of 45, had been injured in a railroad collision, and presented so many subjective symptoms that it was almost impossible to tell what was real, what imaginary, and what, if any, was feigned. She did have some curious subjective signs in the epigastrium, possibly caused by the presence of this stone.

In other cases I have followed the histories with some care. I am convinced that many patients with gallstones who are regarded as having no symptoms, do in reality have symptoms, and symptoms which are significant or should be significant of some impending trouble.

There is one fact that stands out prominently when I review my gall-bladder experiences of the past three years—that fact is the serious pathologic changes sometimes present when the history shows apparently only simple repeated gallstone colics. No matter how confident one may be that the patient is passing at intervals small gallstones—without serious objective or subjective signs, without a suspicion of contractions or other abnormalities of the gall bladder and neighboring structures—the surgeon will often be surprised to find instead of a simple, easy removal of gallstones from a slightly affected or apparently normal gall bladder, a thickened, contracted, adherent, infected gall bladder, and an operation of exceeding danger and difficulty. This possibility which, with increasing experience, can not fail to depress the surgeon in even the apparently simplest cases, adds a strong argument in favor of removing gallstones which are known not only to exist, but to cause few if any local changes.

Local changes of sufficient extent and severity to make operation extremely hazardous are to be considered in connection with other facts in the patient's condition which may contraindicate operation. An easy and brief cholecystectomy might be attempted at the close of a severe abdominal operation when a difficult and prolonged operation would be utterly impracticable.

The final arguments in favor of removing gallstones, which are known to exist and which cause no symptoms, are: First, the known safety of the procedure in the given case, and secondly, the uncertainty of the future in the same case. It will be a matter of almost absolute demonstration in that case what the course of operation will be—an easy and successful operation. What the course without operation in that case will be no man can tell, except that it may be unfavorable. Gallstones never can do good; they may remain at a standstill, and they may suddenly cause irreparable damage. Operation may do harm, but in the favorable case assumed, it is almost sure to be effectual in removing permanently a source of great danger and unbearable suffering.

It is only when gallstones are discovered in the course of other operations that the conditions influencing the prognosis with and without operation can be accurately determined. It is only in this way that gallstones and other conditions of the biliary passages can be said to be or not to be offending. The truth of this proposition seems, therefore, more easily demonstrated than that of the former one that gallstones should be removed as soon as they begin to offend. The prognosis of operation in the former case is dependent on facts demonstrated only at the operation. In the latter the prognosis for operation may be predicted with the greatest certainty possible in surgical cases. The prognosis for medical treatment in some instances of real pathologic changes may, too, be reasonably predicted.

The second question is that of the essential necessity for biliary drainage after operating on the gall bladder or gall ducts.

The advisability of drainage in turn depends on pathologic changes in the biliary tract. Are gallstones in themselves evidence of pathologic changes in this tract? Do these changes, whatever they may be, require in all cases drainage as the most important factor for a permanent cure? The proposition here for discussion is: "All conditions of the biliary tract justifying the opening of that tract demand, as the most important part of the surgical procedure, temporary drainage of that tract."

The evidence in favor of this proposition is based first on the findings of the pathologist, and secondly, on the experience of the surgeon at the bedside. I shall limit myself chiefly to clinical experience. Evidence based on laboratory study of individual cases shows for most operative conditions a bacterial cause. I have presented in previous papers this evidence in my cases, worked up by Dr. William F. Whitney and Dr. Mark Richardson. In some of the cases when least suspected a virulent organism has been found in the biliary tract. In some there has been evidence of previous infection of the most serious kind. Laboratory research has, in many cases, successfully traced a formidable lesion established through years of slow inflammatory processes. In some cases these lesions were in their very inception; in others they were at a stage in which life was seriously threatened. In all cases the severity of the condition could either be plainly traced to an infectious source, or it could be predicted as an ultimate result.

In a word, the pathologic findings in both mild and severe conditions suggest, if they do not demand, in all cases, both in the slighter ones of beginning inflammations and in the more serious ones of later changes, as thorough cleansing of the biliary reservoir, the ducts and the contiguous structures, as it is possible to give them. Such a cleansing is possible only by immediate and long-continued washing out of these tracts by the full, free and persistent escape of bile through the operation wound.

From the clinical standpoint, it seems to me, these views are strongly indorsed. The operative cases on which my own opinions are based have multiplied in the past three years to such an extent that I feel less uncertainty with regard to drainage than before. Briefly stated, the experience is that well-drained cases almost invariably do well. Non-drained cases and cases in which drainage is defective, present a considerable percentage of bad end-results. When bile begins to flow freely and abundantly through the tube, then for the first time the ultimate result begins to look favorable. When bile flows freely through the external wound and also through the intestinal tract, then the ultimate good result seems almost positively assured. Not that the result can always be predicted with certainty. The anatomy of the biliary tract is so extensive and so far-reaching, the modes and variety of infection and of inflammatory changes is so great, that the combinations of lesions are of great diversity. Conditions constantly arise presenting a clinical picture, for which there will

be found no precedent. And yet, in the long run, the clinical observer can not but be impressed by the freedom from these trying complications when there has been a biliary drainage with which he has felt perfectly satisfied.

The conditions which I have observed during the past three years dependent on poor drainage or on no drainage, have been roughly divisible into two classes: First, the cases of cholecystectomy, in which I have ligated the cystic duct and closed the abdominal wound, with two or three days' use of a gauze wick (cigarette drain); secondly, the cases of inflamed and contracted gall bladders, in which I have drained the hepatic duct by direct rubber tubing.

These classes comprise the comparatively normal gall bladders, which I have excised without drainage, and the chronically changed ones, in which drainage has been carried on through the remains of the gall bladder. In the former case there was little evidence of long-continued disease; in the latter, abundant. Drainage in the former was evidently less important than drainage in the latter. Indeed, in the latter, drainage was a necessity; it could not have been avoided. The cases include some unusual ones. In one I drained each primary division of the hepatic duct with a separate tube. In some the gall bladder, as well as the common and hepatic ducts, had each a separate tube. In some no tubing could be used, and gauze wicks were substituted. In a certain number of cases drainage began spontaneously after cholecystectomy and ligation of the cystic duct.

As for the lesion, in a few cases there was no gallstone, the symptoms depending on an infection of bile. In some there was no change apparent to the eye. In some the only change apparent was in the color, viscidity, fluidity and other attributes of the bile itself. In some cases it was impossible to tell beyond a question whether all the gallstones had been removed or not. In many cases a single stone had worked enormous damage; in others hundreds had done but little harm.

The diagnosis of gallstones, when made by even the most experienced clinicians, was shown to be occasionally at fault. In prolonged cholemia, especially without pain, cancer of the pancreas was the common lesion found.

The evil results after operation, excluding the fatal cases, all of which have been caused directly or indirectly by the prolonged results of gallstone disease, have been owing to faulty drainage through the abdominal wound; or if not thus caused, they have been coincident with faulty drainage.

The recurrence of gallstones after free drainage with spontaneous cessation of the biliary flow is not worth mentioning. I have seen hardly a case of this kind; in fact, I can not recall a single one. The recurrence of any symptoms whatever after such a course is extremely unusual.

The recurrence of symptoms after the removal of the gall bladder with ligation of the duct is in my experience not uncommon. I recall five cases in the past twelve months. In one, a second operation was fatal. The original operation was cholecystectomy for gallstone cholecystitis. At the second operation—a very difficult one—cancer was found, hopelessly disseminated. In a second case the patient still has occasional chills, with high fever and grave discomforts. The operation was cholecystectomy for gallstones with gall-bladder infection. A third patient presented, after a comparatively normal cholecystectomy, occasional chills and high fever. A fourth, after the removal of the gall bladder or the remains of it and drainage through the cystic duct, has been seized at almost regular intervals with pain, high temperature and jaundice, with occasional bursts of bile and changed fat through the wound. A fifth has similar symptoms after a similar operation.

Careful inquiry among my patients shows a far better collection of end-results after cholecystostomy than after cholecystectomy. I have learned to dread the third and fourth weeks after cholecystectomy, a period when something alarming seems likely to occur, and to expect sooner or later serious secondary symptoms.

From study and experience, therefore, I am led to the conclusion that the essential thing in the surgery of the biliary tract is full free drainage allowed to persist until it ceases spontaneously.

After permanent drainage through the gall bladder, the occasions for secondary drainage will be lessened, but if necessary the gall bladder may easily be isolated and drained a second time. After closure without drainage, the necessity for secondary operation will be greater. If the gall bladder has been removed, the secondary operation may be extremely difficult and dangerous, the only channels for drainage remaining being the common or hepatic ducts.

Immediate closure of the gall bladder without drainage is, in my opinion, in itself so hazardous that it is to be condemned.

Hernia in the scar, even after drainage, can best be avoided by using a muscle-splitting operation similar to the McBurney incision in chronic appendicitis. I have used it of late in many cases and like the method. Care may in this way be taken to avoid the motor ends of the intercostal nerves. Sufficient time has not elapsed to show permanent results.

Biliary fistula can be prevented only by leaving an unimpeded flow through the hepatic and common ducts into the duodenum. When a fistula persists the chances favor, first, an undiscovered stone; second, obstruction from chronic inflammatory processes in direct contact with the ducts; third, obstructions in the pancreas or at the duodenal papilla.

The existence of a fistula is *prima facie* evidence of obstruction. If long continued, the only relief lies in a second operation for exploration, usually difficult, bloody and unsatisfactory, or in a cholecystenterostomy.

CONCLUSIONS.

1. Gallstones should be removed whenever they are known to exist, whether they offend or not, provided the patient's general and local conditions are favorable.

2. Drainage should be employed until the bile spontaneously ceases to flow through the wound.

3. Hernia in the scar is best prevented by a muscle-splitting incision.

4. Biliary fistula means a common duct obstructed usually by a gallstone, and it requires a second operation to close it or a cholecystenterostomy.

NOTE: The discussion on the papers of Drs. Richardson and MacLaren will follow the paper of Dr. MacLaren next week.

A Law Against the Use of Cocain.—A bill has been introduced in the New York State legislature which goes farther than any other for the prevention of the use of cocain. It forbids the sale of cocain, either at wholesale or retail in any form or in any proprietary preparations, except on the written prescription of a duly registered physician or dentist, and any preparation of cocain or its salts must have a label affixed to the bottle giving the exact contents of the mixture. *Journal of Inebriety.*

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART II—THE SERVICE AS IT IS TO-DAY.

(*Continued from page 604.*)

(B) PERSONNEL, PAY AND ALLOWANCE.

The officers of the Public Health and Marine-Hospital Service can be divided into three classes—commissioned officers, chiefs of division of hygienic laboratory, and non-commissioned officers. The commissioned officers are the surgeon general, assistant surgeons general, surgeons, passed assistant surgeons, and assistant surgeons. The non-commissioned officers are acting assistant surgeons, sanitary inspectors, internes and pharmacists.

METHOD OF APPOINTMENT.

In order to become a commissioned officer of the service, it is necessary to pass a competitive examination before a board of officers of the service comprising physical, academic and professional tests, and a general average of 80 per cent. is requisite for passing.

The chiefs of divisions of the hygienic laboratory are appointed because of proficiency in the work of the division over which they preside, viz., bacteriology, medical zoology, chemistry and pharmacology.

Acting assistant surgeons and pharmacists are appointed by the Secretary of the Treasury on certification by the Civil Service Commission and recommendation by the surgeon general. Internes are appointed by the Secretary of the Treasury on recommendation by the surgeon general and examination by the medical officers of the stations to which they are assigned.

The following table indicates the numerical strength of the corps:

Surgeon general	1
Assistant surgeons general	6
Surgeons	31
Passed assistant surgeons	36
Assistant surgeons	50
Chiefs of division of the hygienic laboratory	4
Sanitary inspectors	2
Acting assistant surgeons	195
Medical inspectors	2
Internes	12
Pharmacists (first class, 16; second class, 25; third class, 9)	50

PAY AND ALLOWANCES.

The pay of commissioned officers of the Public Health and Marine-Hospital Service is the same as that of officers of similar grades in the Medical Corps of the Army, as indicated in the following table:

Surgeon general	$5,000
Assistant surgeons general	2,900
Surgeons	2,500
Passed assistant surgeons	2,000
Assistant surgeons	1,600

Officers are allowed furnished quarters, with fuel, lights, etc., or in lieu thereof, commutation at the rates of surgeons, $50 a month; passed assistant surgeons, $40 a month; assistant surgeons, $30 a month. When serving outside the limits of the United States, as they existed Jan. 1, 1898, foreign commutation is allowed at the rates of $90, $85 and $80 a month for the respective grades of surgeons, passed assistant surgeons and assistant surgeons.

After five years' service, an additional compensation of 10 per cent. on the annual salary for each five years' service is allowed commissioned officers above the rank of assistant surgeon, but the maximum increase can not exceed 40 per cent.

When an officer becomes unfit for duty by reason of disability or disease not the result of his own vicious habits, he is placed on "waiting orders," and receives 75 per cent. of his salary and longevity pay.

Officers when traveling under orders or on special temporary duty receive actual expenses, not exceeding $5 a day.

There is no regular salary scale for the non-commissioned officers. The various acting assistant surgeons, sanitary inspectors, etc., are paid according to the importance of the posts they occupy and the duties they perform.

REQUIREMENTS FOR ADMISSION TO THE SERVICE.

Original appointments to the commissioned corps are made to the grade of assistant surgeon, after the applicant has complied with the regulations on admission and satisfied the board of examiners as to his fitness. The candidate must be a citizen of the United States, between the ages of 22 and 30, of good moral character, and physically sound. In addition to these requirements, he must present a diploma from a reputable medical college, and pass a satisfactory physical, academic and professional examination before a board of commissioned officers of the service.

If successful, the applicant is either appointed by the President by, and with the advice and consent of, the Senate, or placed on the waiting list to await such appointment, his eligibility being limited to one year. After five years' service, the assistant surgeon is entitled to examination for promotion, and if successful in passing the physical and professional tests prescribed, becomes a passed assistant surgeon.

Promotion to the grade of surgeon is made as vacancies in the grade of surgeon occur, and only after due examination.

ADVANTAGES TO THE RECENT GRADUATE.

This growing service, with its fine record and promising future, is naturally attractive to the young medical graduate. Its perfectly equipped laboratory and opportunities for special study, afforded by foreign details, are also attractive to prospective assistant surgeons. These manifest advantages should not blind the young man to the fact that there is much hard work, of a routine character, to be done, and that the men doing research work at home or abroad, were so detailed because of special aptitude and as a reward for meritorious and energetic effort in the routine work of the service.

The young assistant surgeon is apt to have rather a busy time of it. If he is one who desires a lazy existence, he should avoid the Public Health and Marine-Hospital Service, but if he is energetic and ambitious he will find a plenitude of professional work of all kinds, with ample opportunity for research work in preventive medicine.

The standard of excellence maintained in the service is not entirely due to the rigid requirements of the entrance examinations. The entrance boards, by their conscientious work, are able to select men of promise and high professional attainments, but this is only the first step in the evolution of the trained medical officer from the recent medical graduate.

The superiors of a young officer are always medical men, and their fraternal encouragement and sym-

pathy will do much to develop his best qualities. He will early acquire executive ability by observation of the systematic business methods and attention to administrative details exacted by his superiors, and he will have occasion to exercise this ability and display initiative when placed in command of smaller stations, or when serving on independent details.

(To be continued.)

FOURTH OF JULY TETANUS.

THE EFFECT OF PUBLICITY AND PROPHYLAXIS IN REDUCING THE MORTALITY.

One year ago THE JOURNAL[1] compiled statistics of the accidents of the Fourth of July and their results, developing the fact that at least 415 cases of lockjaw had resulted from these injuries. It is unfortunate that these figures are the only complete ones ever compiled, for in summing up the cost of this year's celebration the number is relatively so small that we are confronted with the problem of determining whether the occurrence of tetanus as a sequel of Fourth of July accidents was unusually high last year, or unusually low this year. Throughout the entire country there has been a general escape from tetanus that seems most remarkable, for the total sum, instead of 415, as it was in 1903, is this year but 105. Our figures have been obtained from the same sources as last year and handled in the same way, omitting all doubtful cases, so that the comparison between the two sets of figures is a fair one, the errors in each presumably being proportional.

In order that errors may be corrected, we publish, as completely as our information permits, the name and the chief factors in each case, as follows:

TABLE I.

NAME.	AGE.	CAUSE.	SITE.	DURATION* IN DAYS.	RESULT.
CALIFORNIA.					
1. Redmond, Joseph	14	bl. ctg	hand	8	D
2. Bruzzone, J	9	cracker.	hand	12	D
3. Cota, L.	11	bl. ctg	hand	4	D
4. Ellison, T.	Adult	cracker.	hand	7	D
ILLINOIS.					
1. Milkie, H.	12	bl. ctg	hand		D
2. Johnson, L.	12	cracker.			D
3. Dice, H.	15	bl. ctg	hand		
4. Muto, Papino	11	bl. ctg.	hand	12	D
5. Wieczic		cracker.	hand	9	D
6. Engle, Emil	14	bl. ctg	arm	8	D
7. Hudsinsky	23	bl. ctg	side	8	D
8. Koski	16	bl. ctg	hand.	8	D
9. Rizzo	8	cannon		8	D
10. Koch	18	cracker.	hand.	8	D
11. Tate, Jos.	20	bl. ctg	hand.	20	D
12. Cezon, Jno	13			10	D
13. Shafer, F.	10	bl. ctg	hand.	10	D
14. Roy, A. T.	14	bl. ctg.	hand.	10	D
15. Huber, H. M	12	bl. ctg			D
INDIANA.					
1. Kirchner		bl. ctg	hand.	11	D
2. Holzer.	14	bl. ctg	hand.	10	D
3. Snell.	15	cracker.	hand.	10	D
4. Cochrane		bl. ctg.	hand.	11	D
5. Campbell.	12	bl. ctg	hand.	10	D
6. Twaddle	15	bl. ctg	hand.	7	D
IOWA.					
1. Drebelstedt	19	cracker.	face		R
2. Davenport.	13	bl. ctg	hand.	9	D
KANSAS.					
1. Sullivan	16	bl. ctg	hand.	7	D
KENTUCKY.					
1. Tressler	16	cracker	leg	8	D
2. Faulkner	9	bl. ctg	hand.	7	D
MAINE.					
1. Reed, H.	10	bl. ctg	hand.	6	D
2. Fortier	10	bl. ctg	hand.	6	D
3. Boothby	18	bl. ctg		7	D
4. Stevens, P	10		hand.	7	D
MASSACHUSETTS.					
1. Dalton, Thos.	50	bl. ctg	hand.	10.	D
2. Hunt, T. P.	11	bl. ctg	hand.	11	D
3. Romano	8	bl. ctg.		6	D
4. Morris, R. M.	9	bl. ctg		7	D
5. Bunnell, H. E.	25	cracker.	hand.	11.	D
MICHIGAN					
1. Schroeder	12	bl. ctg	knee		R
2. Schreck	10				R
3. Peterson	15			9	D
4. Kretsch		bl. ctg.			
5. Rogers	adult	bl. ctg		14	D
6. Dickinson	adult	bl. ctg	hand.		D
7. Davis	14	pinwheel	hand.	9	D
MINNESOTA.					
1. Drake, Wm.	12			20	D
2. Friedman, Esther.	12	bl. ctg	hand.	7	D
MISSOURI.					
1. Walz	11	bl. ctg	hand.	9	D
MONTANA.					
1. La Belle	52	cracker.	hand.	15	D
NEBRASKA.					
1. Ellis, A	adult	cracker.	hand.	21	D
2. Green, Edw	34	bl. ctg	hand.	6	D
3. Langdale	11	bl. ctg	leg.	13	D
NEW JERSEY.					
1. Levinsohn	10	cracker.	hand.		R
2. Wiltsey	14	bl. ctg	hand.		D
3. Stang	12	bl. ctg	hand.	7	D
4. Preifschat	53	cannon	foot.	9	D
5. Cuff.	13	bl. ctg.	hand.	11	D
6. Mundorff	11	bl. ctg	head.	14	D
7. Streeter	12	bl. ctg.	hand.		D
8. Johnson, S	15	bl. ctg	hand.	9	D
9. Decker, H	12	bl. ctg	hand.		D
NEW YORK.					
1. Weeks, Chas	9	bl. ctg	hand.	6	D
2. Ward, Jas.	6	bl. ctg	hand.	13	D
3. Pickslay, Chas		bl. ctg	hand.	16	D
4. Perera, G.	25	cannon	hand.	13	D
5. Jacobs, H	13	bl. ctg.	hand.	8	D
6. Austin, E.	18	bl. ctg	hand.		D
7. Champagne	12	cracker.	hand.	10	D
8. Smith, Emma	19	cracker.	hand.		
9. Waterman.	6	bl. ctg	hand.	9	D
OHIO.					
1. Booth, W. K	17	bl. ctg	hand.	9	D
2. Van Camp.	13	bl. ctg	hand.	11	D
3. Ferguson	20	cracker.	face.		
4. Noell	12	bl. ctg.	hand.	10	D
5. Wiggins	12	bl. ctg.	hand.	9.	D
6. Woods, H	21	cracker.	hand.	9	D
7. Veon.	12	bl. ctg.	hand.	6	D
8. Torkisson	10	bl. ctg	hand		
9. Drescher	26	bl. ctg	hand.	16	D
PENNSYLVANIA.					
1. Smith, Raymond.		bl. ctg	hand.	17	D
2. Shill, B.	13	bl. ctg.	hand.	7	D
3. Gatschock	21	bl. ctg.	hand.	7	D
4. Yeager, A.	8	bl. ctg.	hand.	10	D
5. Sirson	7	bl. ctg.	hand.	14	D
6. O'Neil, Jas.	11	bl. ctg.	hand		
7. O'Toole, Thos	11	bl. ctg.	hand		
8. Jenta	14	bl. ctg.	hand.	6	D
9. Lutz, H. J	16	bl. ctg.	hand.	10	D
10. Crutchley	12	bl. ctg.	hand.	12	D
11. Rowlands	9	bl. ctg	hand		
12. Milinsky	14	bl. ctg.	hand.	6	D
13. Baker, Chas	11	bl. ctg.	hand.		D
14. Pressly.	17	cannon	foot.	8	D
15. Koschin	8	bullet	foot		
16. Sager	9	cracker.	hand.	6	D
17. Rickhard.	10	bl. ctg	hand.	11	D
UTAH.					
1. Barber.	18	cracker.	hand.		R
VERMONT.					
1. Cross, Ernest				9	D
2. Duchaine.	9	bl. ctg.	hand.		D
WASHINGTON.					
1. Jones, A. L	8	cannon	breast.	15	D
WISCONSIN.					
1. Weigt.	11	bl. ctg	leg		D
2. Lillis.	15	bl. ctg	hand.	9	D
3. Schreck		bl. ctg	hand.		D
4. Petersen	14	bl. ctg	hand.	8	D

*Including the time between the receiving of the wound and death.

1. THE JOURNAL A. M. A., Aug. 29, 1903.

Arranged for comparison with last year, state by state, we can appreciate how general this improvement has been by referring to Table 2.

Going over the history of tetanus epidemics as recorded in the statistics of various health departments in several of the larger cities for several years past, we are forced to the conclusion that the apparently very great mortality of last year was not greatly in excess of what it usually has been, taking the country as a whole. In some places it was probably unusually frequent, as in Pennsylvania and some cities of Ohio, but in other places, where records of previous years were kept, it was apparent that last year was nothing unusual in this respect. For example: In 1900 Chicago had 22 deaths

from Fourth of July tetanus, while last year there were about 16, and the preceding year 12. New York City, in 1899, had nearly 20, which was, if anything, in excess of last year. The tetanus record of 1903 was only apparently large, due to the fact that it was the first time that all the cases in the country were ever collected and published in their enormous total. There is every reason to consider, therefore, that the deaths from this cause during the epidemic of this year represent an actual decrease from the ordinary course of events. Cities in which previously each Fourth has been followed by from 5 to 10 cases of lockjaw, have this year escaped without a single case. Last year Toledo had 8 deaths and this year none; many other cities show a similar escape. Chicago had but 5 deaths from tetanus originating in blank-cartridge wounds, which is, with but one exception, the lowest record ever made by that city. All over the country the story has been the same: "The least number of accidents in any year we can remember, and no tetanus."

TABLE 2.

	1903.	1904.
California	2	4
Colorado	4	0
Connecticut	3	0
District of Columbia	1	0
Idaho	1	0
Illinois	49	15
Indiana	11	6
Indian Territory	1	0
Iowa	14	2
Kansas	11	1
Kentucky	4	2
Maine	2	4
Maryland	1	0
Massachusetts	16	5
Michigan	29	7
Minnesota	15	2
Missouri	29	1
Montana	2	1
Nebraska	4	3
New Hampshire	2	0
New Jersey	8	9
New York	36	9
Ohio	67	9
Oregon	2	0
Pennsylvania	82	17
Rhode Island	3	0
Utah	0	1
Vermont	3	2
Washington	2	1
West Virginia	3	0
Wisconsin	10	4
Total	415	105

What is the cause of this splendid improvement? Is it not the result of unusually unfavorable conditions for the tetanus bacillus instead of any cause dependent on other factors? Again, it is to be remembered that it occasionally has happened that for some reason that can not be detected there has been a local escape from Fourth of July tetanus during some years. For example, in 1901 there were but 4 deaths in Chicago, and 5 in New York, far below the usual number for each city, and without evident reason. May not this year be a similar exception? We have gone over all possible sources of information to decide this point, utilizing reports from hospitals, newspapers, medical journals and correspondence, and the conclusion reached has been against either of these explanations. That it is not due to an unusual infrequence of the tetanus bacillus is quite conclusively shown by the fact that during the month of July of this year tetanus from wounds other than those incurred in celebrating the Fourth, has been very frequent, if anything, more so than usual. Last year, among the reports received, were 15 of tetanus from simple injuries; this year there were 55, nail wounds, compound fractures and other injuries having frequently had this fatal sequence.

The decrease in the disease has also not been local, but spread generally throughout the country. Rather, it would seem, the improvement is due to two very essential factors—decrease in the number of wounds received during the celebration of the day, and better care of the wounds that were received.

Almost without exception our reports from all places have indicated that the number of wounds was unusually small. The statement often received from hospitals has been: "This year we had made unusual preparations to care for Fourth of July injuries, on account of the frequence of tetanus last year, but were agreeably disappointed in having almost no cases." The decreased number of injuries seems to depend entirely on the "campaign of education" that has been going on this year as never before. Always the daily papers have done a great deal in the way of warning the public of the dangers of Fourth of July celebrations, and urging improvements in its manner of celebrating, but never with such a grand unanimity as this year.

When the epidemic of last year was sweeping the country there arose a general demand that such things should be prevented, but it was a repetition of the annual cry, a little increased in force. When THE JOURNAL published the summary of the celebrations' cost in life and blood—466 dead and 3,983 injured—a new impulse was given to the receding wave of public indignation.

LOCAL ORDINANCES TO PREVENT SALE OF EXPLOSIVES.

Fortunately, this did not spend itself in clamorings last autumn, when there was little that could be done because of the remoteness of the next celebration. The lesson had been too costly to be easily forgotten. One by one events happened to call attention to the need for improvement. In this city and in that, new ordinances were adopted to make possible some effective control of the sale of dangerous weapons and explosives. The public interest in the topic had become sufficient to warrant correspondents putting accounts of the passing of these new laws on the press wires, and so they aroused attention at frequent intervals throughout the entire country. Many medical societies passed resolutions urging the passing of new laws or the enforcement of existing ones, quoting the above figures as impressive evidence of the need of a change; these resolutions were published in the daily press, often accompanied by editorial comment, and in this way the matter was stirred up from another side.

Then the press itself took an active interest in the matter; doctors and hospitals were visited, and from them good, sound facts and figures were obtained which were worked up into more or less fanciful "stories" by the versatile reporters. We have before us stacks of clippings of articles, published in advance of the Fourth, which make it seem that scarcely a paper in the "tetanus belt" failed to sound an alarm. In Chicago some public-spirited citizens attempted to control the celebration of the Fourth entirely, and incorporated an association for that purpose. Although it did not receive sufficient financial support to enable it to carry out its large plans, yet it aroused much interest and discussion, and its war cry, "A Sane Fourth," became a by-word. With all these factors at work, it is difficult to see how any person who reads the daily papers—and who does not—could have escaped learning that the Fourth is a serious affair, and that blank-cartridge wounds are dangerous sources of lockjaw.

EDUCATION OF THE LAITY.

The outcome was threefold: First, there was the

birth of new ordinances in many cities, giving power to the authorities to control the sale of blank cartridges and pistols to minors; or the removal of dust and other incrustations of disuse from the ordinances of other cities where such laws had lain dormant.

Secondly, there was made the beginning in the development of a public spirit that was willing to have the laws enforced, so that not a few prosecutions of sellers of firearms to minors were made. Thirdly, parents were incited to a more careful supervision of the ways and means of celebration by their children, and even the children themselves often obtained some slight education from their school teachers or parents. Consequently, the day passed off with a much smaller number of accidents than had been generally anticipated.

In the same way the knowledge of the necessity for very thorough treatment of Fourth of July wounds to prevent the development of tetanus grew among the public, while active campaigning on the part of the medical journals achieved the same results among the physicians. For the first time there became something like a general appreciation of the fact that every blank-cartridge or fire-cracker wound is a most likely source of lockjaw. This is well reflected in the newspaper clippings. A year ago the statement would generally be made that: "Eddie Smith shot himself in the hand with a blank-cartridge pistol. The wound is not dangerous." This year such statements were seldom seen, but usually they finished with: "There is great danger that lockjaw will result." Frequently also would be added: "Dr. A., who dressed the wound, has sent for some antitoxin, which will be administered as soon as it arrives, in the hope that the onset of lockjaw can be prevented." The sudden change in the situation in one year, as shown by comparing the clippings of last year with those of this July, is indeed remarkable and fortunate; it has probably saved two or three hundred lives.

From the reports received it is safe to say that more blank-cartridge wounds were cleaned out under anesthesia, and more doses of antitoxin given prophylactically than after all the Fourth of July celebrations of previous years together. Most of the city hospitals and dispensaries that treat large numbers of accident cases equipped themselves with antitoxin before the Fourth, and injected it into patients with this class of wounds, in addition to unusually thorough surgical treatment of the wounds themselves.

The results were manifest. So far as we have been able to learn from a number of sources, not a single patient so treated developed tetanus. The most conclusive statement that we have received comes from St. Louis. It will be noticed that Missouri shows the greatest improvement of any state in the country, practically eliminating Fourth of July tetanus this year, when but one case was reported, as against 29 last year. Most of these 29 deaths of a year ago occurred in the two large cities, St. Louis and Kansas City, as was the case in all the states, the cities furnishing most of the deaths. The following letter explains plainly enough why Missouri escaped:

CITY OF ST. LOUIS HEALTH DEPARTMENT,
ST. LOUIS, MO., Aug. 12, 1904.

To the Editor:—Replying to yours of the 10th inst., I have to state the following: There were treated in the City Dispensary 36 cases of gunshot wounds, without a single death from tetanus. A few days prior to the Fourth of July I issued an order to the city dispensaries to the effect that every case in which there was a possibility of tetanus occurring should be injected with antitetanic serum. This order was faithfully carried out, with the result above noted.

Last year, out of 56 cases treated there were no less than 16 deaths. In a few days I shall be in possession of a report from the chief dispensary physician, and if you so desire I shall be glad to mail you a copy.

J. H. SIMON, M.D., Health Commissioner.

The lesson is plain.

An interesting bit of corroboration of the effect of the campaign of education may be brought out by the following fact: The reduction in the number of deaths this year occurred in the large cities rather than in the country. As near as can be estimated the deaths in the country towns were over half as abundant as last year, while the large cities reduced theirs to zero in many instances, and by 75 to 90 per cent. in most of the others. The city populace, both lay and medical, is more quickly reached by campaigns of this kind because of the more general circulation of the newspapers; also a large proportion of the city poor with such wounds go to hospitals and dispensaries which are prepared to give them the treatment they need. The injured boy in the country is more likely to receive "home treatment," and quite unlikely to obtain surgical treatment.

For all of the reasons given above, we must conclude that the reduction in mortality is the result of a decreased number of dangerous wounds, and better care of those that were received, both conditions being due to a more general appreciation by both profession and laity, of their very great danger.

DISTRIBUTION.

Considering this year's epidemic by itself, and also comparing it with that of last year, we notice that there has been some change in the matter of distribution. Pennsylvania leads, as it did last year, with 17 deaths, as compared with 82 a year ago, a decrease of nearly 80 per cent. In last year's epidemic 17 cases in one state would have put it in seventh place. Illinois passes from third in the list to second, although the actual number of deaths, 15, represents a decrease of 70 per cent. from the 49 of last year; this is because Ohio dropped from 67 to 9, an improvement of over 86 per cent., putting it in a tie with New York and New Jersey, Ohio's improvement, like that of Pennsylvania, Missouri and the other states, being due particularly to efforts by the organized forces of the larger cities. Last year Missouri and Michigan were tied in fifth place, with 29 deaths each, and although Michigan reduced the deaths by 75 per cent., her 7 is much above Missouri's remarkable reduction to 1 death. Four of the states show an increase: New Jersey from 8 to 9, California from 2 to 4, Maine from 2 to 4; Utah has 1 death this year, while last year it had none.

The number, however, is so small in each that the increase is to be regarded as accidental. It is easily possible for such numbers of cases to escape collection entirely one year, and to be collected another year. As always, the southern states escape because of a less and a different celebration.

AGE OF VICTIMS.

Age is, of course, low, yet not a few adults suffered the penalty of playing in the thoughtless manner of youth, while others were injured in accidents that they could not avoid. A very few girls also met with accidents of the same kind.

NATURE OF THE WOUND.

Again, the blank cartridge asserts itself as the cause

par excellence of tetanus. Of the cases on which information on this point could be obtained, there were 74 from blank cartridges, 18 from cannon fire crackers, 5 from cannons, 1 from bullets, and 1 from a pin-wheel, or 74 per cent. from blank cartridges. A year ago, however, there were 358 blank-cartridge wounds against 29 from other causes, of which 17 were cannon crackers and 5 cannons.

This shows a great reduction in the number of blank-cartridge cases, with the cannon crackers and cannons holding their own. It would be interesting to know if this was because particular attention was directed to holiday, a total of 183 deaths. The casualties from the same cause which did not result in death number 3,986, or 3 less than the figures recorded for 1903. Of these, 349 were of a relatively graver nature, and included 19 cases in which the victim was totally blinded, 61 cases of loss of sight of one eye, 61 cases of loss of leg, arm or hand, and 208 cases in which amputation of one or more fingers was necessitated. These figures are slightly in excess of the corresponding items of last year. It is noteworthy that the deaths from causes outside of tetanus are increased more than 50 per cent., but no satisfactory cause can be adduced for this increase.

TABLE 3.—SUMMARY BY STATES OF JULY FOURTH CASUALTIES.

STATE.	Deaths.			Injuries.						Total Persons Dead or Injured.	Causes of Tetanus Cases.		Causes of All Cases Aside from Tetanus Cases.				
	From Tetanus.	From Other Causes.	Total.	Loss of Sight.	Loss of One Eye.	Loss of Leg, Arms or Hands.	Loss of Fingers, One or More.	Other Injuries.	Total Non-fatal Injuries.		Blank Cartridge.	All Other Causes.	Blank Cartridge.	Fire Crackers.	Cannon.	Gunshot.	Powder and Fireworks.
Alabama		1	1			1	1	4	6	7			2	2	1	1	1
Arizona																	
Arkansas																	
California	4	5	9	1	1	3	3	121	129	138	2	2	23	43	13	10	45
Colorado							2	42	44	44			22	8		4	10
Connecticut		4	4		1		5	123	129	133			39	30	15	16	33
Delaware				1				4	5	5				3	2		
Dist. of Columbia		1	1					9	9	10				6		3	1
Florida								2	2	2			1	1			
Georgia																	
Idaho								4	4	4			2	2			
Illinois	14	8	22	2	6	5	20	368	401	423	10	3	103	154	41	41	70
Indian Territory																	
Indiana	6	5	11	3	7	5	5	180	200	211	5	1	50	71	14	9	61
Iowa	1	1	2		4	4	8	122	135	137	1	1	32	15	16	10	23
Kansas	1	3	4	1		1	1	81	84	88	1		28	23	11	7	18
Kentucky	2	2	4	1	1	1	4	61	68	72	1	1	18	14	14	7	17
Louisiana								2	2	2					1	1	
Maine	4		4		1	2	2	23	28	32	3		8	12	2	4	2
Maryland		1	1					21	21	22			2	8		4	8
Massachusetts	5	2	7		1	2	8	175	186	193	4	1	37	74	13	15	49
Michigan	4	2	6	1	1	3	13	133	151	157	4	1	37	51	25	10	30
Minnesota	2	1	3	2	3		8	85	98	102	1		19	36	9	6	29
Mississippi																	
Missouri	1	3	4		2	2	7	69	80	84	1		31	17	3	4	28
Montana	1	2	3		1	1	2	10	14	17		1	1	7	4	3	1
Nebraska	3	1	4		7	1	5	46	59	63	2	1	18	14		14	14
New Hampshire							3	20	23	23			7	5	4	2	5
New Jersey	8	7	15		2	3	9	175	189	204	7	2	35	45	24	33	59
New Mexico						1		3	4	4					2	1	1
New York	8	14	22	1	5	7	22	492	527	549	6	3	33	142	66	92	108
Nevada								1	1	1		1				1	
North Carolina																	
North Dakota						1	2	5	8	8			1	6			1
Ohio	7	8	15	3	8	6	18	277	312	327	7	2	77	129	146	15	54
Oklahoma								3	3	3			1				2
Oregon		1	1	1			2	9	12	13				9	1	2	1
Pennsylvania	13	13	26	2	8	11	34	663	718	744	14	3	147	187	47	74	276
Rhode Island								30	30	30			4	7	7	5	7
South Carolina																	
South Dakota								10	10	10			1				9
Tennessee								1	1	1							1
Texas								2	2	2							2
Utah		3	3					19	19	22		1	1	8			13
Vermont	2		2				1	11	12	14	1		4	6	1		1
Virginia		3	3					8	8	11				1		7	3
Washington	1		1			1	2	21	24	25		1	3	6	1	2	12
West Virginia							2	14	16	16			1	12	2		1
Wisconsin	4	1	5		2	3	19	186	210	215	4		42	83	23	3	60
Wyoming								2	2	2			1	1			
Total	91	92	183	19	61	61	208	3637	3986	4169	74	25	931	1268	508	406	1056

the dangers of blank cartridges and their wounds as a cause of lockjaw, but no way of ascertaining this is possible. As usual, most of the wounds were in the hands, with occasionally one in the leg or other part of the body.

DEATHS AND INJURIES ASIDE FROM TETANUS.

In connection with the above statements, the facts submitted in Table 3 are of great interest. This table summarizes the injuries of all kinds, including tetanus, received in the celebration of the Fourth of July. It shows that in addition to the 91 deaths due to tetanus, 92 individuals gave their lives as sacrifices to the national

Blank cartridges, toy pistols and dynamite canes caused 931 injuries, or nearly 378 less than were recorded from this cause last year. Firecrackers caused 1,268 casualties, or 116 more than last year. Accidents from careless handling and explosion of cannons and toy cannons caused 508 casualties, or 111 more than in 1903. The number of accidents from gunshot wounds shows a marked increase this year, the respective figures, as compared with those of 1903, being 406 and 236, an excess of 170 for the present year. Casualties from powder and fireworks numbered 1,056, an increase of 325 over the figures for 1903.

We consider that the increase in the number of non-fatal injuries reported does not indicate that more injuries occurred this year than last, but we think that it is due to the fact that more attention was paid to the subject this year, owing to the agitation of the subject through the efforts of THE JOURNAL, in which nearly every newspaper in the country assisted. This interpretation of the figures shown does not apply, however, to the 50 per cent increase in the number of deaths from causes aside from tetanus, for such a death is pretty sure to be chronicled.

A detailed list has been compiled of the 4,449 persons dead or injured, giving the name or description of each, the nature of the injury and the cause. These are classified under cities and states, and from this list Table 4 has been prepared. Only such cases have been listed as presented names and data, or, in the absence of the name, a case has been included when it bore such marks of identification that it could be distinguished from other cases in the same city. All doubtful cases have been omitted, as well as injuries from runaways, fright, fires or other indirect injuries, even though the cause of the accident was a firecracker or other explosive.

The first column of *causes*, that of blank cartridges, includes blank cartridges and toy pistols, also a large proportion of injuries from the use of the cartridge cane

DURATION AND PROGNOSIS OF TETANUS.

As is usual with children, the period of incubation and the duration of the disease are usually short, although in the series for this year the time seems to be somewhat longer than last year, which may be more apparent than real, and due, perhaps, to the greater number of adult victims. A very early onset and a rapid course is frequent in these cases. The prognosis seems to have been bad, fully as bad as last year. In a number of the cases of our series we were merely informed that the patients had developed tetanus, but for one reason and another did not succeed in learning the final outcome. All such cases we have left blank in the "result" column. Of definite recoveries we have information concerning but four, while two others were reported as "recovering."

This corresponds closely with the record of last year, when we learned of 7 actual recoveries among 415 cases, and shows only too conclusively the hopeless nature of Fourth of July tetanus, once it has developed. We have also very positive evidence that it is much more fatal than tetanus from other wounds, for during the same period of time we learned of 55 cases produced by ordinary accidents, such as nail wounds, compound fractures, etc., of which 10 recovered, and in 8 the result was not learned, making the mortality approximately 80 per cent.

The reasons for this greater mortality in Fourth of July tetanus are probably two-fold: First, the average age of the patients is somewhat younger, yet not so much so as might be imagined, for a very large proportion of the every-day cases is furnished by the barefooted boy who steps on nails, glass and slivers.

Second, and perhaps most important, is the nature of the wound. As we have pointed out in other articles, the great amount of tissue laceration, necrosis and hemorrhage furnishes ideal conditions for the multiplication of the tetanus bacillus, with a correspondingly large quantity of toxin produced and absorbed. It would seem that no great improvement in the treatment of tetanus has been made, but this matter we will discuss later under the heading of treatment.

THE CAUSE OF FOURTH OF JULY TETANUS.

In our article of a year ago we discussed very thoroughly the question of the origin of the infecting bacilli, because there had been a great deal of controversy as to whether the bacilli were contained in the cartridges themselves. After considering the evidence available for each side of the question, we came to the conclusion that there was no convincing evidence that blank cartridges contain tetanus bacilli, except possibly as a rare contamination when they have been exposed to dirt. On the other hand, there was abundant evidence that they were present in the street dirt and on the persons and clothing of the injured people. The most reasonable assumption at that time was, therefore, that the organisms are carried into the wounds from the surface at the time of the accident. Since that time there have been no developments calling for any modification of this view.

Occasionally brief notices have appeared that this or that person has found tetanus bacilli in blank cartridges, but so far as we have been able to learn no definte reports of such findings have found their way into medical literature. While there is no particular reason why tetanus bacilli may not be found in blank cartridges, still there is no particular reason why they should be there. The raw materials of which the cartridges are made are not such as to render them likely occupants of the cartridge, and the method of manufacture is such as to make their destruction almost certain.

The popular idea of the presence of dirt in the powder or dirty straw in the wads seems unfounded. It is on record that 759 cartridges, representing all makes, have been examined by Wells, Taylor, La Garde and the Boston City Health Department, all with negative results. The incomplete reports of positive findings may be due to the occurrence of the forms of pseudo-tetanus bacilli, described by Bain and by Wells, which, without animal experiments, might readily be mistaken for the pathogenic form, although they themselves are harmless saprophytes.

The great danger of blank-cartridge wounds seems to lie not in the presence of the specific organisms in the cartridges, but rather in the favorable nature of the wound. As we have explained more fully in previous articles, their form and location favors ideally the development of these anaërobic organisms, and they are received at a time of year when tetanus is most abundant, and by persons who are particularly well supplied with the germ-ladened street dirt.

That this year 26 per cent. of the cases came from wounds made by giant crackers, cannons and bullets, would seem to indicate that the blank cartridge has no monopoly on the bacillus if it is contained in the explosive, as some have maintained. The only thing these different explosives possess in common is the powder, yet we do not hear of tetanus following the very abundant accidents in which hands and faces are burned with powder and often blown full of the grains. And also, it should be remembered that 55 cases of tetanus produced by simple injuries were brought to our attention during the month of July. All these considerations make it seem more probable than ever that in most, if not in all instances, the infecting bacilli come from the dirt carried into the wound, and not from the explosive itself.

PREVENTION AND TREATMENT.

The history of the past two years shows plainly that something can be done in the way of prevention, and

also that a good start has been made in the right direction. It now remains to be seen if progress will continue. Unquestionably, the proper point of attack would be the prevention of the wounds which cause the disease, and this can be achieved only by preventing the use of pistols, cannon crackers and cannons. Had this been done this year there would have been but one death from lockjaw as a result of the celebration. Enough was done, however, to certify to the feasibility of the enforcement of laws in this direction.

The enforcement of laws, however, rests always on the state of public sentiment, and no better illustration could be offered than the experience of the city of Toledo. Last year Toledo suffered in proportion to population more than any other city in the United States, losing 8 lives from lockjaw, besides having many other injuries. This year Toledo not only escaped loss of life, but also suffered no accidents whatever, and the dependence of this on the state of public sentiment is conclusively shown by the following letter:

DEPARTMENT OF HEALTH, CITY OF TOLEDO, O., Aug. 6, 1904.

To the Editor:—Your letter of the 5th inst. in regard to Fourth of July mortality at hand and contents noted.

It is a great pleasure to me to report that there was not a single fatality of any kind following our Fourth of July celebration, nor were there reported to us any injuries which did not prove fatal.

Indirectly, this condition of affairs resulted from an ordinance passed by the City Council regulating explosives, though it must at the same time be borne in mind that our late mayor, Hon. Samuel M. Jones, was on his death bed, and, as he had expressly wished for a quiet Fourth, and had been the leading spirit in the passage of this ordinance, the love that the people of the city bore him caused them to be unusually careful.

W. W. BRAND, Health Officer.

The improvement in the cities as compared with the country may, in part, be due to the possibility of police regulation of the sale of dangerous explosives, and just as the laws were enforced so the city escaped or suffered. For example: Chicago enjoyed a great decrease in mortality, but still lost five lives from blank-cartridge wounds, corresponding to a much-improved but still somewhat defective control of this sale. This is shown by the investigation by one of the daily papers, which has always taken an active interest in this subject, reported as follows:

An investigation made yesterday by the *Tribune*, with the aid of a 14-year-old boy who did not appear to be more than 11 years of age, showed that the law generally was ignored. Within a few hours this boy purchased in small stores located in different sections of the city three cartridge toy pistols, one paper cap toy pistol, fifteen cannon crackers of various sizes, and three explosives which the woman shopkeeper said she thought were "cannon crackers," although she did not know just what they were.

In each of the stores where the boy purchased the toy pistols cannon crackers also were on sale. At a number of places visited he was refused pistols or cannon crackers on the ground that the Fourth of July does not come until Monday, or because they "had sold one and got into trouble over it." At several stores he was denied cannon crackers but was offered sky rockets and other fireworks, the sale of which is forbidden by section 676 of the municipal code of 1897, although this section of the ordinance is not enforced during the Fourth of July season.

The territory covered included only a portion of the south side, and the north side to North avenue. In only one north side store was the boy able to buy either a toy pistol or a cannon cracker. He secured a paper cap pistol at Bachrach's, in North Clark street. All of the other dealers in this section either declared they had no cannon crackers or toy pistols, or that they were not allowed to sell them to minors.

Compared with our experience of a year ago, this shows a decided improvement, although still far from the right state of affairs. It seems to have been about the same in most of the other cities.

What is now to be dreaded is that even the partial correction of this crime of selling pistols and giant crackers to children that has been accomplished this year may not be continued next year. There is no question that the manufacturers stand ready to supply and to push the sale of these death-dealing toys, regardless of consequences, and unless the agitation continues, the candy and notion store will supply the materials for self-destruction as before. Undoubtedly, the proper place in which to check the trouble is in the manufactories themselves. Not until there exists laws prohibiting the manufacture and importation of toy pistols, blank cartridges, giant crackers, and any other equally fiendish instrument of disorder that can be devised to take their place, shall we be free from a greater or less annual epidemic.

Vigorous efforts on the part of the authorities of each community can decrease the severity of the epidemic, but so long as these things are obtainable small boys will die of lockjaw. It is in such matters as this that a medical representative in the higher branches of government could accomplish much for preventive medicine. We would repeat the suggestion that the Association take up this matter at its next meeting, and attempt to arrive at a means for securing legislation directed toward the prevention of manufacture or sale of these articles. As they have no use whatever outside of purposes of celebration there can be no logical reason for insisting on their production, except the demands of commercial enterprise.

The children will have plenty of means left for celebration in the way of torpedoes, small fire crackers, pistols shooting the harmless paper caps, and display fireworks. The chief nerve-rackers of the day would be gone, and the substitution of a "sane Fourth" might become a possibility, using methods of celebration of our real national holiday better adapted to inculcate patriotism than are those now in use, which smack more of red anarchy with its bombs and pistols.

In the meantime, let us as a profession encourage and aid in all ways the efforts of the daily press to educate the public to the dangers of present conditions, that the progress made this year may be continuous.

Antitoxin.—The prophylactic treatment of all blank-cartridge, giant-cracker and other similar wounds of the Fourth has been demonstrated to be positively successful many times before, but probably never on so large a scale as this year. Not only was thorough cleansing of the wound by vigorous operative measures enforced with great success and frequently, but prophylactic injection of antitoxin was employed in more cases than ever before. In many large cities the hospitals and dispensaries were provided with antitoxin before the Fourth and used it on all cases of injuries of this character, and not a few private practitioners used it in cases coming into their care. We have now records of upwards of a thousand administrations of antitoxin in this way without a single untoward result of any importance, and without a single case of tetanus developing. What motive can there be, therefore, in treating a Fourth of July injury without the prophylactic injection? The cost can not be a consideration when the danger is considered on the

one hand, and the abundant sources of charity for those actually unable to afford it on the other. Let us repeat the figures of the St. Louis health commissioner: Last year, of 56 blank-cartridge wounds treated by ordinary means, there were 16 deaths from lockjaw. This year 36 similar wounds were treated with antitoxin injections without a single death. What could be more conclusive than that? And also, in the Harlem Hospital, there were treated 100 pistol wounds without a single case of tetanus following, antitoxin being used freely.[2]

But what is to be said of physicians who saw blank-cartridge wounds this year, washed off the surface, applied a dressing, and told the parents that there was no danger? There were several, how many we can not know, but a good many of the 105 who died from tetanus owe it to the "care" of such men as these. If at this time there is a man practicing medicine who does not know how to treat a blank-cartridge wound, what is he fit to treat?

We can add nothing to the suggestions made before the Fourth.[3] Thorough exploration of the wounds, removal of every particle of foreign matter and necrotic tissue, and free drainage from the bottom is the only rational and safe procedure, followed as soon as possible by an injection of 5 to 10 c.c. of tetanus antitoxin. It has been suggested that dry powdered antitoxin be sprinkled over the wounded surfaces, but the operation of injection is such a simple one and so much more certain that it seems to us far better, particularly as we have learned of one case of the use of the antitoxin powder that was followed by tetanus. As this method of treatment is so absolutely efficacious the 105 deaths from tetanus mean just so many instances of criminal neglect or carelessness on the part of some one, usually, but not always, the patient or his parents.

We can not boast of the results of the treatment of these cases, with a mortality between 95 and 98 per cent., but so far as we have learned, in but a few were any of the more advanced methods, described in the article referred to, given a fair trial. Many of the patients first received medical treatment less than twenty-four hours before their death, being in the last agonies of acute tetanus. Most of the others were treated in the usual way, with sedatives and subcutaneous use of antitoxin. In view of the ineffectiveness of this method, it is well to discard it for anything that promises better, and according to the results so far obtained, the most hopeful method consists in the injection of the antitoxin into the spinal canal, preceded by withdrawal of as much as possible of the toxic cerebrospinal fluid, and accompanied by injection of antitoxin into the large nerve trunks leading from the injured part. The details of this treatment will be found in our article of June 18, 1904.

Injection of Salt Solution.—The salt solution advocated by Mathews, which depends largely on the effect of the calcium it contains in lessening muscle irritability, has been used, to our knowledge, in one case of blank-cartridge tetanus. A marked lessening of the rigidity was observed and the force of the contractions greatly lessened, so that the boy seemed in a fair way to recover from the tetanus, but unfortunately he developed an aspiration pneumonia and died on the fifth day, so that the final result of the injections can not be determined. One case of tetanus following a barbed-wire injury treated in this way in Iowa during July has recovered. As the solution does not interfere with the administration of antitoxin in the ways recommended the salt solution may be used as an adjuvant until we can learn something of its value.

The same may be said of Murphy's suggestion, the use of eucain and morphin in intraspinal injections, reported by him in THE JOURNAL, Aug. 13, 1904. In fact, it is perfectly possible to combine the various methods of treatment most generally used, and thus give the patient the benefit of their several possibilities, only care must always be taken not to disturb him too much.

2. Correspondence from Dr. W. H. Luckett.

3. Prophylaxis and Treatment of Fourth of July Tetanus, THE JOURNAL A. M. A., June 18, 1904, p. 1621.

TRAVEL NOTES.

VII.*

A WINTER SEMESTER.

LEWELLYS F. BARKER, M.D.
CHICAGO.

MUNICH, July 21, 1904.

For a certain period the globe-trotting method of travel may please and satisfy, but after a time it palls. When picture galleries have been seen by the dozen, palaces by the score, and churches by the hundred, the esthetic sense becomes over-saturated and refuses to take up more. The alimentary tract, too, rebels against the bustle of the railway station and the continuance of life in "grand hotels." The centers of benevolence gradually undergo cloudy swelling, hypertrophy with tendency to degeneration, through enforced over-activity in the matter of *la buonamano*. Desultory visiting of hospitals and physicians, easily stimulating for a time, meets with an ever-rising threshold as the weeks pass. The body craves a more regular life and the mind demands greater intensity and less diversity of occupation. It is, therefore, with a feeling of relief that, entering Germany from Italy, the physician finds in Munich a city eminently suited to a medical stay of months rather than of weeks or days; a city which, while offering unusual opportunity for the quiet enjoyment of life, also presents exceptional facilities for more concentrated medical work.

MUNICH.

The *Münchener*, celebrated for his *Gemüthlichkeit*, gives the visiting stranger a warm welcome, points with pride to his university, directs him to the Pinakotheks and Glyptothek, tells him of the theaters, of the opera and of the concerts in the Kaim-Saal, recommends his favorite brew of beer, and offers to meet him at the Café Luitpold, the Rathskeller, or the Künstlerhaus.

No better place could be chosen for an overworked nervous American to recuperate in. The air, as is well known to German neurologists, is especially beneficial to the neurasthenic, and the Bavarian motto *Der Mensch ist kein Eilwagen* is more easily lived up to in Munich than in most places.

In the southeastern part of the city, between the *Sendlinger Thor* and the *Theresienwiese*, you find the general hospital, the various clinics, and the scientific institutes of the medical faculty. A strong group of men is at work there. The venerable Karl v. Voit is at the head of the physiologic laboratory, ably supported by Max Cremer and Otto Frank. Since v. Kupffer's death Johannes Rückert has been professor of anatomy, descriptive and topographic, and Siegfried Mollier is also professor of anatomy, histology and embryology. The distinguished Otto Bollinger is professor of general pathology and pathologic anatomy, with Hans Schmaus and Hermann Dürck as members of his staff. After Buchner's death Max Gruber (of the Gruber-Widal reaction) was called from Vienna

*The previous articles in this series have been as follows: "Travel as a Means of Post-Graduate Medical Education," by Dr. Nicholas Senn, July 23; "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30; "Spain and Ramon y Cajal," by Dr. Barker, Aug. 6; "Leprosy in the Hawaiian Islands," by Dr. Senn, Aug. 13; "Italy and the Great Antimalarial Campaign," by Dr. Barker, Aug. 20 and 27; "Father Damien, the Leper Hero," by Dr. Senn, Aug. 27.

to succeed him as professor of hygiene and bacteriology; Martin Hahn is extraordinary professor in the same laboratory, and Dr. Tromsdorff is assistant. R. Emmerich is also a professor of hygiene, and v. Tappeiner has pharmacology. On the clinical side Munich is fortunate in having as professor of internal medicine a man regarded by many with whom I have talked as the foremost clinician in Germany, namely, Friedrich Müller. Formerly von Ziemssen had had the medical clinic and von Bauer the propadeutic. When von Ziemssen died the chair of medicine and the medical clinic were divided between v. Bauer and Müller. Surgery is headed by von Angerer, a genial man, much beloved by his patients, a favorite in court circles and known as a good shot in the hunting field. v. Winckel is the gynecologist and Eversbusch the ophthalmologist. In psychiatry Munich has been lucky enough to secure the best man in the country in the person of Emil Kraepelin. When his new psychiatric institute, now building, is completed, the opportunities for the scientific study of psychiatry in Munich will probably be unparalleled. As my time in Munich was given over almost entirely to Friedrich Müller's clinic and the State Chemical Laboratory, I am better able to write of the work in internal medicine there than of the work in the other medical branches.

One drawback to the medical clinic in the Bavarian capital is the lack of a real university hospital. The internists are compelled to use the General City Hospital with all the hinderances to scientific work which such an arrangement entails. It is a great pity that a large city like Munich, with so able a faculty, has not its own university hospital, where selected cases could be studied and treated. But the university has formed a close alliance with the city hospital, and von Ziemssen was able to secure a special university building, built in juxtaposition to it, known as the Medical Clinical Institute, fitted with teaching laboratories, lecture amphitheaters and research rooms.

The amount of clinical material available for study and teaching is not great; it does not compare in amount or variety to the clinical material of Berlin, Vienna, London or Paris. It could, however, be increased, and doubtless through Friedrich Müller's influence will be. Moreover, it is just possible that the material is better worked up as it is than if it were accessible in greater quantity and diversity.

When Müller accepted the call to Munich a new arrangement was made. Instead of "Medical Clinic" and "Propadeutic Clinic," the Institute and work were divided into two equal and co-ordinate parts, the First and Second Medical Clinics. Each clinic is independent of the other. Students may attend either of the clinics or both, but must be examined by two or three professors—Müller, v. Bauer and May (the latter is at the Policlinic). Each half of the Institute has its own separate and distinct lecture room and laboratories, and each professor has his own wards in the General Hospital. The teaching laboratories are in one part of the clinical building while the laboratories for strictly scientific work are in another, more secluded part. There is a library of internal medicine used in common by the two clinics. In the teaching laboratories opportunity is afforded for instruction in clinical microscopy, clinical bacteriology and clinical chemistry. The more strictly research laboratories are excellently designed for investigation in chemistry, bacteriology, physiology and pathology. It is admirable to see the effort made to bring these sciences directly to bear on the clinical cases. While much can be done, as has been demonstrated in America, by a harmonious working together of the clinic on the one hand, with the laboratories of pathology, physiology, bacteriology and chemistry proper on the other, still scientific work must surely make more rapid progress when special laboratories for the direct application of the methods of these sciences, manned by skilled workmen, are installed in the clinic itself. Some excellent research is going on in the laboratories under Müller's direction, especially along the chemical lines in which he is so deeply interested.

Just here I may be permitted, perhaps, to digress in order to make a few general remarks concerning the difficulties which so far as I know confront would-be workers in clinical laboratories in all countries, difficulties which for the most part are due to the lack of proper laboratory organization. The clinical laboratory is everywhere, as yet, an unformed creature, a more or less chaotic appendage, subsidiary in interest and in regulation to the work of the wards. This is largely due to insufficient staff, insufficient funds, and, except in a few clinical laboratories, to insufficient interest in the clinical laboratory work on the part of the higher clinical men. Not until the clinical laboratory adopts the methods of organization so admirably worked out in the laboratories of pure chemistry can its work be expected to become very effective. In laboratory work it does not do to have the apparatus as common property. It should be possible in a clinical laboratory as in a chemical laboratory to secure reagents and glass when they are needed. There should be a storeroom under lock and key, in care of a storekeeper, open at regular hours, where stores can be drawn on by personal written requisition. There should be adequate janitor service. Each worker should have his independent working place, his own outfit, which he can lock up in his own cupboard, his specific routine, his particular problems. Where a certain amount of money is available, all this, with proper organization, can run as smoothly as clockwork. But without intelligent organization everything is agog. Everybody's property is nobody's. To secure a burette for yourself you must waste a co-worker's normal solution. The newcomer seeking a funnel holder for himself and finding one on your desk, runs the risk of spoiling some valuable quantitative estimation you are making. With the storeroom unlocked the phenylhydrazin is never in its place, the hardened filters disappear into one worker's locker, the glass beakers vanish, and graduated cylinders become a rarity. In the absence of a storekeeper and the requisition system, responsibility can seldom be fixed, the whereabouts of apparatus are enigmas, stores are exhausted and no new supply ordered, excess and waste go uncontrolled and experiments have to be conducted faultily, if at all. Research is ever discouraging enough without the aggravated evil of an unorganized laboratory.

If we are to hope for fruitful investigation in our clinical laboratories we must see to it that those who work in them have proper facilities and conveniences, that order and system prevail, that proper encouragement and adequate supervision are provided. I make this digression here because I believe that the Munich laboratory under Friedrich Müller's direction is likely to become one of the best organized clinical laboratories in Germany. Interested in laboratory work as Müller is, a highly productive laboratory worker himself, attracting ambitious young physicians from all lands to work with him, familiar with the methods and arrangements of German chemical laboratories, and endowed with unusual executive ability and organizing power, it would seem as though it were to the clinical laboratory in Munich that we might look if anywhere in the near future for a proper development and a systematic organization.

The routine work of the medical clinic in Munich, even with a relatively large staff of older and younger assistants, makes heavy demands on the time and energies of the director. From 9 to 10 each morning (Saturday included) there is the medical clinic in the amphitheater; from 10 to 11 a percussion and auscultation course is given by Müller himself; from 11 to 12 he holds examinations and is occupied with ward visits. Between 12 and 1 o'clock the research workers in the laboratories are visited and advised. Consultation hours are from 2 to 4 p. m., and the hours from 4 to 6 are devoted to clinical and laboratory work. The evening is given over to medical reading, medical writing and the preparation of the lecture for the clinic the next morning.

Friedrich Müller was a pupil of Gerhardt's, was for several years the assistant of that great physician, and is thoroughly imbued with the clinical investigative spirit of his former master. How much he reverenced Gerhardt is evident from the necrologic notice he wrote of him in 1902; how much he has been influenced by him can easily be discerned by visiting

his clinics and making his personal acquaintance. His 9 o'clock clinic is largely attended by the *Praktikanden* in Munich; the seats of the clinical amphitheater are all occupied and often a number of men are compelled to stand. And that this popularity is well deserved and does not depend on any catering to the lower motives, one can convince himself by regular attendance for a time. There is nothing of the *grosses Thier* to be detected. Müller's assistants attend the clinic to help him with experiments and demonstrations and to learn from what he says, but for no other reason. No effort is made to mollify or amuse students; earnest, exact, honest clinical work and carefully prepared lectures are the only inducements held out. Strict with himself, Müller is strict with his assistants, with nurses, and with students; the order, discipline and punctuality that result can scarcely fail to excite the sympathy and approval of the visiting onlooker.

As I have said, the clinical material in Munich is not so abundant as might be desired. There are no free beds in the American sense; many of the patients are paid for by the societies for invalid insurance. The German arrangement known as the *Kranken casse* sends to private physicians great numbers of patients who should be hospital patients. Besides, the medical profession as a whole in Munich has not yet learned to co-operate with the university clinic. Later, when practicing physicians feel more keenly than they do at present their duties toward the medical education of the coming generation of physicians, they will, when they in their private practice meet with particularly interesting cases which are suitable for demonstration, bring them to the director of the clinic for presentation to his class. Individual physicians of the better sort have already made a beginning in this direction, and as soon as the Munich doctors realize how fairly they are treated under such circumstances and how helpful they can be in this way, the practice will doubtless grow.

Müller's clinical lectures are models of clearness, terseness and force. It is not always easy for the clinician, whose audience consists of clinical beginners on the one hand and more advanced students and postgraduate workers on the other, to so plan his address and the presentation of his case that all his hearers shall be interested and instructed. Two or three students are always called to the side of the patient; the Socratic method of teaching is often resorted to, though not to the exclusion of the clinical lecture proper. I was astonished at the simplicity of Müller's talks, and it occurred to me that perhaps in America we sometimes assume that our students know more than they do, that we sometimes overestimate their preparedness and assimilative power and in consequence fire over their heads. Müller makes relatively few references to the bibliography of his subject, uses plain language, avoids unusual technical expressions, assumes a fair knowledge of anatomy, physiology and physiologic chemistry, but does not presuppose extensive clinical knowledge or experience (beginners in clinical work can not possibly have them). The student is led from the anatomic and physiologic knowledge he has, through the anamnesis and the exact observation and examination of the patient, gradually up to the point where the diagnosis "makes itself." As a teacher the Munich professor has learned that very important lesson of beginning at the beginning; he does not, for example, inaugurate the clinical study of tabes with a minute description of pathologic changes in the spinal ganglion cell. It is the "complaint" of the patient that is first listened to and this forms, as it should always do, the starting point and, to a certain extent, determines the course of the whole clinical investigation. The complaint of the patient, it may be urged, is sometimes very misleading, true, but harm never results from taking it as the commencement of the clinical study, provided the patient is subsequently questioned in all directions and the whole body is examined thoroughly by all the methods at the clinician's disposal. The beginner learns from observation in the clinic the great significance of the anamnesis in some cases and in others the fallacies to which it may lead. Above all, he comes to realize the importance in every case, no matter what the anamnesis, of the thorough objective examination extended to all the organs and regions of the body.

Müller demonstrates as much as possible, even when it is necessary to cut the clinical lecture short to do so; attention is called to the visible symptoms; the recognition of the physical signs is compelled. The chemical tests of urine, feces and sputum are made at the time (not simply reported to the class). The bacteriologic and cytologic slides are under microscopes at the table where all may examine them. When antitoxin is administered the serum is shown; when oxygen gas is advised in treatment the oxygen balloon is exhibited and its method of use illustrated. I have even seen an ordinary hypodermic syringe passed around the class! Illuminated *x*-ray photographs are shown; blood pressure readings are made; gross specimens from the autopsies are presented; microscopic sections from diseased organs are projected on the screen. In short, the method of object teaching or the principle of *Anschaulichkeit* is followed *ad maximum*.

(To be continued.)

Clinical Report.

A CASE OF TETANUS TREATED SUCCESSFULLY WITH ANTITETANIC SERUM.

T. G. ODELL, M.D.,
AND
C. C. SNYDER, M.D.
SALT LAKE CITY.

Patient.—S. B., aged 17; occupation, porter in wine cellar. Family history negative. He was admitted to the Holy Cross Hospital July 22, 1904, suffering from a well-defined case of tetanus. The following history was obtained after the patient had recovered sufficiently to talk:

History.—On July 4, while setting off a fire-cracker, the palm of the left hand was injured. This did not cause much trouble until July 11, when he complained of some pain and stiffness in the muscles of the neck and back. These symptoms were not severe, but had increased somewhat by July 15, when a physician was called and diagnosed the case as "muscular rheumatism," and ordered antirheumatic treatment, which was continued until July 22. The patient was confined to bed.

Examination.—At this time our attention was called to the case, and on examination we found the following symptoms present: Risus sardonicus very marked, tonic spasms every two minutes, opisthotonos exaggerated by the slightest noise or excitement; jaw locked to the extent that it would not admit a lead pencil between the teeth; temperature 104 F., pulse 120; constipation; no difficulty in swallowing and no pain.

Treatment and Result.—Patient was sent to the hospital when we had finished the examination, and at 8 p. m. 20 c.c. of anti-tetanic serum were administered subcutaneously. This dose was repeated at 12 o'clock midnight, and a similar dose given every eight hours until 220 c.c. had been used. He was also given morphin sulphate, gr. ¼, and atropin sulphate, gr. 1/100, hypodermically.

No improvement was noticed for 36 hours, when the jaws relaxed sufficiently to admit an ordinary lead pencil between the teeth. There was a very slight improvement in the spasms; temperature 102, pulse 110. At this time chloral hydrate in 15-gr. doses was given by mouth every four hours.

July 25 there was decided improvement; the jaws relaxed three-quarters of an inch; chloral and serum were discontinued and sodium bromid in 15-gr. doses was given every four hours; temperature 99, pulse 100.

July 26, jaws relaxed one inch; patient was able to chew; continued to improve, and was discharged from the hospital cured Aug. 4, 1904.

This is the first reported case of tetanus that has recovered in this section of the country.

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THE YEAR'S SUCCESS IN TETANUS PROPHYLAXIS.

Beginning with the Iroquois Theater catastrophe, just at the close of last year, a series of life-destroying disasters has followed with what seems to be unparalleled frequence and immensity. The fire on the *General Slocum,* in East River, preceded but a short time the sinking of a steamer ladened with Scandinavian emigrants bound for this country. Railroad wreck has followed railroad wreck, culminating in the Colorado disaster, which caused a loss of life almost unequaled in the history of railroad accidents. In the face of these horrors, many of which were the plain result of negligence on the part of public or private officials, there is some relief to be found in the analysis of the annual tetanus epidemic, by which form of child-sacrifice we make our annual blood-offering to commemorate the independence of these our United States. Last year we were able to collect 415 reports of convulsion-racked victims of the toy pistol and its allies; this year we rejoice at a list of only 105. And being a rare chance, we hasten to credit at least a part of these 300 saved lives to the efforts of public officers, to credit up on the side of the sheet opposite to the debit column of the Iroquois and the *Slocum.*

In the analysis of the conditions existing during the epidemic of this year, the facts that develop seem to indicate that the improvement of this year, as compared with last year, is not due to natural causes, such as decreased abundance and virulence of the bacilli, but to a number of factors all produced by humane effort. This is fortunate, for it holds forth hope that by a continuance of this effort the ground gained may be held, and still more improvement made in the future. Tetanus was less frequent this year for two reasons: First, less injuries were produced on the Fourth than usual; second, the injuries that were received were better cared for. Both of these conditions were the outcome solely of a better understanding by public and profession of the really tremendous danger that lies in a Fourth of July wound, and for this understanding credit must be given to the press, both lay and medical. When, a year ago, THE JOURNAL began the collection of statistics on this subject, it was with little appreciation of the real enormity of the casualty list. We were as much surprised at the huge totals—466 deaths and 3,983 injured—as were nearly all who read them, for no complete collection of these injuries and deaths had ever before been made. The labor and expense involved in this work has been most abundantly repaid, for the effect produced far exceeded anything we had hoped for. A definite basis of facts and figures was given for the many public-spirited citizens, physicians, municipal officers and editors who for years have been making earnest efforts to check an annual calamity which they appreciated more than did their hearers; and these facts and figures were so gruesome that none could fail to be impressed. As pointed out in our article, the fruit of this was a universal publicity given by every paper in those portions of the country where Fourth of July is celebrated by explosives, which resulted in the passage and enforcement of laws aimed at the use of dangerous means of celebration, in the abandonment of "home treatment" of these wounds for care by physicians, and on the part of the physicians in a more thorough prophylactic treatment of Fourth of July injuries.

The lesson and the danger of the future is clear. It remains to be seen if the falling off in mortality will result in a falling off in precautions, as so often follows all movements depending on a public action. As the gain has been made largely through the agency of the daily press, so it must be maintained by the same means, and medical men can do much to aid in this. If before the coming Fourth local societies will pass resolutions calling attention to the need of enforcement of the laws bearing on the use of explosives, and the dangers of Fourth of July wounds as a source of tetanus, the papers will readily sound the alarm. Much can be done in the way of aiding newspapers in preparation of articles on this subject by furnishing statistics and information from proper medical sources. We have noted much good from just these measures during the past year. Every effort must be made to see that the agitation of this year is repeated next June, or we may lose what has been gained, for the blank cartridge and the cannon cracker will be put on the market ready for sale wherever the police will permit.

Another lesson of this year's epidemic is furnished in the results of prophylactic treatment and curative treatment. The latter is, in the case of Fourth of July wounds, almost unavailing, as shown by a mortality of over 95 per cent. Prophylactic treatment, on the other hand, is proven by repeated experience to be absolutely successful. We have yet to learn of a boy whose blank-cartridge wound was thoroughly cleaned out under anesthesia and followed by an injection of antitoxin, who developed tetanus or suffered from the vigor of the treatment. As proper treatment is so perfectly efficient in preventing lockjaw, in the case of the boys who do die of lockjaw after the Fourth, the question may be raised most properly, "Who is to blame?" For it is certain that there has been neglect somewhere. We can only say that in the future we hope the neglect will always be found to have been on the part of the patient.

May not the Association itself do something in this matter? Beside helping to secure publicity through its consideration of Fourth of July injuries and their re-

sults, may it not start proper legislation aimed at the root of the evil—the manufacture and sale of dangerous explosives which are useless except for the celebration of the Fourth? Not until this is done will the situation be safe, and the initiation of such action would very properly begin with the American Medical Association.

DIABETIC NEURITIS.

The nervous system is peculiarly susceptible to the action of various chemical agents, whether introduced from without or generated within the body as a result of metabolic or infective processes. That in some instances the central, and in other instances the peripheral division, and in still other instances both divisions of the nervous system, should suffer under such circumstances, must be due to differences in chemical affinity beyond present means of determination No doubt, isolated symptoms of neuritis have for a long time been observed in cases of diabetes, but it is, of course, only since knowledge on the subject of the former has become well defined that an understanding of the connection between the two has been possible.

The clinical phenomena to which peripheral neuritis gives rise are at times so much like those of locomotor ataxia that it is not surprising that the symptoms were for a long time attributed to disease of the spinal cord; and in this connection the question may be fairly asked whether there is not after all some relation pathologically between the gray matter of the anterior horns of the spinal cord and the motor nerves on the one hand, and the sensory nerves and the posterior columns of the cord on the other hand.

In a recent communication, Dr. F. W. Pavy,[1] who has devoted much attention to the study of diabetes, and who was one of the first to describe the symptoms of neuritis as a complication of that disorder, discusses some of the varied phenomena of diabetic neuritis. He points out that cramp may occur in the absence of signs of neuritis, being especially marked when the amount of sugar in the urine is large, and he attributes the phenomenon to the direct effect of the sugar passing through the system on the muscular substance. The characteristic symptom of diabetic neuritis is a want of muscular co-ordination, without actual paresis. The ataxia is, as a rule, not so marked as under other conditions. At first the gait is unsteady and insecure, and somewhat like that of an intoxicated person, while later the patient may be unable to get along without the aid of a stick or the arm of a friend. The ataxic diabetic patient can maintain his equilibrium when standing with his feet together and his eyes shut much better than the tabetic. The ataxia may be unattended with sensory phenomena, while conversely these may be marked when the ataxia is slight.

Fibrillary contractions unattended with any sensation are sometimes visible over some muscles. They appear as wavy oscillations or twitchings beneath the skin. Hyperesthesia localized to different parts is frequently present At other times there may be numbness, tingling, a sensation of pins and needles, and other paresthesiæ. Sometimes the soles of the feet are tender, so that walking is painful, or the patient may not feel the ground properly, or he may seem to be walking on pebbles or on pointed projections. Aching, deep-seated pains in the extremities, sometimes conjoined with lightning-pains, may be present, and often there is complaint of tenderness of the flesh and bones. The pain is usually worse at night than by day, and the patient may find difficulty in placing the legs in a sufficiently comfortable position to permit of sleep. Occasionally girdle-pain is observed. The knee-jerks are often abolished in cases of long standing, although they may later be restored with reduction in the amount of sugar in the urine. Should the vasomotor nerves be involved, there may be local flushings and pallor of an abnormal nature, and the hands or feet may become hot and florid or blanched and cold. Trophic disorders also may result; for example, gangrene of the toes or perforating ulcer of the foot, cataract, loosening of the teeth, xanthoma, boils, carbuncles.

Diabetic neuritis is most commonly symmetrical in distribution, and the upper extremities are more frequently involved than the lower. All four extremities may, however, be affected together, or exceptionally the upper alone. Involvement of the right lower extremity, the right side of the body and the right upper extremity has been observed. Sometimes the disturbance is confined to a single nerve, such as the sciatic or the brachial. In some cases symptoms of angina pectoris have been noted, but these have yielded to treatment of the diabetes. Involvement of the third nerve, with ptosis and external strabismus, has been reported.

In the opinion of Dr Pavy, the development of the neuritis complicating diabetes is attributable to the presence of sugar in the blood, and the treatment consists in measures directed to a reduction of the amount of sugar, especially careful dieting. In addition potassium iodid five grains, with ammonium bromid ten grains, has been administered thrice daily with benefit. Should these fail to bring about the desired result the continuous galvanic current may be employed, and when there is severe superficial pain a liniment containing aconite may be applied with advantage.

1. Lancet, July 2, 9, 1904.

A NEW FORM OF THROAT INFECTION DUE TO AN ORGANISM OF THE OIDIUM GROUP.

The amount of bacteriologic work which has been done in the last few years on the various forms of angina is so great that one would expect that our knowledge of the different forms of throat infection would be fairly complete. Nevertheless, new varieties of throat infection have been described, notably the form due to

the spirillum and fusiform bacillus of Vincent, and the occasional cases of tetragenus angina. That angina could be due to the group of organisms which cause ordinary thrush has hardly been suspected, though any bacteriologist who has worked with throat cultures can not have failed to note the relatively frequent occurrence of oidia, and the French observers have reported a few cases in which this group of organisms played the part of secondary invaders.

In a recent article, Oliver[1] has described a new form of throat infection, presenting characteristic clinical and bacteriologic findings, due to an infection with an organism of the oidium group. On the clinical side the disease presents a variety of pictures as it varies both in its course and in its severity. In children under twelve the disease usually assumes an acute form, while in adults the course is generally chronic, one of Oliver's cases having lasted for fourteen years. The symptoms first noted are those generally accompanying an acute infection, coryza, pain about the eyes, and aching of the back and limbs. These symptoms are accompanied with evidences of the local infection in the form of dry, paroxysmal cough and difficulty and pain in swallowing. The first objective signs are an intense hyperemia of the tonsils, uvula, and pharyngeal wall, followed by great swelling of the tonsils and uvula; the cervical glands become enlarged and tender, and a thin, grayish-white, slime-like membrane appears on the tonsils. The temperature may remain normal or rise as high as 102 or 103 F. Subsequently a V-shaped membrane forms on the posterior pharyngeal wall, and this with the membrane over the tonsils becomes thickened, adherent, elevated, and of a pearl-gray color. About this time gray, elevated, hard, adherent patches appear on the tongue, usually near the center, but occasionally all over. These are of pinhead size, but gradually increase until they may reach the size of a silver quarter. The patches are irregular, elevated, firm, furry to the touch, and can only be removed with difficulty and pain. The disease having reached its acme now tends toward healing, the membrane disappears, the glands in the neck go down, and the general condition improves. In most instances, however, the tonsils and particularly the tongue are marked by ulcerations. In the tonsils these are generally situated at the top of the gland in the sulci, and are deep and punched-out in appearance. On the tongue the ulcers are irregular and quite deep, reaching into the submucosa. It is these ulcerations of the tongue which may remain for months and which characterize the chronic cases.

The bacteriologic examination of these cases shows the presence in cover-slips of numerous round or ovoid bodies from 6 to 8 micromillimeters in diameter, with double contour, and staining lightly except for a single chromatin granule at the thicker end. Attached to the oval body at the thicker end is a thread of varying length, which may or may not be jointed. The organism stains by Gram's method and all the basic aniline dyes. It is grown with difficulty at first, but when once obtained in pure culture can easily be reinoculated. It is pathogenic to rabbits, and in these animals the clinical picture of the disease can be reproduced quite closely. Of singular interest is the fact that a physician who worked at the laboratory bench where Oliver had autopsied his rabbits contracted the disease. While this form of throat infection has so far been described only in San Francisco, there is no reason to believe that it is limited to that locality, and it seems probable that like other new diseases as it is more carefully looked for it will be found to be more widely distributed.

1 California State Journal of Medicine, vol. II, No. 8.

BACKWARD CHILDREN AND EDUCATIONAL TECHNIC.

An interesting experiment in educational methods which is attracting wide attention, is deserving of the special consideration of physicians. Very few are now persuaded that all men are born equal in the sense that intellectual qualities have been doled out with unfailing regularity. What certain pupils are able to accomplish with comparative ease, others of the same age and of the same social stratum may find very difficult. For these latter pupils attendance at school becomes a depressing routine, a constant source of worry and nervous unrest, and prone to be rendered still more unpleasant by intellectual tension out of school hours and the discouragement of the feeling of incapacity. How much of harm the attempt to cast all the pupils of each class in one mold has done, only those can realize who have seen delicate children run down every year under the strain of their school work.

The superintendent of the schools of Batavia, N. Y., found this problem of the weaker and slower pupils being compelled to compete with the physically stronger and intellectually more rapid workers crowding on him for solution. As described in a recent number of the New York *Independent*, there came to him an inspiration. "Let us," said he to the governing board, "put an end to this killing of children." His method was simple and rational enough. He suggested an extra teacher for every room, whose duty would be not to hear lessons, but to help those pupils who were falling behind in the class. Needless to say, this sort of help requires special tact and broad sympathy with children's minds, as well as a clear idea of the way in which pupils view things so as to recognize the source of their difficulties. The experiment was tried first in a single room, but the result was so strikingly beneficial, both as regards the pupils themselves and the feelings of satisfaction on the part of the teachers, that what has since come to be called the "Batavian experiment" is now finding its way into many of the higher schools.

The most interesting feature of this experiment is that on the health of the children. While there was no doubt from the very beginning that it would be of service for the general scholarship of the schools, the hy-

gienic feature was not expected to be quite so prominent.

One mother, rejoicing over her boy restored to health and intellectual vigor, after she had seen him depressed and discouraged during the preceding year, declared the new experiment to be "a new phase of Christianity." It is especially satisfying to find that the success of the experiment has been pleasing to the powers that be in the school. The president of the school board says: "The method of meeting our problem is not only a revelation, it is a revolution."

There are many, physicians especially, who feel that too much is demanded of children in school at the present time. There are many who are sure that the game is not worth the candle, since so many of the modern fads in education bear little relation to the real mental development or to success in life. It would indeed be a consolation to find some way out of the anxious problem which physicians have had to meet in this matter of the education of more delicate children. The fact that as many as six times the number of pupils remain to graduate at the high school in Batavia is apt to prove a better argument, however, for educators than any physical improvement may with the new system. Let us hope that it will receive the recognition that it apparently deserves. In any case it must be remembered that a child's health is much more important for its success in after life than any amount of education, however apparently successful our wonderful methods of educational development may be presumed to be.

THE DEPARTURE OF DR. OSLER.

While long expected, the announcement[1] of the intended departure of Dr. William Osler to assume the regius professorship of medicine in Oxford University, conveys a sense of loss to the entire medical profession of the Western Hemisphere. The change from the Johns Hopkins University, where he has been the shining light for so many years, to the famous old English university, is a change that does not alter Dr. Osler's standing among the scientists of the world, because of the fact that he is almost as well known across the water as he is on this side. By birth and education he was a Canadian, and in Canada was the commencement of his fame as a teacher and practitioner. He came to the United States in 1884 to the University of Pennsylvania, and in 1889 he went to Johns Hopkins University, and has since been actively engaged in the affairs of that institution, for the past few years being its guiding spirit. His extraordinary capacity for hard work, his keen insight into affairs, his marked success as a teacher of medical students, and his wonderful sympathy as a man among men, have centered about him a press of varied duties such as few men could successfully manage and fewer still carry for so long.

As a teacher, he has been most emphatic in upholding the principle that the art of medicine should be based on the most exact scientific knowledge obtainable. In following out this principle in his own practice, his thoroughness has won for him the position which he holds—one of the foremost men in medicine to-day. In every one of his varied duties he has been faithful.

While typically representing the highest ideals in scientific medicine, he found time and inclination to lend a helping hand in all work that tended to uplift his profession. He is an enthusiastic worker in the movement for the organization of the profession, and, burdened as he is by his other work, he does not hesitate to accept the position and perform the duties as councilor in his state when the new plan of organization was adopted by the Maryland Society. In this he has set an example for those who feel that they are too much occupied with scientific work to meet on the common level and assist in the movement for the improvement of the profession. This illustration of his devotion to the interests of his confrères shows that his actions were consistent with his high ideals as to the physician's duty.

As one of the profession of Maryland, his loss will be especially felt. His influence and example, his active participation in its activities, and his generous contributions to all its enterprises, have promoted immensely its morale. His leadership has been felt and acknowledged by all. Few men so well combine the qualities of leadership, tact, unselfishness, active interest in everything professional, and ability so conspicuous as to be recognized by all without jealousy.

For some years Dr. Osler has tried to arrange his work so as to avoid some of the tremendous pressure under which he labors. His teaching, his hospital work, his constantly increasing consulting practice, his participation in other professional affairs of local and national importance, have left him little time for his literary work. The Oxford position is more of an academic one, involving less time-taking routine, and will, therefore, leave him free for the literary work which he is anxious to accomplish. He undoubtedly hopes to utilize the immense amount of valuable clinical material which he has accumulated. The ideal life in Oxford University is just suited to such work. We congratulate both Dr. Osler and Oxford University, especially the latter.

THE DOCTOR IN POLITICS

Every one should take an interest in politics, because it is one's duty as a citizen. But every physician should be interested much more than the ordinary citizen, for his relations to the state are more important. The people depend on him to suggest measures and methods for the sanitary and health legislation and for the care of the physically weak. Evidently this view is held by a sufficient number of physicians in Texas to influence one of the parties, and to make it believe that it

1. The Journal, news columns, Aug. 20, 1904.

is to its interest to side with the profession The fourth plank in the Texas Republican platform is as follows:

We believe that the home for the old soldiers, that the asylums for the orphans, that our penitentiaries should be presided over by competent, honest and faithful servants; that our eleemosynary institutions should be sanitary, and the insane removed from our jails to proper quarters. In trials for insanity there should be neither acquittal nor conviction without the interposition of a medical board.

Would that the profession were influential enough to have such a plank in the platform of both parties in every state in the Union!

AMPUTATION STUMPS AND SATISFACTORY PROTHESIS.

There is probably no class of surgical patients to whom the details of treatment have greater subsequent import than those requiring amputation of lower extremities, because the application of a satisfactory artificial leg depends directly on the character of the stump. As this can be so greatly influenced by the operative and the almost equally important after-treatment, it should be an obligation for every surgeon to be exactly informed of the best methods. F. T. Murphy,[1] in a very thorough study of this subject, from the viewpoints of the patient, the prothesist and the surgeon, has, by demonstrating the fallacies of many accepted procedures, and clearly indicating the surest means to the best functional results, forcibly emphasized the essentials of treatment, which, if closely followed, will reduce to a minimum the distress of an enormous number of unfortunates.

ERYTHEMA CONTAGIOSUM.

Under the name of erythema contagiosum, Escherich[2] has recently described cases of a disease which, in many ways, resemble the eruptive fevers of childhood The name was first given to the disease by Stricker of Giessen, but Escherich states that he has observed it for a good many years, first at Graz, and later at Vienna. It would appear that the disease was at first confounded with German measles. The disease has an incubation period of from six to fourteen days, and appears in children, who are subjectively well, in the form of an intense redness and turgescence of the cheeks, which is often quite sharply limited by the nasolabial line, thus resembling erysipelas. Less frequently the eruption on the face is in the form of flecks or gyrate patches. In most cases there are also present on the forehead, the region of the ears, and on the extremities, scattered patches of bluish-red erythema which sometimes coalesce. The eruption lasts from six to eight days, and then gradually fades, first on the face, then on the extremities. There is no desquamation, and unpleasant sequelæ are not observed. From time to time there have been described in this country epidemics of atypical eruptive fevers, usually considered to be atypical German measles. It seems likely that the disease which Escherich describes may exist in this country, and it behooves the general practitioner, who is most likely to meet with such cases, to be on the lookout for it

1. Boston Med. and Surg. Jour., July 14, 1904.
2. Münchener med. Wochenschrift, No. 24, 1904

UNPRECEDENTED MEDICAL ASPECTS OF THE WAR NOW IN PROGRESS.

Warfare has lost its personal character, and is now merely wholesale butchery. This fact is impressively demonstrated by a letter from Dr. Paul Jacoby[1] of Orel, Russia, whose experience at the seat of war has shown that the battles and mine explosions affect men like great cosmic phenomena, in which the personal element is entirely lacking. Danger, death itself, present themselves under new and strange forms, altogether different from the ideas of war to which we have been accustomed since the days when knighthood was in flower. Our psychology has not adapted itself yet to the new aspect of warfare. A cruiser which in less than two minutes sinks with 800 men on board; a skirmish in which 104 out of 107 of the horses are killed; an assault in which every assailant drops to the very last man; an assault over a surface known to be undermined by fifteen hundred mines; these things affect one like a tremendous earthquake or volcanic eruption. Every physician knows that catastrophes of this kind breed psychoses, and the nervous condition of those who escaped from such catastrophes as the blowing up of the *Variag*, the *Petropavlovsk* and the *Hatsuse*, is similar to that of the survivors of some great cosmic upheaval. Nervous disturbances and psycho-physical troubles should be treated at once, and on the spot, in conditions of absolute repose. Some of the survivors of the battles and explosions at the seat of war were hurried away from the spot and sent home, the interminable railroad journey rendering their curable psychosis probably incurable insanity. Jacoby has urged on the Russian Red Cross, and his suggestions have recently been put in practice, that certain barracks and tents should be set apart for such patients, to isolate them and render possible the restoration of their nervous balance. The conditions of warfare all predispose to psychoses, under the most favorable surroundings, and the new forms of death—forms to which the mind is not accustomed—and the psychologic conditions which they create, must certainly have an influence on the psychophysical condition and on the pathogenesis of nervous morbidity among troops in active warfare. They may, perhaps, originate new morbid forms akin to the traumatic and hysteric neuroses of industrial origin. In the campaign in Manchuria all these causes are cooperating with an unprecedented intensity, and the physicians at the seat of war have been so preoccupied with their surgical duties that these victims of the war have been neglected or sent home, thirty or forty days of railroad traveling being superadded to the other factors of their psychosis. Jacoby refers the brutal acts and perversions of men in camp life to unrecognized psychoses generated by their environment. The authorities and public opinion, however, are not always able to distinguish between a psychosis and a crime. He refers to the recent suicide of General MacDonald as an instance in point. The two armies now fighting in Manchuria have the sad privilege of inaugurating these new psychologic and psychopathic conditions of modern warfare with its character of industrial butchery

1. Progrès Médical, xxx, No. 33, Aug. 13, 1904

by perfected processes. No country in the world is prepared to face the exigencies of modern warfare perfectly, but fortunately the psychopathic victims of civilized war can be readily treated anywhere, even on the very battle-field. Jacoby refers to his own experience at the Orel Asylum, where every year the summer months are spent by the inmates in temporary wooden shelters or tents while the buildings are being renovated. The organization of a psychiatric department in the Red Cross service for troops during a campaign is a pressing necessity. It is particularly needed when the campaign is remote from the centers of civilization, and, above all, in the tropics

Medical News.

ARKANSAS.

Physician Pleading Self-Defense is Acquitted.—Dr. William L. Parchman, Van Buren, charged with killing Charles Tolson, was found not guilty. His plea was that Tolson made a movement as though he were about to draw a revolver.

Unlicensed Itinerant Fined.—An advertising itinerant specialist, who attempted to ply his trade in Newport, was fined $25 and costs for failure to secure a county license. The proceedings were instituted by the Jackson County Medical Society.

State Board Reorganizes.—On July 12 the State Board of Medical Examiners met at Little Rock, and reorganized, electing Dr. Adam Guthrie, Prescott, president. Dr. Ben L. Harrison, Jonesboro, was appointed a member of the board, vice Dr. Charles R. Shinault, Little Rock, removed from first congressional district.

State Society Election.—At the annual meeting of the Arkansas Medical Society the following officers were elected: Dr. Joseph P. Runyan, president; Drs. John L. Butler, Sheridan, Herbert H. Canfield, Siloam Springs, and Adolphus G. Clyne, Bethel, vice-presidents; Dr. Richard C. Thompson, Pine Bluff, treasurer, and Dr. Charles C. Stephenson, Little Rock, secretary. Little Rock was selected as the meeting-place for 1905.

Negro Medical Society.—At the session of the Negro State Medical Association at Little Rock, Dr. Hayward W. Suggs, Little Rock, was elected president; Dr. Claude M. Wade, Hot Springs, vice-president; Dr. Meaddoughs, Little Rock, secretary, and Dr. George A. Flippin, Pine Bluff, treasurer. The association adopted resolutions that the colored race should have representatives on the State Board of Medical Examiners and State Board of Health.

Lightle Not Dead.—Dr. Richard G. Lightle, Searcy, an account of whose tragic death by fire appeared in THE JOURNAL of June 4, and whose widow received $21,000 life insurance, has been found alive in Georgia, and is to be extradited, and returned to Arkansas to be tried on the charge of attempting to defraud insurance companies. Mrs. Lightle, on being convinced that her husband was not dead, voluntarily returned the life insurance money to the five companies interested.

CALIFORNIA.

Cornerstone Laid.—The cornerstone of the new College of Physicians and Surgeons of Los Angeles was laid with formal ceremonies August 13.

New Medical Ward.—Through the munificence of a citizen of Pasadena, a medical ward has been provided for the Pasadena Hospital, which will cost about $15,000. The gift was conditional on the preservation of the incognito of the donor.

Becomes a Part of University.—At a meeting of the Board of Regents of the University of California in San Francisco, August 9, the intermediary department of medicine was taken over by the regents and will be reorganized into a regular department.

Accident.—Dr. Mary B. Ritter, Berkeley, suffered fracture of the clavicle and two ribs in a runaway accident near New Almaden, and has intimated her intention of resigning the lectureship of hygiene in the University of California, on account of her injuries.

Welch Delivers Lane Lectures.—Dr. William H. Welch of Johns Hopkins University delivered the Lane course of ten lectures on "Infection and Immunity" before the faculty and students of Cooper Medical College and invited guests, in the five days beginning August 15.

College to Have Library.—Cooper Medical College, San Francisco, is now ready to erect the medical library building provided for in the will of Mrs. Pauline C. Lane, and the authorities of the college have petitioned the Superior Court for permission to sell the property bequeathed by her for this purpose.

Dismissed and Convicted.—The charges of practicing medicine without procuring a state license preferred by the State Board of Medical Examiners against Drs. James Gerow, L. A. Cloutier and G. W. Winckfield of Oakland County, were dismissed, August 24, for lack of sufficient evidence to convict.——"Dr." W. J. Sylvester, San Francisco, convicted of practicing medicine without a license, was fined $100.

ILLINOIS.

The anti-expectoration ordinance, which became effective in Joliet, August 15, prohibits spitting on sidewalks and in public places.

Leprosy at Peru.—A case of leprosy has been discovered in Peru. The patient is a furnaceman at the works of the Illinois Zinc Company, is married, and has seven children. The origin of the disease was not discovered.

Smallpox.—Belleville has 9 houses quarantined and 3 patients at the County Isolation Hospital.——East St. Louis, is reported to have 300 to 400 cases; 35 of the 38 patients at the isolation hospitals are from East St. Louis.——Smallpox exists in a number of houses near the Illinois Central Station in Centralia, and the railway company has asked the State Board of Health to enforce quarantine.——Peru has 15 cases and La Salle one case.

Chicago.

Personal.—Dr. Alfred Schalek, after a long illness, has recovered and resumed practice.——Dr. Thomas J. Jackson sailed for Europe, September 1.——Dr. Vida A. Latham was recently elected secretary of the American Microscopical Society.——Dr. and Mrs. Jacob Frank sailed from Hamburg for New York, August 28.

Health Department Rejoices.—The Bulletin of the Health Department for the week ended August 27 is a song of rejoicing because the August death rate is phenomenally low; because the low mortality among infants and children continues, and because of the reduction in the cases of typhoid fever and acute intestinal diseases.

Mortality of the Week.—The total deaths last week numbered 472, equivalent to an annual death rate of 12.76 per 1,000 or more than 16 per cent. below that of the corresponding week of 1903. Acute intestinal diseases caused 102 deaths; consumption, 52; violence, 46; heart diseases, 39; pneumonia, 32, and Bright's disease 26.

MARYLAND.

Urges Vaccination. The State Board of Health is sending letters to the boards of school commissioners urging thorough vaccination of all school children before the term begins.

Personal.—Dr. Charles G. W. Macgill, Catonsville, is visiting Richmond, Va.——Dr. J. R. Cullen, Catonsville, is visiting Camden, Del.——Dr. Charles Owens, Sunnybrook, has gone to Port Norris, N. J., to practice.——Dr. Albert J. Bossyns, of Mt. Washington, has gone to the Pacific Coast, via St. Louis.

Baltimore.

Personal.—Dr. Philip E. Craig is seriously ill with typhoid fever.

May Succeed Osler.—The general belief in the profession in Baltimore is that Dr. W. S. Thayer will succeed Dr. William Osler, at the Johns Hopkins Medical School.

Sings for Charity.—Dr. B. Merrill Hopkinson has sent $59.35 for the Children's Fresh Air Fund, the net proceeds of a song recital given by him at Prout's Neck, Maine, where he is spending the summer.

Seeks Mandamus.—Dr. Campbell F. Flautt has petitioned the Court of Common Pleas for a writ of mandamus compelling the Board of Medical Examiners of Maryland to issue him a permit to be registered as a physician. An order was granted by the court, returnable September 10. Dr. Flautt claims to have been a practitioner prior to Jan. 1, 1898, the date of the law, and to be a regular graduate.

MICHIGAN.

Smallpox.—It is reported that smallpox is prevalent in and around East Nelson and Pierson.

Personal.—Dr. William E. Parker, Dowagiac is seriously ill with septicemia, due to an operation wound.——Dr. Myrtle E. Lockwood, Battle Creek, has returned from Japan.——Dr. Raymond D. Sleight, Ann Arbor, assisant in ophthalmology and otology in the University of Michigan, has resigned, and will practice in Battle Creek.

Post-Graduate Instruction in Detroit.—The Detroit Post-Graduate School of Medicine has been incorporated with a capital stock of $5,000, by Drs. Walter R. Parker, Frederick W. Robbins, Charles G. Jennings, David Inglis, Burt R. Shurly, Charles D. Aaron, Frank B. Walker, Andrew P. Biddle, Preston M. Hickey, and Benjamin R. Schenck. The first session opened in the Detroit Clinical Laboratory building, September 1.

Itinerant Wins First Suit.—In the case of Max Jay Kraus, charged with practicing medicine in Michigan without being registered in the state, the jury returned a verdict of not guilty. The defendant is one of an itinerant medicine company known as the "Hot Springs Doctors," which has been taking $300 or more a day from the ignorant of Traverse City, and the prosecution was at the instance of the local medical association.

July Mortality of Michigan. The total number of deaths for July was 2,510, or 65 more than the number for June, and 143 less than the number recorded for July, 1903. There were 520 deaths, or 20.7 per cent., of infants under 1 year; 143 deaths of children, aged 1 to 4 years, and 720 deaths of persons aged 65 years and over. Important causes of death were as follows: Influenza, 4; measles, 8; scarlet fever and whooping cough, 10 each; puerperal septicemia, 19; diphtheria, 24; typhoid fever, 28; meningitis, 36; pneumonia, 69; cancer, 156; diarrhea, enteritis, under 2 years, 206; tuberculosis, 211, and accidents and violence, 226. There were only 5 deaths reported from tetanus, a number much smaller than that for the corresponding month of 1903. No cause for tetanus was assigned, except in one instance, when a toy pistol was stated to have inflicted the wound that caused death. There were 4 deaths from smallpox.

MISSOURI.

New Police Surgeons.—Dr. Herbert A. Longan, Kansas City, has been recommissioned police surgeon, and has appointed Drs. H. M. LaRue, E. J. Morrow, and W. L. McKittrick as assistants.

Will Now Distrust Burglars.—Dr. William Frye, Kansas City, who did not trust banks and kept his money with him, was visited by burglars who stole $6,500, and in addition attempted to asphyxiate the family by gas.

St. Louis Deaths.—For the week ended August 27, 193 deaths were reported to the health department, of which 21 were due to consumption; 26 to diseases of the digestive apparatus; 19 to heart disease and 17 to violence.

Personal.—Dr. Frank S. Vernon, Charleston, has been appointed assistant superintendent of the Farmington Hospital.——Dr. W. W. Graves has returned to St. Louis, after an absence of four years in Europe.——Dr. Thomas J. Baskett, Mexico, has been appointed coroner of Audrain County, vice Dr. Charles T. Varnon, deceased.

NEW YORK.

Personal.—Dr. Grover Wende, Buffalo, has sailed for Berlin to attend the International Dermatological Congress.——Dr. Frederick C. Peterson, Watertown, has moved to Syracuse.

Regents Win. Dr. Stanley Darlington, Buffalo, who was tried for practicing without a license and brought suit to compel the State Board of Regents to issue him a certificate, has lost again. Darlington's attorney claimed the regents were prejudiced against him, but as it was shown that the regents offered to give him a hearing if he would deny under oath, their charges that he cheated at an examination and practiced without a license, the court said he should have taken their offer, and so denied him a writ of mandamus.

State Hospital Report.—The thirty-third annual report of the Buffalo State Hospital has been issued. The vacancy on the board of visitation, made vacant by the death of Dr. Lothrop, has been filled by Dr. William C. Krauss. While the hospital is fortunate to have been relieved of 200 of its patients by transfer to the Gowanda State Hospital, the reduction in number seems to have been temporary only. The number of patients in the hospital is 1,822; during the year 429 were admitted, of these 94 were discharged recovered, 89 improved, 229 unimproved, and 164 died. The percentage of recoveries to total number of admissions was 21.91.

New York City.

Contagious Diseases.—There was reported to the sanitary bureau for the week ended August 20, 420 cases of tuberculosis, with 130 deaths; 224 cases of diphtheria, with 26 deaths; 120 cases of typhoid fever, with 20 deaths; 73 cases of measles, with 7 deaths; 54 cases of scarlet fever, with 5 deaths; and 24 deaths from cerebrospinal meningitis.

Personal.—Dr. Otto C. Thum and party had a narrow escape from drowning on August 25. They had drifted out to sea in an unmanageable catboat. When reached by lifesavers they were nearly exhausted from efforts at bailing, and had despaired of help.— Dr. George D. Hamlen sailed on the *New York*, for Europe, August 27.——Dr. and Mrs. Wendell C. Philips, who have spent the past month traveling, have returned to their summer home, Pawling.

New Government Laboratory.—The Department of Agriculture will establish a chemical laboratory for the examination of imported food products in the appraiser's stores building of the Treasury Department, which will be opened September 5. This is the first of a number of port laboratories to be established in order to prevent the introduction of impure food products into the United States. Eighty per cent. of the food importations arrive at New York, and samples from each cargo hereafter will be taken direct from the appraiser to the laboratory.

Seek to Revoke Sydenham Charter.—Charges have been made to the State Board of Charities against the trustees and managers of the Sydenham Post-Graduate Course and Hospital, charging that the physicians who joined the staff had to pay a certain amount down and a stated sum monthly. It is also charged that this institution is conducted in an unsanitary, unlawful, negligent and improper manner. The officers of the institution declare that the charges are utterly groundless and are made by men who have been discharged.

Fresh Air Medicine.—The New York Association for Improving the Condition of the Poor has given over 3,100 mothers and children excursions for ten days, and nearly 17,000 day excursions this summer. This work has greatly aided in keeping down the summer death rate among the poor. The resources of St. John's Guild have been severely taxed this summer, and the reason is given that never before has there been so much severe sickness among the poor children and babies. The institution maintains a floating and a seaside hospital, and since its first trip, July 5, it has cared for more than 25,000 sick children.

Death and Mortality Rate of Diphtheria.—In the Boroughs of Manhattan and the Bronx, from 1893 to 1903, inclusive, the following tables, recently published by the department of health, are interesting:

Period.	Cases.	Deaths.	Mortality per cent.
1893	7,021	2,558	36.4
1894	9,641	2,870	29.7
1895	10,353	1,976	19.1
1896	11,399	1,763	15.4
1897	10,896	1,590	14.6
1898	7,593	923	12.2
1899	8,240	1,087	13.1
1900	8,364	1,121	13.4
1901	7,726	1,227	15.9
1902	10,429	1,142	10.9
1903	11,662	1,302	11.2

The use of diphtheria antitoxin was begun by the department of health, Jan. 1, 1895, but owing to bitter opposition it did not come wholly into general use until 1898. Since Jan. 1, 1895, immunizing injections of antitoxin have been administered to over 13,000 individuals, and of these 40, or 3 per cent., contracted diphtheria of a mild type; with one fatal termination. Since 1895 the department of health has gathered records of 15,792 cases which had been injected with antitoxin; excluding the moribund cases, 1,138 died, giving a case mortality of only 7.5 per cent. Cases treated early in the disease gave almost no mortality.

OHIO.

Hospital Incorporated. The Jane M. Case Memorial Hospital, the site and building for which was purchased for $10,000, bequeathed by the late Mrs. Case, has been incorporated.

Accidents and Operations. Dr. Nathan S. Hatfield, Bowling Green, recently underwent a serious operation in a Chicago

hospital.——Dr. William H. Buechner, Youngstown, who was recently operated on for an infected operation wound, is making a good recovery.——Dr. James W. Graham, West Williamsfield, tripped while alighting from a train, was run over and crushed his left foot, necessitating the amputation of the toes.——Dr. Cary F. Legge, Newark, fell, while making a professional call, broke a rib and sustained severe contusions.

Continued Prevalence of Rabies in Gallia County.—Despite the warm weather there seems to be no marked subsidence in the endemic rabies among the dogs, cattle, and swine in and around Gallia County and the adjacent country. A report recently made to the pathologic laboratory of the Ohio Hospital for Epileptics indicated that some fifteen or twenty dogs had, within the last three months, developed rabies in a rural neighborhood less than a mile square. Fortunately not a person was bitten by these dogs, which were promptly dispatched. Because of the extensive prevalence of the disease, grave fears are entertained for the safety of the public when, with the advent of cool weather, even more active manifestations are to be looked for.

Personal.—Dr. Ephraim J. McCollum, the oldest practitioner of Tiffin, was recently entertained by the Seneca County medical Society, and presented with a silver water pitcher.——Dr. Franklin H. Lamb, Glendale, has been made lecturer on physiology in the Miami Medical College, Cincinnati.——Dr. McKendrie C. Smith, health officer of Columbus, has received the additional appointment of sanitary expert, with a salary of $1,200, and the duty of preventing water pollution.——Dr. George R. Love, first assistant physician at the Toledo State Hospital, has resigned, and will take up general practice in Toledo.——Dr. Charles C. Walker, Cleveland, sailed, August 18, from San Francisco, for his mission post at Wakawn, Siam.——Dr. Thomas J. Arundel, Youngstown, sailed for Europe August 20.

Dr. H. Stow Garlick has been appointed surgeon to Battery B, Ohio N. G., Cincinnati, vice Dr. William H. Rothert, resigned.——Dr. Robert C. Rind, Springfield, has been appointed chief surgeon of the Springfield, Troy and Piqua Railway.——Dr. Isaac D. Jones, Walnut Hills, Cincinnati, returned from Europe, August 22.

GENERAL.

Dr. Goodhue Improving.—Dr. E. S. Goodhue, Hohualoa, Hawaii, who was seriously injured in a runaway while making calls, July 16, is slowly improving. One rib and the left shoulder were broken, besides other injuries.

Dr. Millican Goes to St. Louis.—Dr. Kenneth W. Millican has resigned the position of associate editor of the *New York Medical Journal*, which he has held since 1898, in order to assume the editorship of the *St. Louis Medical Review*, the duties of which he takes up shortly.

The Union of Old German Students in America will entertain the German scientists who attend the St. Louis Congress of Arts and Sciences, at a "Kommers" in Arion Hall, October 8. Most of the eminent guests are medical men. Further particulars may be had of Dr. A. Ripperger, secretary, 50 West 130th Street, New York City.

American Roentgen Ray Society. The fifth annual meeting will be held at St. Louis, September 9, 10, 12 and 13. The sessions will be held in the morning only, at the Louisiana Building, 911 N. Vandeventer Ave. The afternoons, evenings and the intervening Sunday will be left open for general sight-seeing. Hotel headquarters of the society will be at the Grand Avenue Apartments, Grand Avenue and Morgan Street. An exhibit of the *x*-ray apparatus will be a feature of the meeting.

Ohio Valley Medical Association.—The sixth annual meeting will be held at Evansville, Ind., November 9 and 10. This association has for its boundary Kentucky, Indiana, Illinois and Ohio, and has a membership of 300. The association stands for a higher standard in medical education, for a decrease in the number of medical schools to our needs, for a uniformity in the requirements to practice medicine in the various states, for a reciprocity between the states, and for a closer bond of friendship between the members of the profession. All physicians who are in good standing in their county and state societies, and who are thus agreed will be most cordially welcomed at the meeting. Dr. A. J. Lieber, Henderson, Ky., is secretary of the association.

FOREIGN.

Eiselsberg Declines Invitation to Berlin Chair.—The chair of surgery left vacant by König's retirement after the completion of the model surgical clinic under his supervision, was offered to Professor von Eiselsberg of Vienna, with a tempting salary. He does not care to leave Vienna, and has declined the offer.

Completion of the Great Policlinico at Rome.—Millions have been spent during the last few years at Rome in the construction of a great modern hospital, to be a model in every respect. Medical visitors to Rome have all commented on the vast scale and fine appointments of this new institution, with its spacious surroundings, apart from the heart of the city. It was formally inaugurated, August 4, and 500 patients from the other hospitals were transferred to the completed wards of the great "Policlinico Umberto I," as it is to be called. Three of the pavilions are devoted to surgery, seven to general medicine, and one to contagious diseases. Each pavilion has a capacity of 80 beds. The pavilions are separated by very wide and long galleries. The appliances for heating, lighting, ventilation, etc., are according to the latest and most approved systems, and there have been several innovations in various lines. The operating in one of the surgical amphitheaters is done in a glass compartment, the spectators without, able to see through the glass what is being done, while absolute asepsis prevails around the operating table. The opening of the new hospital relieves the older hospitals and enables them to be set apart for certain classes of patients, thus specializing them to a certain extent.

LONDON LETTER.

Cancer in Wild Animals.

At the third meeting of the general committee of the Cancer Research Fund, the annual report which was read contained an account of most important work, and brought to light several facts which have a fundamental bearing on several of the crucial problems of cancer, and give definite indication of the line of future inquiries. An extensive series of tumors from various domestic animals has been examined, many from lower vertebrates, including 14 cases of carcinoma in fish. Two cases of malignant growths in fish are of special interest because they were derived from marine fish living in a state of nature. A similar interest attaches to a spheroidal-celled carcinoma discovered in a wild mouse. These are the first fully authenticated cases of cancer in wild animals. Upward of 2,000 specimens were examined, derived as follows: Human, 266; horse, 116; cow, 99; dog, 247; cat, 43; pig, 8; frog, 6; bird, 13; mouse, 850; fish, 80; rat, 28; rabbit, 32; sheep, 8; goat, 7; bull, 1; miscellaneous, 329. The general results obtained may be summarized thus: Cancer has been found to pervade the whole vertebrate kingdom and to present constant fundamental characters. The great diversity of the food, habitat, and conditions of life generally shows that such external agencies have no causative influence. The histologic characters, methods of growth and the absence of specific symptomatology lead to the conclusion that the causative factors must not be sought outside the life processes of the cells. Growth after transplantation is possible in the bodies of animals of the same species. Certain cells of malignant growths of man and animals were found to present nuclear changes similar to those by which the sexual cells are prepared for fertilization and the fusion nuclei in a manner equivalent to conjugation has been repeatedly demonstrated in transplanted tumors of the mouse, and has acquired increased significance from the discovery of the like phenomenon in a primary tumor from man. If it should be generally established that cell conjugation takes place this would afford a harmonious explanation of all their features and the initiation of the cancerous cycle. Under the heading of "Statistical Investigations" the report furnishes a large amount of information and shows that certain popular beliefs as to the immunity of certain countries or races of men can not be sustained. Specimens have been obtained from the natives of regions of Africa in which cancer had not been discovered before. The report of the treasurer appeals for more support. Even with the aid of Mr. W. W. Astor's munificent contribution of $100,000 the income does not meet current expenses.

DUBLIN LETTER.

Dublin Hospitals.

As certain Dublin hospitals receive government grants, they are each year inspected by the board of superintendence. The annual report of this board is usually of some interest, for the statistics as to income, expenditure and work. The report is itself usually of a somewhat perfunctory nature, but this year, the board having apparently puzzled their brains to find something novel to write about, give a discursive and rather silly lecture on the application of *x*-rays and other rays to medicine and surgery. It is of course obvious that no general hospital is properly fitted unless it contains an *x*-ray department, and

the board wastes its breath in laboring this point. But when they also suggest that "necessity exists in every well-equipped hospital for the installation of an apparatus for the use of the Finsen treatment," they are suggesting a very improper extravagance. The Finsen treatment is as yet in its probationary stage, and it would be as foolish as it would be unnecessary for each of the very many small general hospitals in Dublin to incur the large expense such an outfit would demand. The requirements of the city, as regards Finsen treatment, are quite adequately met by the hospitals which already are furnished with the apparatus. The reports on the individual hospitals are in the usual complacent style of indiscriminate praise or mildest possible censure. To read them one would think that each of the hospitals was managed in a perfectly satisfactory manner, an opinion very far from being justified. For instance, we find no notice taken of the fact that the outbreak of smallpox with which Dublin was troubled last year, took its spread from the imperfect disinfection practices in a fever hospital where one imported case had to be treated. In the report on this same hospital there is no mention made of any precaution being taken to prevent secondary infection, yet it is notorious that secondary infection is there very common. Similarly the board of superintendence do not draw any attention to the fact that it is a by-law of another of the hospitals they have supervised that any official of the hospital taking part in, or conniving at, any examination of a dead body in the institution is *ipso facto* dismissed. Yet, if government superintendence is to do any good, it should aim at correcting such faults in management as these.

Presentation to Professors Coffey and Ryan.

An interesting ceremony took place a few days ago at the Catholic University School of Medicine, when the faculty, with a number of past and present students, met to present Dr. Coffey and Dr. Ryan tokens of friendship and regard on the occasion of their approaching marriages. Both men stand high in the esteem of the profession as successful and inspiring teachers, as well as for their personal qualities, while their contributions to the sciences—physiology and chemistry—which they respectively teach, maintain the reputation of the Dublin school.

Health of Dublin.

We are so used to regarding Dublin as one of the most unhealthy cities in Europe, if not indeed the most unhealthy, that it came as a pleasant surprise to us to learn recently that the death rate was approaching the figures that obtain in other cities in the kingdom. In one week indeed the rate ran as low as 16.7 per thousand, but unfortunately the improvement was only temporary. The real cause of the high mortality in Dublin is the fearful condition of the tenement houses, in which the majority of the poorer classes live, and to grapple with this serious problem no attempt has yet been made.

The Irish Medical Association.

The annual meeting of the Irish Medical Association, which was held here recently was occupied chiefly, as might be expected, with the demands for reform in the Poor Law Medical Service. Though progress seems slow there is no doubt that the public is at last being persuaded that the present system is bad. Mr. Tobin has succeeded Dr. Leonard Kidd as president of the association.

Correspondence.

International Congress of Arts and Science.

WASHINGTON, D. C., Aug. 26, 1904.

To Members of the Medical Profession:—The organizers of the International Congress of Arts and Science, to be held at the Universal Exposition, St. Louis, Sept. 19 to 25, 1904, desire to invite the special attention of your profession to the unexampled opportunity which it offers to meet and hear a great number of eminent men of learning. It is expected that more than three hundred eminent scholars of Europe and America will deliver discourses in the various departments and sections of the congress, and that several hundred shorter communications will be made by those present. Among the foreign members of the profession who have accepted invitations to speak are Profs. Brunton, Semon, Ross, Celli, Orth, Liebreich, Allbutt, Kitasato and Escherich. Dr. William Osler is chairman of the department.

It is the desire of the directors of the fair and of all concerned in the organization that professors and instructors in our colleges and universities, and members of the learned professions generally, shall, so far as possible, do honor to our distinguished visitors by attending the meetings of the congress. For this no fee is charged and no formality is necessary except enrollment on arrival. It is, however, desirable to apprise Mr. Howard J. Rogers, director of congresses, Universal Exposition, St. Louis, in advance, what departments of the Congress one desires to attend. A program of its proceedings, with such other instructions as may be necessary, will be sent by Mr. Rogers on application.

SIMON NEWCOMB,
Chairman of the Organizing Committee.
NICHOLAS MURRAY BUTLER,
Chairman of the Administrative Board.

Method of Making Yellow Oxid Ointment.

BURLINGTON, Iowa, Aug. 23, 1904.

To the Editor:—I notice a suggestion in Dr. Bulkley's "Notes on Ointments," which I consider inadequate, if not misleading. Otherwise we would not have the perennial complaint from ophthalmologists that it is hard to get satisfactory "yellow oxid ointment." This suggestion is that gritty substances should first be rubbed up with a few drops of oil in a mortar to make a fine paste. I object to the use of the mortar because a sheet of plate glass and a spatula are better. Only with the latter can one be absolutely sure that no gritty particle is missed. No oil or water is needed. The spatula, holding a modicum of the base (just enough to do it), picks up the grits, which are then rubbed out until they can be rubbed no farther, and the spatula cleans itself. Not only can every particle of grit thus be felt, but one can also hold the plate up to the light for inspection with a magnifying glass. The base is now added in mass and the mixing completed with the spatula. I had the pleasure of demonstrating this method to the Section on Ophthalmology, producing a perfect yellow oxid ointment, at the Denver session of the American Medical Association.

H. B. YOUNG.

North Carolina's Early Law on Practice.

KINSTON, N. C., Aug. 24, 1904.

To the Editor:—I noticed in THE JOURNAL, August 13, that you state in an editorial that Illinois had the first effective law regulating the practice of medicine. North Carolina really should have that distinction, her law having been passed in 1857. The remarkably high standing of her profession, which we believe to be higher than any other state, on an average, is due to her splendid medical laws, which have been "effective more than a quarter of a century."

JAMES M. PARROTT,
Member of the Carolina State Board of Medical Examiners.

Queries and Minor Notes.

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

ARISTOCRACY IN MEDICINE.

B. writes: In an issue of THE JOURNAL published within the past year, attention was called to the fact that the degree of M.D. had a very wide range of value. It was pointed out that all classes of medical schools, the bad, the good, and the best, conferred the same degree, and that, unfortunately, no means existed whereby the value of the M.D. could be gauged. All were M.D.'s; all were physicians. This being so, I should like to have a careful consideration and an opinion on the following question: Is it unprofessional for a physician to insert in very small type on his sign the degrees he has and from what institutions, the lettering to be invisible except on close inspection? This additional in-

formation (for example. A. B., Princeton; M.D., Harvard) is certainly of benefit to the public. It shows that the physician has obtained a good general education and that he has equipped himself for the medical profession by at least eight years of study, and therefore has some claim to the confidence of the community. He should get some credit for his long and thorough course, and this is a way of making an M.D. mean something. Look at the difference in time. One man goes through the grammar school and then studies medicine four years. The other goes through the grammar school, then high school four years, then college four years, then medical school four years, then hospital two years. Why should he not demonstrate that four does not equal (4+4+4+2) 14. I think the day will come when this negative demonstration will be made by all those who can do so, and that, too, by means of the sign. I can see nothing unprofessional in it. On the other hand, I think it is a suggestion which could be widely adopted to the profit of the physician, the profession and the public. Please do not reveal my name in any way or to any one.

ANSWER.—The question raised is not new. Custom decrees that it is not good taste to place on one's sign the name of one's school of graduation. To run counter to this custom would not be "unprofessional," but we think that it would be unwise. Our correspondent overlooks in his letter the fact that all sorts of physicians, "the bad, the good and the best," are at times graduates from the very best of medical schools. In the last analysis every physician must rise or fall on his own individual ability and character. It can not be otherwise. The assumption that a physician might command success on the reputation of his alma mater refutes itself. If such were the case the cleverest wicked men among those contemplating the study of medicine would attend solely those schools whose reputation would insure to the holders of their degrees professional standing and success. Nothing would be gained in the end by the adoption of such a custom, while many good and capable men who have been forced by one or other circumstance to attend a school of low degree would suffer unmerited ostracism. The school does not make the physician. Our correspondent's plan would make it too easy for the lazy and the indifferent, who were just capable of scraping under the minimum requirements of the fourteen years of preparation. The profession has already adopted the better course, viz.: having the state require a certain standard of personal, general and professional education. Unfortunately our own medical schools, while on the whole worthy of all admiration, have shown that, unaided, they can not maintain the required standard. The best feel the competition of the poorest. There is many a medical school whose degree granted a decade or two ago was more worthy of respect and confidence than that of the same school to-day, and vice versa. In this country at least our profession must be democratic and not aristocratic, as proposed by our correspondent.

EFFECTS OF FORMALIN ON TISSUES.

DR. FREDERICK C. MURRAY, Cedar Rapids, Iowa, writes: Some months ago I read a brief reference to the action of formaldehyd on the abdominal contents or other tissues of the recently dead body. When formalin embalming fluid was used certain marked changes took place in certain tissues, which simulated pathologic lesions and might lead to errors in postmortem diagnosis. Would it be presumption to suggest, provided information is definite and reliable as to formaldehyd's action under such circumstances, that some publicity be given to it, perhaps among "Minor Notes." In my limited experience it has seemed to me that this action of formalin embalming fluid has very seriously confused the findings at several postmortems recently witnessed, so that I feel I am not the only person who needs enlightenment on this possible source of error.

ANSWER.—Embalming with formaldehyd alters the consistence of all the organs greatly, as also their appearance, making accurate diagnosis difficult for the most expert, and in many respects impossible. The chief difficulties that might be mentioned are the following: By vigorous use of the embalming trocar the undertaker usually punctures the stomach and intestines full of holes, thus emptying their contents into the peritoneal cavity and making difficult or impossible any search for suspected perforations or chemical examination of their contents in suspected poisoning cases. The peritoneal coat is so roughened that recognition of an early or acute form of peritonitis is usually impossible. Firm contraction of the muscular walls of the intestine occurs in response to the stimulus of the formalin so that local areas of contraction appear that may be mistaken by the uninitiated for strictures. Stomach and intestines are hardened into such a leathery condition that there are some technical difficulties in their examination, but not insurmountable. All the organs that the formalin penetrates are made very hard, almost woodeny in consistence, but as the distribution of the hardening fluid is often very irregular some confusing conditions may appear. The hardening of the kidneys is very easily mistaken for the induration of a chronic nephritis, and similar errors may be made in the case of the liver and spleen. The coagulating action of the fluid practically precludes the detection of cloudy swelling and other finer changes. In the lungs there are especial difficulties, because a soft exudate may be so hardened as to change its appearance entirely, and so a hypostatic edema may be mistaken for a pneumonia. A bronchopneumonia of simple type is often indistinguishable from a tuberculous lesion under these conditions. On the other hand, hardening of the brain by formalin, if the injection has been sufficiently efficient to do this, is often of considerable aid in removing the brain and in its examination, making it much easier to ascertain relations of lesions, etc. It is, indeed, a recognized procedure in autopsies to inject the carotids with formalin for this very purpose, as a hardened brain can be removed with much less danger of producing artefacts than can a fresh one. And also the histologic findings are often very beautiful in tissues taken from these bodies in which every cell while still warm has been quickly surrounded by the hardening fluid, although with some of the fluids used there is sometimes a heavy precipitate formed that is very troublesome. Many lesions of the parenchymatous organs should be left for diagnosis in these embalmed bodies until after microscopic examination. It is hardly necessary to add that one of the most serious objections to embalming of bodies is that it precludes absolutely any bacteriologic examinations, which in many cases are by far the most important part of the autopsy.

METHODS OF PRODUCING EUTOCIA

A., of Michigan, writes: Kindly inform me whether there is known to the medical profession any remedy which, if given during pregnancy, will cause the pelvic bones to "loosen" up, or the pelvic muscles to relax and thus delivery be made easier. We have here a brother practitioner who advertises that while "East" he became acquainted with such a remedy and that the same is not yet revealed unto the medical fraternity who have not been "East" to learn about it. Now this would all be absurd if people would only think, but many do not make such an effort and not a few have already begun to take this remedy. A good friend of mine whose wife is pregnant came to me a few nights ago and asked me about this new discovery and whether it were true that our brother has a monopoly on the article in this part of the world. Will you kindly state in THE JOURNAL whether there is any such remedy?

ANSWER.—Our correspondent seems to possess the only satisfactory means of combating the absurd claims of his humbugging colleague—an indulgent sarcasm. It is now generally, although not universally, admitted that there is during pregnancy a slight increase in the mobility of pelvic articulations due to an increase in the succulence of the ligaments and capsulary membranes. A similar change in the soft parts composing the pelvic floor also favors the formation of the normal obstetric canal. These changes are subject to slight physiologic variations, but we know of no pills or powders that affect them. Various methods of making the child bearing process easier in cases where the pelvis is normal in size and possible when the pelvis is contracted have been sought from time to time. They generally aim at reducing the size of the child or making its bones more pliable. The dietetic treatment is most common. Sometimes the mother has been partly starved, sometimes she is kept on a fruit diet, and more recently Prochownik has proposed an anti-obesity diet for the last two months of pregnancy to prevent the accumulation of fat by the fetus. Occasionally drugs have been given which disturb the appetite and thus interfere with the growth of the child by lessening the nutrition of the mother. All such attempts to interfere with Nature except, perhaps, a careful use of Prochowink's diet, are apt to be harmful if they are not simply useless and absurd.

PRIVATE PAID QUIZ COURSES

DR. D. W. EVANS, Scranton, Pa., writes: There is one curse that should be blotted from the medical schools of this country, and that is the private paid-for quiz course, given by the teacher, but which is usually conducted by a super, or perhaps a super number two, otherwise known as the men next to the professor. First of all it is cash in hand, and the poor student who has not the cash feels at once the cutting lance of class legislation (for the faculty says nothing, which means O K), and many a student poor financially has been made dishonest as well as discouraged by such proceedings. When it is as generally known as is the unchangeableness of the laws of the Medes and Persians that "if you take my course you pass my chair." A little time ago while taking in some of the medical schools I noticed in one city in particular it was common, and I took note in one of the oldest and most dignified institutions in America had not less than four quiz courses posted, and each one in such a conspicuous place and so large and plain that they would even scare the dispensary patient who happened to run against them, and especially would it scare him when $100 was the price, a larger sum than is paid for an entire year's tuition in some of the best institutions of the land. And all this for one branch, why not for all branches, and not have a school at all? Then, other things being equal, none but the wealthy could even entertain an idea of medicine, let alone support themselves while going through, as have hundreds of young men who are our brightest and keenest men to-day. I say abolish it. Devise some other method of robbing the student and not under the cloak of a professorship. I trust the Council on Medical Education of the American Medical Association and other organized educators will investigate and abolish one of the remnants of feudalism.

BLOOD EXAMINATION IN HYDROPHOBIA.

W. writes: Is there any test by which it can be determined whether an individual bitten by a rabid dog shall or shall not develop hydrophobia? I treated a patient recently who had suffered the slightest abrasion of the skin from the tooth of a dog supposed to be rabid. Later the patient consulted another physician, who withdrew some blood from the patient's arm and tested it for the "poison" of hydrophobia. I wish to ask if there is any such test, or was it done for the mental effect on the patient and "fee" effect on the physician.

ANSWER.—There are several things to be said of this case. First, the story comes through the patient and is, therefore, very liable to the distortion of whatever medical procedure may have been attempted. Second, no poison of hydrophobia and no germ of that disease can be observed in the blood. Third, the physician, however, may really have thought, through ignorance, that something could be seen in the blood. Fourth, the terrible condition of lyssophobia, often impossible to differentiate from the true hydrophobia, may lead a physician to take measures otherwise unjustifiable. While we would not recommend such a procedure, we could certainly sympathize with the physician who, at his wit's end with a highly susceptible patient acquainted with hydrophobia, should take the measure you have briefly outlined and use it simply as suggestive treatment to control the patient.

EFFECT OF ICE BAG ON LOCAL TEMPERATURE.

DR. J. T. GRAY, Stillwater, Okla., asks: What will be the effect on the temperature of the deep viscera when an ice bag is kept continually on the abdomen during fever? Will the temperature of the bowels be lowered below the temperature under the tongue?

ANSWER.—There is probably a slight depression of the temperature of the deeper viscera when an ice bag is kept on the abdominal wall in fever, and it may happen that the temperature in these organs would be lowered below that of the mouth, and if heat were applied the opposite would be true. The effect, as a rule, is, however, slight. We do not know of any observations bearing directly on this point. But we may assume that the cooling effect of ice applied to the abdomen, and which is so perceptible to the hand or to the surface thermometer, is conveyed to a slight degree to some depth, i. e., the nearer to the ice the greater the cold, and vice versa.

SMALL INSURANCE EXAMINATION FEES.

DR. O. A. REA, Culver, Ind., writes: I read in THE JOURNAL that "The Des Moines physicians adopted a fee bill for minimum charges of . . . $2 to $5 for day visits . . . and $2 for life insurance examinations." In every case of life insurance the whole contract depends on the medical examination. An attorney at law would charge from $25 up to an unlimited amount for like vital responsibility. Compared with other items on the same fee bill the charge is ridiculously low—$5 for an ordinary visit, perhaps to a poor, suffering neighbor, and $2 to $3 for a vital professional service to a rich corporation. Such cringing to grasping corporate demands is beneath the dignity of the profession of medicine. No wonder the laity is slow to acknowledge our claims and pretensions to benevolence and self-sacrifice. "Comparisons," as noted, "are odious."

BOTTLE FED INFANTS ON SHIPBOARD.

DR. E. J. WHITAKER, Burlington, Iowa, asks what facilities are to be had on board ship, crossing the Atlantic, for feeding bottle-fed infants.

ANSWER.—Cow's milk, sterilized and hermetically sealed, is carried on ocean steamships in the refrigerators and is thus provided sweet and wholesome for daily use. A baby may be supplied from the ship's store or special milk may be delivered to the steward for daily use of the individual. One should correspond with the steamship company for further details.

Marriages.

ASPINWALL JUDD, M.D., to Miss Mariona Temple Beardsley, both of New York City, August 12.

HARRY W. KEATLEY, M.D., U. S. Navy, to Miss Helen Harmon Smith, at Norfolk, Va., August 17.

W. KENNETH MCCOY, M.D., Gum Spring, Va., to Miss Jean Page Morton of East Leake, Va., August 3.

BENJAMIN R. SCHENCK, M.D., Detroit, Mich., to Miss Jessie McCallum of St. Catharines, Ont., at Niagara on the Lake, Ont., August 17.

Deaths.

William Rice Pryor, M.D. College of Physicians and Surgeons in the city of New York, 1881, of New York City; a member of the American Medical Association, International Gynecological and Obstetrical Congress, Southern Surgical and Gynecological Society, New York State Medical Association, American Gynecological Society, New York Academy of Medicine, and New York Obstetrical Society; consulting gynecologist to St. Vincent's Hospital, gynecologist to New York Polyclinic Hospital, City Hospital and St. Elizabeth's Hospital, eminent as an obstetrician and gynecologist, and author of several text-books on gynecology, was taken ill at his summer residence, Glen Eyre, Pa., and died at St. Vincent's Hospital, New York City, August 26, as a result of persistent overwork, aged 46.

Henry Bruce McCarroll, M.D. College of Physicians and Surgeons in the City of New York, 1881, a member of the Medical Society of the State of New Jersey, and for four years instructor in general medicine in the New York Post-Graduate School and Hospital, died at his home in Morristown, N. J., August 16, from hypostatic pneumonia, aged 47.

Harriet R. Goodrich, M.D., Tufts College Medical School, Boston, 1900, a member of the American Medical Association, died at her home in Salem, Mass., August 23, from injuries sustained by falling from an electric car a few hours before, aged 35.

Philip T. Peiffer, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1859, died at his home in Drums, Butler Valley, Luzerne County, Pa., August 18, from Bright's disease, after a prolonged illness, aged 74.

Robert Mathison, M.D. New York University, 1848, who never practiced, but was engaged in the drug business in Brooklyn, died at Ingersoll Grove, near Springfield, Mass., August 17, aged 86.

H. Grant Artis, M.D. Medical College of Ohio, Cincinnati, 1890, of Owensboro, Ky., died recently in a hospital in Cincinnati, from heart disease, and was buried, August 21, at Winchester, Ky.

John Henry McAden, M.D. Jefferson Medical College, Philadelphia, 1857, a surgeon in the Confederate service during the Civil War, died suddenly at his home in Charlotte, N. C., August 15.

Karl Heiter, M.D. University of Kieff, Russia, 1852, the oldest practitioner of Sandusky, Ohio, died suddenly at his home in that city, August 14, from paralysis of the heart, aged 76.

James Larimore, M.D. Cincinnati College of Medicine and Surgery, 1864, died at his home in Newark, Ohio, August 18, after a long illness, from valvular heart disease, aged 64.

Thomas W. Poole, M.D. Medical College of Alabama, Mobile, 1900, of Faunsdale, Ala., died at Tucker Springs, Tenn., after a prolonged illness, following pneumonia, August 18.

John S. Coman, M.D. New York University, New York City, 1897, of New York City, was drowned, August 16, after saving a woman from drowning in the Shrewsbury River.

Anna M. Shattuck Parker, M.D. Illinois, 1878, of Chicago, died at the home of her daughter in Marshall, Mich., August 18, from heart disease, aged 72.

Charles L. Enslee, M.D. Rush Medical College, Chicago, 1891, died at his home in Chicago, from consumption, after a short illness, August 23, aged 44.

Frederick J. Nott, M.D. New York, 1877, of New York City, died at the Marine General Hospital, Portland, from acute uremia, August 16, aged 52.

Samuel L. Chapin, M.D. Jefferson Medical College, Philadelphia, 1885, was shot and killed at his home in Saybrook, Ill., August 18, aged 43.

James B. MacGregor, M.D. Pennsylvania, 1901, health officer of Ballard, Wash., was killed in a train wreck near Eden, Colo., August 7, aged 33.

Charles M. Savage, M.D. Pennsylvania, 1870, died at his home in Columbus, Ohio, August 19, from dropsy, after an illness of one year, aged 57.

Levi Westfall Elliot, M.D. Illinois, 1875, died at the home of his son in Chicago, August 24, after a long illness, aged 69.

John Martin Baird, M.D. University of Louisville, 1846, died at his home in Charlestown, Ind., June 28, aged 86.

George D. Kughler, M.D. New York, 1850, died, August 12, at his home in Fayetteville, N. C., aged 77.

Death Abroad.

Sir William Mitchell Banks, M.D. University of Edinburgh, 1864, gold medaler of that year; afterwards demonstrator of anatomy in Glasgow, and in 1869 Fellow of the Royal College of Surgeons of England; and one of the most eminent anatomists and surgeons of Great Britain, died at Aix-la-Chapelle, August 9, aged 61. He was consulting surgeon of the Liverpool Royal Infirmary and professor and emeritus professor of anatomy at the University of Liverpool. He took an active interest in the organization of the Liverpool School of Medicine. In recognition of his services to surgery and science he was knighted in 1899. He was particularly interested in the study of cancer and delivered the Lettsomian lectures on Cancer of the Breast in 1900. As a teacher of anatomy and as a clinical professor he was unequaled in Great Britain. He was a member of the British Medical Association and president of the Lancashire and Cheshire Branch. He was president of the Liverpool Biological Society and of the Liverpool Medical Institution, vice-president of the Medical Society of London, and a corresponding member of the Association of Military Surgeons of the United States.

Book Notices.

MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS; INORGANIC SUBSTANCES. By Charles D. F. Phillips, M.D., LL.D. (Abdn. and Edin.), F.R.S. (Edin.), Hon. Fellow Medico-Chirurgical College, Pennsylvania Member of the Academy of Medicine of America; Examiner of Materia Medica, University of Aberdeen, etc. Third Edition. London, New York and Bombay: Longmans, Green & Co.

This edition has been thoroughly revised and many pages entirely rewritten. In the first chapter the author gives an excellent résumé of the recent investigations in the action and uses of oxygen and ozone in medicine. We note also the chapter devoted to water, its action and uses, and can say we know of no general treatise which has given this subject such complete and practical consideration. Detailed description of the many and varied uses of water in the domain of therapeutics is lacking in works of this character. This chapter will appeal to many who have only a most general concept of the use of water in disease. Full consideration is given both the internal and external uses of water, including sea bathing, medicated waters, describing particularly the value of many of the famous natural waters. We commend the general classification of subjects based on the chemistry of the elements and drugs. The gases and non-metallic elements are first considered, then the halogen group with reference to the newer derivatives from iodin, the glycerophosphates, cacodylates, etc. The acids are next in order and the text completed by the description of the metals. The author has quoted liberally from the recent literature, making the book up to date. The method of description of a drug and its preparations is systematic and complete, the physical characters, the tests, the physiologic action, toxicology and therapeutic application are each treated of in detail. Reference is made in the most of the chapters to the synergists as well as to the antagonists and incompatibles. This will be found of practical use to the beginners. The most important drugs, for example, arsenic, mercury, etc., are fully described and especial attention is given to the various diseased conditions they are used in and to the preparation most indicated. We would criticise the index, believing it to be of value as a reference for remedies in the treatment of disease, but very incomplete and of practically no value as a reference for the study of the individual drug. The index includes references made to drugs in the companion volume which is not yet published. A fuller index limited in its reference to this volume would be far more serviceable.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia. With Regular Correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume II. Fourteenth Series. 1904. Cloth. Pp. 309. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1904.

The excellency and value of this volume is in keeping with previous publications in this series. It contains many articles of more than usual interest, and notable among these are the series on diseases of warm climates contributed by Drs. Mason, McCrae, Jarvis, Smith and others. The papers on the treatment of arteriosclerosis by Nichols and Bierring, one on the "Utility of Digitalis in Heart Disease" by French, a medical clinic by Billings, and an article on "Bronchopneumonia in Children" by Abt, are also worthy of mention. The volume abounds in an unusual number of illustrations, especially the series of papers on diseases of warm climates. Illustrations always are valuable because they serve to elucidate a point far better than could be done by the best description. Eye pictures excel word pictures, and every article ought to be illustrated as much as is possible.

NORMAL HISTOLOGY. By Edward K. Dunham, P.H.B., M.D., Professor of General Pathology, Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, New York. Third Edition. Revised and Enlarged. Illustrated with 260 Engravings. Cloth. Pp. 332. Price, $2.75. New York and Philadelphia: Lea Brothers & Co. 1904.

This is the third edition of a work which is deserving of more recognition than has been accorded to it in the past. The arrangement of the subject matter is excellent, the sequence being such as to lead the student up gradually, beginning with the cell and ending with the organs of the special senses. The introduction is excellent, but has hardly gone far enough to prepare the student adequately for what is to follow. Still, it may be assumed that the student has studied embryology and biology prior to his entrance in the medical college, and a more extended introduction would, therefore, take up space which can be devoted more profitably to a discussion of histology itself. The chapter on histologic technic is concise and to the point, not attempting to confuse the student by presenting many methods of tissue preparation and staining. The book abounds in excellent illustrations, most of which have been taken from other works on histology.

THE SURGERY OF THE HEART AND LUNGS. A History and Résumé of Surgical Conditions Found Therein, and Experimental and Clinical Research in Man and Lower Animals, with Reference to Pneumonotomy, Pneumonectomy and Bronchotomy, and Cardiotomy and Cardiorrhaphy. By Benjamin Merrill Ricketts, Ph.B., M.D. Cloth. Pp. 510. Price, $5.00. New York: The Grafton Press. 1904.

Those who are familiar with the large amount of experimental work on the heart and lungs which has been done by the author of this work will be very glad to have it all in book form. One finds here, however, not only the experimental work which in itself is very interesting, but also practically all that has thus far been accomplished in this comparatively newer field of operative surgery. The work is well illustrated by 87 plates, almost all of which are new and original, and the bibliography is very extensive, but so subdivided and distributed throughout the work as to facilitate ready reference to any particular subject. It is by experimental work that the borderline of surgery is constantly advanced, and one can not help but find in this work much that is of real value as well as of great interest.

State Boards of Registration.

COMING EXAMINATIONS.

New Hampshire State Medical Board, September 8-9. State House, Concord. Regent, Channing Folsom, Concord.

Massachusetts Board of Registration in Medicine, September 13-14, State House, Boston. Secretary, Edwin B. Harvey, M.D., Boston.

Missouri State Board of Health, September 19-21. St. Louis. Secretary, W. F. Morrow, M.D., Kansas City, Mo.

Iowa State Board of Medical Examiners, September 21-22, Capitol Building, Des Moines. Secretary, J. F. Kennedy, M.D., Des Moines.

Territorial Medical Examining Board of Oklahoma, September 28, Guthrie. Secretary, E. E. Cowdrick, M.D., Enid.

New York State Medical Examining Board, September 27-30, New York, Albany, Syracuse and Buffalo. Secretary, Charles F. Wheelock, Albany.

Connecticut July Report.—Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, July 12-13, 1904. The number of subjects examined in was 7; total questions asked 70, and percentage required to pass, 75. The total number examined

was 51, of whom 39 passed and 12 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Jefferson Medical College, Philadelphia	(1904)	84.4
Maryland Medical College	(1904)	78.3
McGill University	(1898) 79.1, (1904)	80.6
University and Bellevue Medical College	(1904)	80.3
Univ. of Pennsylvania	(1901) 79.2, (1903) 81.3, (1904)	77.9
Cornell University	(1904)	81.2, 82.2
Johns Hopkins University	(1904)	81.0
University of Vermont	(1903) 81.3 (1904)	77.2
Baltimore Medical College	(1903) 75.5, (1904)	78.6
Woman's Medical College	(1903)	84.8
College of P. and S., Baltimore	(1904) 76.7, 79.9, 83.3	
Yale, (1903) 77.7, 80.9, 84; (1904) the grade of 80 was reached by one, 81 by one, 82 by four, 84 by one and 86 by three.		
College of P. and S. of New York, (1876) 85.2, (1900) 75.8, (1902) 86.3, (1904) 83, 82.1, 76.6, 75.7.		

FAILED.		
College of P. and S., Baltimore	(1903) 68.2, (1904)	74.1
Maryland Medical College	(1904)	72.6
University of Naples	(1901) 72.7, 57.6; (1902)	71.6
University of Maryland	(1904)	71.4
University of Vermont	(1898)	67.0
Baltimore Medical College	(1903) 72.7, (1904) 74.3,	62.4
Yale	(1903)	73.6

23.5 per cent. failed.

The general average for all representatives of Yale who passed was 82.6. For those of the College of Physicians and Surgeons of New York was 80.6.

Nebraska August Report.—Dr. G. H. Brash, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, August 3-4, 1904. The number of subjects examined in was 8; total questions, 80, and percentage required to pass, 75. The total number examined was 6, all of whom passed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Rush	(1904)	84.6
Jefferson	(1900)	80.2
Washington University, St. Louis	(1904)	87.2
Omaha Medical College	(1901)	*75.1
Central Medical College, St. Joe	(1904)	79.8
Northwestern University Medical Department	(1904)	78.1

*Second examination.

Arizona July Report.—Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports written examination held at Phoenix, July 4 and 5, 1904. The number of subjects examined in was 9; total questions asked 90, and percentage required to pass 80. The total number examined was 10, of whom 6 passed and 4 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Vanderbilt University	(1885)	80
Queen's University, Ontario	(1883)	87
University of Michigan	(1903)	83, 90
Chicago Homeopathic Medical College	(1901)	80
University of Southern California	(1903)	86

FAILED.		
Michigan College Medicine and Surgery, Detroit	(1902)	67
Detroit Homeopathic Medical College	(1875)	65
College of Medicine, California	(1882)	52
Toledo Medical College	(1891)	57

Indiana July Report.—Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, July 12-14, 1904. The number of subjects examined in was 18; total questions asked, 130; percentage required to pass, 75, no two subjects less than 50 per cent., and no one less than 40 per cent. The total number examined was 118, of whom 105 passed (including one osteopath, with a grade of 76.6) and 13 failed. The following colleges were represented.

PASSED. College.	Year Grad.	Per Cent.
Rush Medical College, (1897) 87.3, (1902) 88.4, (1903) 79, (1904) 81.2, 87.6, 92.6.		
Hospital College of Medicine, Louisville, (1891) 75.3, (1903) 77.3,* (1904) 80.9, 81.7, 82.8, 87.3.		
Chicago Homeopathic Medical College, (1904) 82.2, 82.2, 83.2, 85.1, 84.8.		
Homeopathic Med. Coll. of Missouri	(1904)	77.2
Louisville Medical College	(1903) 76.4, (1904) 77.1, 77.2, 86.2	
Kentucky University, (1904) the grade of 79.5 was reached by one, 80 by one, 82.6 by one, 83 by four, 84.5 by two.		
Medical College of Ohio	(1873) 79.1, (1902)	81.0
Bennett Medical College, Chicago	(1902)	88.8
University of Louisville, (1894) 82.2, (1904) 81.4, 82.2, 84.2, 85.5, 85.6, 87.2, 90.3.		
American Coll. of Med. and Surg., Chicago	(1904)	88.0
Washington University	(1903) 84.6, (1904)	85.0
Fort Wayne College of Medicine	(1904)	87.6
Physio-Medical College of Indiana	(1904) 78.4, 80.8,	80.9
Medical College of Indiana, (1904) the grade of 83 was reached by two, 84.5 by three, 85.1 by three, 85.8 by one, 86.5 by three, 87 by one.		
Univ. and Bellevue Hosp. Med. Coll.	(1903)	83.7
Northwestern University	(1904)	79.5
Kentucky School of Medicine, (1902) 83.1,† (1903) 80.2, (1904) the grade of 84.4 was reached by three, 82, 85 and 87 were each reached by one.		
Harvey Medical College, Chicago	(1902)	89.2
Illinois Medical College, Chicago	(1902)	80.0
University of Michigan	(1902) 89.8, (1904)	91.2
University of Illinois	(1903) 88.6, (1904) 83.5,	84.3
Jefferson Medical College	(1904) 83.6, 85.9, 86.1,	88.3
Hering Medical College, Chicago	(1904)	86.2
Eclectic Medical Institute	(1903) 81.6,** (1904) 80.5,	77.0
Medico-Chirurgical College	(1902)	85.1
College of P. and S., Keokuk	(1887)	**82.2
Dunham Medical College, Chicago	(1902)	87.9
Central College of P. and S., Indianapolis, (1904) 86.2, 88.3, 86.8, 81.8, 87.5, 85.3, 84.5, 88.7.		
Ohio Medical University	(1903)	81.8
Barnes Medical College	(1904)	86.3
Columbia University, New York	(1898)	85.2
St. Louis College of P. and S.	(1904)	78.0
Hahnemann Medical Coll., Chicago	(1897) 83.5, (1904)	84.6

FAILED.		
Eclectic Medical Institute	(1903)	*78.0
Medical College of Indiana	(1904)	67.9, 70.6
Jefferson Medical College, (1904) paper incomplete.		
Rush Medical College, (1904) paper incomplete.		
Homeopathic Medical College, Missouri	(1904)	61.0
Hospital College of Medicine	(1904) 50.3, 63.5,	69.6, 76
Kentucky University	(1904)	71.9, 78.5
University of Louisville	(1904)	73.4

*Second examination. **Third examination. †Fourth examination.

The general average of all representatives of Kentucky University who passed was 82.8; of the university of Louisville, 84.5; of the Central College of Physicians and Surgeons of Indianapolis, 86.1; of Kentucky School of Medicine, 83.5; of the Medical College of Indiana, 85.2.

Kansas July Report.—Dr. G. F. Johnston, secretary of the Kansas State Board of Medical Registration and Examination, reports the written examination at Topeka, July 12-14. The number of subjects examined in was 9; total number of questions asked 90; percentage required to pass, 75. The total number examined was 29, all of whom passed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Hering Medical College, Chicago	(1904)	85, 88
Kansas City Med. Coll., Kansas City, Mo.	(1904)	78, 78, 83
Eclectic Med. Univ., Kansas City, Mo.	(1904)	75
Lincoln Med. Coll., Omaha, Neb.	(1904)	84
University of Illinois	(1904)	78, 79
Rush Medical College	(1903) 97, (1904)	87, 80
Medico-Chirurgical Coll., Kansas City, Mo.	(1904)	86, 84, 87
Hahnemann Med. Coll., Kansas City, Mo.	(1904)	85, 88
Univ. Med. Coll., Kansas City, Mo.	(1904)	94, 83
Barnes Med. Coll., St. Louis	(1904)	89
Jefferson Med. Coll., Philadelphia	(1904)	93
Louisville Med. Coll., Louisville, Ky.	(1904)	84, 92
Homeopathic Med. Coll., Chicago	(1904)	86
Kansas Med. Coll., Topeka	(1904)	90
Univ. of Heidelberg, Germany	(1880)	79
Central Med. Coll., St. Joseph, Mo.	(1904)	82
Northwestern University, Chicago	(1904)	82
Memphis Hosp. Med. Coll., Memphis	(1886)	76

Utah July Report.—Dr. R. W. Fisher, secretary of the Utah State Medical Examining Board, reports the written examination held at Salt Lake City, July 11-12. The number of subjects examined in was 20; total questions asked, 125; and the percentage required to pass was 75. The total number examined was 14, of whom 12 passed and 2 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
University Med. Coll., Kansas City	(1896)	81
University of Michigan	(1903) 81, (1904)	81
Rush Med. Coll., Chicago	(1894)	76
Coll. of P. and S., Baltimore	(1904) 90,	83, 82
Denver and Gross Med. Coll., Denver	(1903)	83
Med. Coll. of Ohio, Cincinnati	(1902)	89
Jefferson Med. Coll., Philadelphia	(1904)	87
University of Denver	(1903)	83
Barnes Medical College, St. Louis	(1903)	86

FAILED.		
Marion Sims College, St. Louis	(1904)	74
College of P. and S., Baltimore	(1904)	73

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Aug. 27, 1904:

Whitcomb, C. C., asst.-surgeon, granted one month and fourteen days leave.

Baker, Frank C., asst.-surgeon, left Ord Barracks, Cal., en route to Fort Sheridan, Ill., to take part in Army infantry competition.

Appel, Daniel M., surgeon, reports on thirty days' leave from date.

Owen, Wm. O., surgeon, reported at U. S. Army General Hospital, Presidio of San Francisco, for treatment and observation, from sick leave.

Raymond, Thos. U., surgeon, detailed to represent medical department of the Army at meeting of the American Roentgen Ray Society, to be held at St. Louis, Sept. 9 to 13, 1904, is revoked.

Reno, Wm. W., asst.-surgeon, now on duty at St. Louis, is detailed to represent the medical department of the Army at the meeting of the American Electro-Therapeutic Association, to be held in that city, Sept. 13 to 16, 1904.

Johnson, R. W., surgeon, now on duty at St. Louis, is detailed to represent the medical department of the Army at meeting of the American Roentgen Ray Society, in that city, Sept. 9 to 13, 1904.

Devereux, J. R., asst.-surgeon, left Fort Meade, S. D., on ten days' leave of absence.

Bantlett, C. J., asst.-surgeon, assigned to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Raymond, Thos. U., surgeon, now on duty at St. Louis, is detailed to represent the medical department of the Army at meeting of the American Roentgen Ray Society, in that city, Sept. 9 to 13, 1904.

Devereux, J. R., asst.-surgeon, left Fort Meade, S. D., on ten days' leave of absence.

Bantlett, C. J., asst.-surgeon, assigned to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Raymond, Thos. U., surgeon, order relieving him from duty at Louisiana Purchase Exposition, St. Louis, and assigned to duty at Fort Assiniboine, Mont., is revoked.

Marrow, Charles E., asst.-surgeon, assignment to duty at Manassas, Va., during maneuvers is revoked.

Baker, Frank C., asst.-surgeon, assigned to duty at Manassas, Va., during maneuvers.

Banister, Wm. B., surgeon, left Jefferson Barracks, Mo., en route to San Francisco with recruits.

McCulloch, C. C., asst.-surgeon, will take charge of the office of the chief surgeon, Department of the East, during the absence of Major John L. Phillips, surgeon at the maneuvers at Manassas, Va., acting chief surgeon.

Noble, R. E., asst.-surgeon, granted fourteen days' leave of absence.

Mabry, William C., contract surgeon, arrived at the camp of the organized militia of Ohio at Athens for duty.

Hussey, Samuel W., contract dental surgeon, granted leave of absence for two months from Fort Snelling, Minn.

Ware, William H., contract dental surgeon, granted leave of absence for two months before going to duty at Fort Logan, Colo.

Woods, Oscar W., contract surgeon, granted leave of absence for two months from Vancouver Barracks, Wash.

Brooks, John D., contract surgeon, left Fort Meade, S. D., August 19 and arrived at Fort Crook, Neb., August 21 for temporary duty.

Greenberg, Harry, contract surgeon, granted leave of absence for one month.

Griffith, Lewis T., contract surgeon, ordered from Troy, N. Y., to Manassas, Va., for duty during the maneuvers.

Voorhies, Hugh G., contract dental surgeon, granted an extension of one month to his leave of absence.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Aug. 27, 1904:

Kennedy, R. M., surgeon, detached from Naval Hospital, New York, and granted sick leave for one month.

Huntington, E. O., surgeon, detached from Naval Hospital, Portsmouth, N. H., and ordered to duty at the Naval and Marine Recruiting stations, Chicago, August 24.

Braisted, W. C., surgeon, detached from the *Relief* and ordered to the *Pensacola*.

Guthrie, J. A., P. A. surgeon, granted an extension of leave for three months.

Wilson, H. D., P. A. surgeon, ordered to duty at the Naval Hospital, Portsmouth, N. H.

Wise, A. H., A. A. surgeon, detached from the Naval and Marine Recruiting Stations, Chicago, and ordered to duty with Naval Recruiting Party No. 1, August 25.

Duncan, G. F., A. A. surgeon, detached from the *Franklin* and ordered to duty with Naval Recruiting Party No. 3.

Tabuey, V., A. A. surgeon, ordered to duty with Naval Recruiting Party No. 2.

Lewis, D. O., medical inspector, commissioned a medical inspector from Jan. 4, 1904.

Wheeler, L. H., asst.-surgeon, detached from duty at the Naval Hospital, Boston, and ordered to duty as recorder, Naval and Medical Examining Board, Washington, D. C.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital Service, for the thirteen days ended Aug. 24, 1904:

Purviance, Geo, asst.-surgeon general, granted extension of leave of absence for one month from Aug. 1, 1904, on account of sickness.

Williams, L. L., asst.-surgeon general, relieved from status of "absent on leave" and directed to assume temporary command of the Cape Fear Quarantine Station during the absence on leave of Asst.-surgeon B. S. Warren. On the return of Asst-surgeon Warren to resume status "absent on leave."

Williams, L. L., asst.-surgeon general, granted extension of leave of absence for fifteen days from August 18 on account of sickness.

Ballhache, P. H., surgeon, granted leave of absence for seven days from Aug. 14, 1904, under the provisions of Paragraph 191 of the Regulations.

Foster, M. H., P. A. surgeon, granted leave of absence on account of sickness for one month from Aug. 18, 1904.

Fox, Carroll, asst. surgeon, granted leave of absence for three days under the provisions of Paragraph 191 of the Regulations.

Scheresbewsky, J. W., asst.-surgeon, to proceed to Philadelphia, Pa., for temporary duty in connection with the inspection of alien immigrants during the absence on leave of P. A. Surgeon Talia Terro Clark.

Francis, Edward, asst.-surgeon, granted leave of absence for seven days from Aug. 8, 1904, under the provisions of Paragraph 191 of the Regulations.

Francis, Edward, asst.-surgeon, granted extension of leave of absence for twenty-one days.

Warren, B. S., asst.-surgeon, granted leave of absence for six days.

Hunt, Reid, chief division of pharmacology, granted leave of absence for six days from Aug. 22, 1904, under the provisions of Paragraph 210 of the Regulations.

Walkley, W. S., A. A. surgeon, granted leave of absence for three days.

Hallett, E. B., A. A. surgeon, granted leave of absence for four days.

Bean, L. C., A. A. surgeon, granted leave of absence for five days from Aug. 22, 1904.

Simonson, G. T., A. A. surgeon, granted leave of absence for fifteen days from Aug. 26, 1904.

Grace, J. J., A. A. surgeon, granted leave of absence for thirty days from Sept. 23, 1904.

Roebrig, A. M., pharmacist, detailed to represent the service at meeting of American Pharmaceutical Association at Kansas City, Mo., Sept. 5 to 10, 1904.

Brock, G. H., pharmacist, relieved from duty at Delaware Breakwater Quarantine and directed to proceed to St. Louis, Mo., and report to medical officer in command for temporary duty.

Gibson, R. H., pharmacist, granted leave of absence for thirty days from Sept. 7, 1904.

O'Gorman, T. V., pharmacist, granted leave of absence for thirty days from Aug. 18, 1904.

Miller, Charles, pharmacist, detailed to represent the service at meeting of American Pharmaceutical Association at Kansas City, Mo., Sept. 5 to 10, 1904.

Kolb, W. W., pharmacist, relieved from duty at the Savannah (Ga.) Quarantine Station and directed to proceed to Washington, D. C., and report at the Bureau preliminary to assignment to duty in the Hygienic Laboratory.

Rogers, Edward, pharmacist, relieved from duty at Cleveland, Ohio, and directed to proceed to New York, N. Y. (Stapleton), and report to the medical officer in command at that port for duty and assignment to quarters.

Mason, M. B., pharmacist, granted leave of absence for fifteen days from Sept. 1, 1904.

Southard, F. A., pharmacist, granted leave of absence for four days from Aug. 8, 1904, under the provisions of Paragraph 210 of the Regulations.

Southard, F. A., pharmacist, relieved from duty in the Hygienic Laboratory, Washington, D. C., and directed to proceed to Cleveland Ohio, and report to the medical officer in command at that port for duty and assignment to quarters.

Spangler, L. C., pharmacist, relieved from duty at the Tampa Bay (Fla.) Quarantine and directed to proceed to Savannah (Ga.) Quarantine and report to the A. A. surgeon in charge for duty and assignment to quarters.

Van Ness, G. L., Jr., pharmacist, relieved from duty at New York (Stapleton) and directed to proceed to Louisville, Ky., and report to the medical officer in command at that port for duty and assignment to quarters.

BOARDS CONVENED.

Board convened to meet at Washington, D. C., Aug. 25, 1904, for N. Y., Aug. 13, 1904, for the physicical examination of a chief engineeer of the Revenue Cutter Service. Detail for the board: P. A. Surgeon A. C. Smith, chairman; P. A. Surgeon C. H. Lavinder, recorder.

Board convened to meet at Washington, D. C., Aug. 25, 1904, for the physical examination of a candidate for appointment in the Revenue-Cutter Service. Detail for the board: Asst.-Surgeon General W. J. Pettus, chairman; Asst. Surgeon A. J. McLaughlin, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Aug. 26, 1904:

SMALLPOX—UNITED STATES.

Georgia: Macon, Aug. 13-20, 1 case.
Illinois: Chicago, Aug. 13-20, 6 cases.
Louisiana: New Orleans, Aug. 13-20, 2 cases, traced to importation.
Michigan: Grand Rapids, Aug. 13-24, 1 case.
Missouri: St. Louis, Aug. 13-20, 2 cases, 1 death.
Pennsylvania: Philadelphia, Aug. 13-20, 1 case.
South Carolina: Charleston, Aug. 13-20, 1 case.
Tennessee: Nashville, Aug. 13-20, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, July 2-9, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Town, July 8-16, 1 death.
China: Shanghai, June 25-July 16, 6 deaths.
France: Paris, July 30-Aug. 6, 12 cases, 1 death.
Great Britain: Glasgow, Aug. 6-12, 9 cases; Leeds, Aug. 6-13, 2 cases; July 30-Aug. 6, London, 2 cases, 1 death; Manchester, 1 death; Newcastle-on-Tyne, 5 cases; Nottingham, July 23-30, 1 case.
India: Bombay, July 19-26, 5 deaths; Calcutta, July 9-16, 1 death.
Italy: Palermo, July 23-Aug. 6, 31 cases, 15 deaths.
Mexico: City of Mexico, July 31-Aug. 7, 3 cases, 1 death.
Russia: July 23-30, Moscow, 13 cases, 2 deaths; St. Petersburg, 5 cases, 1 death; Warsaw, July 8-16, 27 deaths
Spain: Barcelona, Aug. 1-10, 9 deaths.
Turkey: Constantinople, July 31-Aug. 7, 2 deaths.

YELLOW FEVER.

Ecuador: Guayaquil, July 20-27, 7 deaths.
Mexico: Aug. 6-13, Coatzacoalcos, 2 cases, 1 death; Vera Cruz, 5 cases, 1 death; July 31-Aug. 13, Merida, 2 cases, 2 deaths; Tehuantepec, 5 cases, 4 deaths.

CHOLERA.

India: Bombay, July 19-26, 1 death; Calcutta, July 9-16, 7 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, Aug. 19, 1 death.
Philippine Islands: Manila, July 2-9, 1 case, 1 death.

PLAGUE—FOREIGN.

Africa: Cape Colony, July 9-16, 1 case.
Brazil: Bahia, June 16-July 24, 24 cases, 10 deaths.

Egypt: July 16-23, 16 cases, 8 deaths.
India: Bombay, July 19-26, 57 deaths; Calcutta, July 9-16, 5 deaths.
Mauritius: May 6 June 16, 8 cases, 7 deaths.
Peru: Lima, July 16-30, 15 cases, 7 deaths.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Rocky Mountain Interstate Medical Association, Denver, September 6-7.
American Roentgen Ray Society, St. Louis, September 9-13.
American Association of Obstetricians and Gynecologists, St. Louis, September 13-15.
American Electro-Therapeutic Ass'n, St. Louis, September 13-16.
International Congress of Arts and Science, Department of Medicine, at Universal Exposition, St. Louis, September 19-25.
Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.
Colorado State Medical Society, Denver, October 4-6.
Idaho State Medical Society, Lewiston, October, 6-7.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, October 12-14.
Assn. of Military Surgeons of the U. S., St. Louis, October 10-15.
Mississippi Valley Medical Association, Cincinnati, October 11-13.
Vermont State Medical Society, Rutland, October 13-14.
New York State Medical Association, New York, October 17-20.
Medical Society of Virginia, Richmond, October 18-21.

BRITISH MEDICAL ASSOCIATION.

Seventy-second Annual Meeting, held at Oxford, July 26-30, 1904.

(Continued from page 625.)

Total Enucleation of the Prostate.

In this paper Mr. P. J. Freyer described his results in his 110 cases of suprapubic prostatectomy, the patients varying in age from 53 to 84 and the prostates weighing from ¾ of an ounce to 14¼ ounces. The majority of the patients had been dependent on the catheter for periods varying up to 24 years. Nearly all were in broken health and many were apparently moribund and few were free from complication. In three cases the disease was malignant. One died twenty days after the operation, when the wound was practically healed. The other two made fairly good recoveries. Excluding these three cases there were 107 cases of complete removal of the adenomatous prostate, of which 97 were completely successful, the power of retaining and passing urine without the aid of the catheter being regained. In only two cases did septicemia follow operation, and this Mr. Freyer ascribed to an immunity acquired by the patients from long absorption of septic urine. There were ten deaths, two from mania after the wounds had practically healed, one from heat stroke on the tenth day, when the patient was practically convalescent, one from coma due to absorption of toxins from the urine, which had set in several days before operation; one from pneumonia seven days after operation, one from heart failure six hours after operation, one from heart failure, one from interstitial nephritis, and two from septicemia. In only four or five cases could the deaths be ascribed to the operation. But accepting all the deaths, the mortality is only 9 per cent.—about one-fourth of the mortality from lithotomy at the same ages. Mr. Freyer claimed that his operation gave results far superior to those attained by any other method of treatment.

Pseudo-Malarial Fevers.

The Section in Tropical Medicine was undoubtedly one of the most important and well reflected the recent great progress in the knowledge of tropical diseases. The President, Dr. Alexander Crombie, delivered an opening address on "The Fallacy of Finality." He pointed out that while clinicians believe in the existence in hot climates of fevers of a continued type other than typhoid and malarial, bacteriologists do not. Notwithstanding the official returns, which show an overwhelming majority of admissions for malarial fevers, he believed that "ague" is not the most prevalent type of fever in India. The commonest type is what he has called "single-paroxysm fever." The paroxysm may be of a few hours or few days' duration, but it is a single paroxysm and has no tendency to recur. If it lasts a few hours it is called "ephemeral fever"; if a day or two, "febricula"; if several days, "simple continued fever." These attacks give no clinical evidence of periodicity such as would be caused by the life cycles of a parasite in the blood, and recovery takes place without administration of quinin. He spoke of a form of fever which he called "non-malarial remittent." This is a fever of considerable severity, duration and mortality, lasting on an average six weeks, if not fatal earlier. Dr. Crombie never found malarial parasites in it and quinin pushed to doses of 90 gr. daily was not only ineffectual but harmful. The refusal to recognize such facts by other investigators he attributed to the "fallacy of finality"—the fallacy that every advance is final and that every fact in medicine must be brought into line with it because there is nothing beyond.

Infectious Jaundice.

DR. SANDWITH, Cairo, Egypt, defined this disease as an acute infectious disease sometimes epidemic during the summer months, characterized by fever jaundice, enlarged liver and spleen, nephritis and some nervous symptoms. It is not contagious. In Smyrna it apparently has been endemic since 1837, and in Alexandria certainly since 1870. Professor Weil of Heidelberg has published four cases and since then several others have been recorded in Germany. There have been small epidemics in England, the United States and China. Men chiefly between the ages of 20 and 30 are most affected, and during the summer months. No microbe has been discovered, but analogy points to the fact that it is insect borne. The symptoms may be divided into three stages: 1, primary fever, lasting from three to five days; 2, jaundice of from seven to nine days' duration; 3, secondary fever, for from seven to nine days. After an incubation period of one or two days there is usually a sudden onset with a distinct rigor, the temperature rising to between 102 and 104 degrees, with general malaise and vomiting. About the third or fourth day the jaundice begins with enlargement and tenderness of the liver, enlargement of the spleen and albuminuria, after which the fever usually subsides. The jaundice and other symptoms then gradually disappear, but in about three-fourths of the cases there is a secondary attack of fever and convalescence is always slow. The nervous symptoms are headache, giddiness and sleeplessness. In bad cases there are somnolence, prostration, hiccough, lividity, dry brown tongue and muscular twitchings. Muscular pains, especially at the nape of the neck and in the calves, are intense during the first stage and are increased by pressure, forming a useful diagnostic sign. There is usually epigastric pain, which can be traced to the liver. Constipation is the rule, but in severe cases there may be diarrhea. During the jaundice the stools are clay-colored. Hemorrhages from the mucous membranes, especially epistaxis, may occur. The urine contains albumin and bile. The mortality in Alexandria is 32 per cent. Postmortem fatty degeneration of the liver and petechiæ on the serous and mucous membranes are found.

Leishmann-Donovan Bodies.

MAJOR W. B. LEISHMANN read a most important paper on "The Leishmann-Donovan Body." Since these bodies were first brought to light many cases in which they have been observed have been recorded, and it is becoming more and more evident that the disease associated with their presence is by no means uncommon in the tropics. Originally found in the spleen, they have since been found in the liver, mesenteric glands, bone marrow, kidneys, and ulcers involving the intestinal mucosa. The parasites appear to be intra-cellular and are found in large mononuclear cells which are probably macrophages. In specimens obtained during life by splenic or hepatic puncture the parasites are usually found free in groups. The principal symptoms noticed are: 1, Splenic and hepatic enlargement; 2, a peculiar earthy pallor of the skin and in the late stages great emaciation and muscular atrophy; 3, prolonged irregularly remittent fever lasting frequently many months, with or without remissions; 4, hemorrhages such as epistaxis, bleeding from the gums, subcutaneous hemorrhages or purpuric

eruptions; 5, transitory edema of the legs; 6, complications such as congestion of the lungs, diarrhea and dysentery have been frequently reported and occasionally cause death; 7, a marked mononuclear increase—an interesting point in view of the proved absence of malaria. The disease is resistant to medication, especially to quinin, at all events in the later stages. The symptoms are similar to those of kala-azar, but it is too early to say whether the two diseases are identical. The bodies appear to represent a stage in the life history of a flagellate organism resembling a trypanosome, if not belonging to that genus. Recently Captain Rogers has announced in the *Lancet* that trypanosomes have developed in cultures of these bodies.

The Museum.

A most interesting feature of the meeting was the museum, which contained a large number of remarkable exhibits, including radiographs and photographs illustrating diseases of the prostate and diseases and injuries of bones and joints; particularly Colles' fracture and congenital dislocation of the hip. Microscopic preparations showed the most recent work in the pathology of new growths. A beautiful series of ophthalmologic and otologic drawings by Dr. Ole Bull of Christiania was lent by the University of Cambridge. A striking exhibit was a lifesize wax figure showing the injuries inflicted on the body and clothing by a lightning stroke.

Senility and Infantilism.

Mr. Hastings Gilford illustrated some anomalies of growth recently described by him, which he terms "ateleiosis" and "progeria," by four living specimens and a number of photographs. These two disorders are of opposite natures. Ateleiosis is a form of infantilism, while progeria is a form of senility. Ateleiosis seems to be of two varieties, asexual and sexual. The asexual case shown was a man of 30, but had the height, rounded figure, physiognomy and ossification of a boy of between 5 and 10, some parts being more backward than others. The genital organs were like those of an infant. He is still growing at the rate of about 5 cm. a year. The sexual case shown was a man of 38, whose height and proportions were those of a boy of 10, while he also possessed the flat, undeveloped face of a boy. But he was sexually mature and had a family of seven, three of whom were dwarfs. One of these, a boy of 12, was shown because he served as a connecting link between the two varieties, for while he was the son of a sexual ateleiosis, he himself was an instance of the asexual variety, for he was cryptorchid and his genitals were infantile. Progeria was represented only by photographs, all three of the subjects being dead. All three presented the external and internal signs of old age. One died from apparent senile decay at 17, another at 18, and the third, a less marked case, at 43.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Myocarditis.

Stevens, in *Amer. Med.*, discusses the diagnosis and gives the following outline of treatment of myocardial disease:

GENERAL TREATMENT.

"Attention to the minutiæ of life is of the utmost importance. Each individual must be studied as regards the state of the arteries, the character of the pulse, the digestive powers, the existence or absence of any constitutional vice, and the actual condition of the heart, so far as this can be determined." Attention should be directed to proper exercise. It is many times unnecessary for the patient to give up his occupation, but the sum of his exertions should in no wise fatigue the heart. Fret and worry frequently have as baneful an effect on the heart as actual physical exertion. Graduated exercise is indicated except in those cases where it is followed by palpitation, irregularity, pain, or pronounced dyspnea, in which cases absolute rest should be prescribed. In these cases massage is useful since it gives the patient exercise without any additional strain on the heart.

DIET.

Avoid rich foods, bulky foods, and foods which induce flatulence. Prohibit eating between meals. Over-eating and copious drinking at meal time must be avoided. Water may be allowed between meals freely enough to secure free elimination of waste products. Tea and coffee should be used very sparingly, better not at all. Alcohol and tobacco should be dispensed with. Avoid all excesses. Avoid constipation. Gouty diathesis and syphilis should receive appropriate treatment.

SPECIAL TREATMENT.

He recommends strychnin in doses of 1/60 gr. to 1/30 gr. (1 mg. to 2 mg.) two or three times a day. If anemia is present iron and arsenic can be advantageously combined with strychnin. The nitrites and iodids are of especial value when there are angioid pains, high arterial tension, and cardiac asthma. The iodids are contraindicated where there is advanced arterial disease and chronic nephritis. Digitalis must be used tentatively, in small doses and best when the degeneration is in its early stages. It is well to guard against its constricting influence on the arterioles by combining with either nitroglycerin or sodium nitrite. In some cases strophanthus is more efficacious than the digitalis and in others caffein, spartein or cactus may be tried.

A Non-toxic Preparation of Iodin.

Wingrave, in the *Lancet*, states that after considerable experimentation with different preparations of iodin he has found the following formula can be given for considerable periods without causing symptoms of iodism while exercising its specific effects on lymphatic enlargements:

R.	Iodin	gr. xl	2|65
	Acidi tannici	3i	4|
	Alcoholis (90 per cent.)	3ixss	38|
	Syrupi q. s. ad	3xix	76|

The iodin is dissolved in the alcohol, the tannic acid and 30 c.c. of syrup are added, the solution is heated to just below the boiling point until it affords no evidence of free iodin with the starch reaction (about 20 minutes), then cooled and the remainder of the syrup is added with flavorings. Each dram contains two grains of iodin. Dose from one-half dram to two drams in water or wine before meals, according to age. The iodin is in loose chemical combination with the tannic acid, and is readily given up to the tissues after absorption, and consequently there is no chance of any local intestinal or gastric irritation. The author has found that children tolerate it well, and it has proved of value in cases of chronic lymphadenitis, associated with or independent of, enlarged tonsils and adenoids, especially when the enlarged glands persist after tonsillotomy. It is further indicated in those cases of enlarged faucial and pharyngeal tonsils where operation is contraindicated or objected to. It has afforded gratifying results in atrophic rhinitis, especially when combined with arsenic.

Enuresis.

Lewis, in the *British Jour. of Children's Diseases*, states that he has observed that children fed on starchy foods pass a larger amount of urine than normal, and when their starchy food is cut off this symptom disappears. It is the same with victims of enuresis. In most cases a rigid antidiabetic diet removes the symptoms in a few days. During the cure, starchy foods may usually be allowed for breakfast without "accidents" occurring at night. As to results the author states: "Without any other treatment hospital cases are relieved at once, and

finally cured when fed on the ordinary hospital diet. In private cases small quantities of bread or cake given at dinner or tea will cause bed wettings to recur."

Simple Diarrhea.

Earp, in the *Med. Council*, discusses the therapeutics of this common condition, and believes that rational curative therapy depends on four cardinal factors: 1. Cleanse the alimentary canal of all offensive material and relieve pain. 2. Antisepsis. 3. Establishment of rational dietetic measures. 4. Rest in bed.

PROPHYLACTIC MEASURES.

The author states that perhaps there is no disease which holds a closer relationship to errors of diet than this one. If the following rules could be more carefully observed many cases of diarrhea would be averted. Take food in moderate amounts, eat slowly, thoroughly masticate the food, and thus give due regard for the first process of digestion, let the mind be free from care or anxiety during the meal and rest a few minutes before and after.

Care must be taken to make a proper selection of food, for the reason that decomposed material, fermented products and and impure water may produce a catarrhal condition, followed by diarrhea.

TREATMENT.

Cleansing the Intestinal Canal.—When portions of undigested food are found in the stools it is but reasonable to suppose that others remain in the canal, giving sufficient indication for the administration of salines to free the alimentary tract of all offending material. (It is also recommended to give a liberal dose of castor oil, to which a small dose of tincture of opium may be added, if much pain is present, to accomplish the same purpose as the saline.) During the time of cleansing the canal it is important that very little should be given in the way of diet, and that a light diet should be continued until all symptoms have disappeared. In all cases of diarrhea there is always bodily exhaustion, and likewise impairment of the digestive function. Therefore, predigested foods or foods easily digested must be used with or without any of the drugs known as digestants. Food should be chosen which can in the main be digested in the stomach and leave as little residue as possible. Opium should only be given if necessary for the pain, and then sparingly.

Of the astringent and antiseptic drugs the author recommends the sulfocarbolate of zinc, or salicylate of bismuth, and also guaiacol benzoate. Under no circumstances should the bowels be locked up or permitted to be inactive any length of time.

During the early stages rest in bed is of prime importance.

Dysmenorrhea.

Hammond, in *Amer. Med.*, states that the action of gelsemium in the treatment of dysmenorrhea in patients in which repeated careful examination of the pelvic organs fail to show any abnormalities or pathologic lesions, has been very satisfactory. Ten drops of the tincture should be taken three times daily, begun each month seven to ten days previous to the beginning of the flow. In a large proportion of cases this plan of treatment will afford absolute and marked relief.

Infantile Convulsions.

Merck's Archives recommends the following:

R.	Potassii bromidi	
	Sodii bromidi	
	Ammonii bromidi	
	Calcii bromidi, āā.....gr. xv	1
	Tr. belladonnæ .....m. vi	3
	Syrupi aurantii floris q. s. ad.....℥iii	90

M. Sig.: One to four teaspoonfuls, according to age, every two hours.

If indigestible food has been taken give an emetic and a purgative. A hot bath is a valuable adjuvant.

Chorea.

Chapman, in the *Brooklyn Med. Jour.*, concludes there is but one drug which has met with any success in the treatment of this disease, and that is arsenic. Of the preparations of this drug Fowler's solution has given the most universal satisfaction. Some cases tolerate Pearson's or Donovan's solution better. Fowler's solution is best administered, beginning with small doses and gradually increasing up to the point of tolerance. Some observers say up to the full physiologic effect, but the author considers this not only unnecessary but believes that the damage done to the digestive organs is certainly detrimental to the patient's general condition, which is a point that should receive our first attention. He also discountenances the use of the drug hypodermically, and believes the pain and annoyance from the injection greater than the good accomplished.

It is best to give Fowler's solution well diluted to prevent gastric irritation and likewise to increase the amount of liquids ingested The increased fluids prevent the extreme concentration of the urine and lessens the irritation of the kidneys. Medicinal diuretics are seldom necessary, and when indicated small doses of acetate of potash may be dissolved in milk and administered without the patient's knowledge.

The anemia is best treated by some preparation of iron given in small doses and well diluted. The author prefers the citrate of iron and quinin dissolved in sherry wine. If the digestion is good and the stomach will tolerate it, the syrup of the iodid of iron with the compound syrup of the hypophosphates makes an excellent combination.

For insomnia and much restlessness he recommends the use of chloral hydrate. This drug is well borne by children, and from five to ten grains in a cup of hot milk usually induces a good night's sleep.

Coexisting disorders, such as malaria, rheumatism, etc., should receive appropriate treatment. Quinin and the salicylates are well borne by choreic patients. Any source of reflex irritation, such as adenoids, phimosis, etc., may receive palliative treatment, but surgical procedures should be avoided until the choreic symptoms have subsided.

The following is recommended for chorea in rheumatic patients:

R.	Sodii salicylatis 5ii		8
	Potass. iodidi 5i		4
	Pepsini (scale) 5ii		8
	Syrupi sarsaparillæ comp. .....℥i		30
	Aquæ dest. q. s. ad.....℥iii		90

M. Sig.: Teaspoonful in water three times a day.

Olive Oil in Affections of the Stomach.

It is to be noted that olive oil is occupying a more useful and frequent place in practical therapeutics and we have read with interest the abstract of Cohnheim's article in the *Zeitschrift f. klin. Med.*, in which he tells of another use of this drug and claims excellent results. "Cases of gastric dilatation which are due not to organic obstruction, but to pyloric spasm secondary to an ulcer, fissure, or erosion, may be cured or greatly improved by the introduction of large quantities of olive oil through the stomach tube. About 3½ to 5¼ ounces (100 to 150 c.c.) of warm oil are introduced when the stomach is empty. In organic stenosis, and at first in spastic cases, previous irrigation of the stomach is required. If, nevertheless, pain recurs later in the day, another 50 c.c. of oil should be given before bedtime."

MODE OF ACTION.

The oil acts mechanically as a lubricant, so that even solids glide through the altered pyloris. Even in extreme pyloric stenosis oil enters the duodenum and is absorbed. It not only acts locally by relieving the pain and spasm, but improves the general condition.

INDICATIONS.

The following conditions have been improved by the use of the oil: Organic pyloric stenosis, with secondary gastrectasis; cases of incomplete pyloric and duodenal stenosis, which are characterized by continuous hypersecretion, and the occurrence of pyloric spasm several hours after meals are also cured or improved. In carcinomatous stenosis the oil prevents or relieves pyloric spasm. In early cases, oil may prevent the

occurrence of secondary gastric dilatation. Or it may be given after the disappearance of the symptoms to prevent relapses. The treatment should be continued for several weeks. Cases of pyloric ulcer, with or without hyperchlorhydria, and with colic-like pain occurring from 1 to 4 hours after food, are cured by olive oil or almond oil emulsion, if there are no complications, such as perigastritis.

METHOD OF ADMINISTRATION.

The oil or emulsion may be given by the tube or drunk a half to one hour before food; the doses are a wineglassful before breakfast, and two tablespoonfuls at mid-day, and in the evening. The almond oil emulsion should be freshly prepared by rubbing up a tablespoonful of sweet almonds in a mortar, ponring a cup full of boiling water over the powder, and passing the mixture through a fine sieve. Sufficient water is added to make about eight ounces of emulsion, which is sweetened and drunk warm about one-half hour before meals. The diet should be regulated and all vegetables given as purées.

Medicolegal.

Evidence of a Hope of Recovery.—The Supreme Court of Louisiana holds, in the homicide case of State vs. Gianfala, that, though the wounded man said he thought he was going to die, yet, if he asked the opinion of a physician, and, on his advice, started on a journey to a distant city to have himself operated on, as being his one chance of recovery, his statements would not be admitted as dying declarations; it not appearing that he was not without some slight hope of recovery.

Right of Physician to Enter Premises to Treat Lodger.—The Supreme Court of Iowa says, in the case of Watson vs. Dilts, that it has no doubt that a boarder and lodger may have an implied license to have a physician enter on the premises in case of illness, so that if one went to the house for the sole purpose of treating such boarder and lodger in a strictly professional capacity he ought not to be held a trespasser. But an implied license to enter the premises of another contemplates an entry only in the usual way, and at a reasonable time.

Use of Sidewalks by Lame and Aged—Care Required.—The Supreme Court of Michigan says, in the personal injury case of Harden vs. City of Jackson, that there is no doubt that the legislature authorized sidewalks for the use of the lame and aged as well as for the able-bodied and young, but we know that the former classes should, and usually do, use greater care than the latter find necessary. A man walking on crutches knows the common method of building sidewalks. He knows that edges of the boards decay and knots drop out, and instinctively he learns to avoid putting his crutches in holes or cracks. The court thinks it is not negligence for a city to use its plank walks, although they have cracks and knot holes through which a cane or crutch would go, acting on the expectation that the traveler must know that they are practically unavoidable, and are common to all sidewalks, long before they are sufficiently worn to justify pulling them up and building anew. The city has a right, in the maintenance of its walks to expect a reasonable degree of care from all persons; and, when its walks are safe for the ordinarily prudent use, there is no negligence. If there were no walks the pedestrian might still fall, and the crutches of the infirm go down in holes made by animals, or in soft places. An accident from such a cause would be a casualty. So, too, there may be casualties on walks. The cities are not insurers of those who walk on sidewalks, and, even though injured without negligence on their part, the same is no more than a casualty, if the walk is as good as such person has a right to expect.

Drunkenness and Delirium Tremens as Defense to Crime.—The Supreme Court of Alabama says, in Parrish vs. State, that while delirium tremens of itself is not necessarily a complete defense, or does not wholly excuse the person who commits a crime while in that condition, yet it may palliate or extenuate the crime and punishment, if the disease, drunkenness, or delirium tremens has gone to such an extent as to deprive the person of the capacity to have entertained the intent necessary to constitute murder. Hence voluntary drunkenness, though not carried to the extent of delirium tremens, may palliate a crime, if a necessary element of the crime is specific intent. In order to constitute murder in the first degree, willfulness, premeditation, and deliberation must concur with malice; and if drunkenness or delirium tremens has gone to such an extent as to paralyze the mental faculties, and to render the accused incapable of forming a design, which is a necessary ingredient of the crime, it would be a pertinent inquiry for the jury in determining the degree of the homicide and of the punishment to be inflicted. And there being some evidence that the accused in this case was suffering from delirium tremens at the time, he had a right to have the jury pass on its credibility and sufficiency, and as to whether it was sufficient to prevent his being capable of forming an intent and of entertaining the necessary malice or intent to constitute murder. Furthermore, on the tendencies of the evidence in this case, it could not be affirmed, as a matter of law, that delirium tremens, even if induced by voluntary drunkenness, would not support the accused's plea of not guilty by reason of insanity. A person suffering under or afflicted with delirium tremens, for the time being, may be as absolutely insane as an idiot or a maniac.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia.

August 20.

1 *Laceration of the Cervix. J. M. Baldy.
2 A Case of Malignant Adenoma of the Liver. George L. Peabody.
3 *Cervical Ribs in Man. D. N. Eisendrath.
4 *The Value of Non operative Local Treatment in Gynecology. Willis E. Ford.
5 The Modern Treatment of Pulmonary Tuberculosis. Frank Warner.
6 Plea for a More Just Judgment of Narcotic Drug Users. George E. Pettey.
7 Open Oral Questions. Wm. S. Lederer.
8 Meteorism in Pneumonia: Its Prognostic Importance. Heliodor Schiller.

1. **Laceration of the Cervix Uteri.**—Baldy protests against the tendency among obstetricians to repair lacerations of the cervix primarily. The objections are enormously swollen lips, so that a proper adjustment of the surfaces is difficult, and the subsequent shrinkage of the tissue under the sutures, which is of such an extent as to be uncontrollable both for purposes of apposition and for the prevention of the invasion of infection between the lacerated surfaces. The effect of an operation on the morale of the patient at such a trying period is by no means the least of the objections. The treatment for recent lacerations of the cervix, says the author, remains rigid local cleanliness, except when there is a sufficient hemorrhage to demand a ligature. When non-infection can be insured, and when the torn lips are not unnecessarily disturbed by the careless use of the nozzle of the syringe, spontaneous healing of these lacerations may be expected to a greater or less degree, and what remains when nature is through with her work will be of a healthy character, will give no future trouble and will need no surgical interference. Stop the active discharges from the uterus, keep the eroded surfaces free from their own discharges and they will soon disappear. Baldy does not concur in the belief that lacerations of the cervix produce carcinoma. In twenty years' work he has not seen a single case of cancer develop in a laceration of the cervix which he refused to repair. Many arguments are brought forward in Baldy's article bearing on the latter proposition, but are too numerous to be abstracted.

3. **Cervical Ribs in Man.**—Eisendrath records a case of cervical rib discovered accidentally in a woman, aged 56, who consulted him with reference to a tumor of the breast. Thirty-

four cases of cervical rib are recorded in the literature. The chief clinical interest of this condition is the relation of the rib to the brachial plexus and to the subclavian vessels. In some cases it may give rise to a pulsating tumor just above the clavicle and be diagnosed as an aneurism. In others the compression of the artery causes thrombosis of the distal portion, with resulting discoloration, coldness or even gangrene of the fingers. Symptoms of pressure on the brachial plexus vary from numbness and tingling in the arm, to severe pains down the arms or in the fingers alone. In some cases electric treatment or elevation of the arm gives relief. In others resection of the cervical rib is necessary.

4.—See abstract in THE JOURNAL, xlii, p. 1585.

Medical News, New York.

August 20.

9 *Technical Errors in the Use of Rubber Gloves. Howard D. Collins.
10 Interstitial Gingivitis or Scorbutus. Eugene S. Talbot.
11 Some Weather Observations in the Adirondacks. L. Brown.
12 The Biological Interpretation of Cancer. Alexander Spingarn.
13 Appendicitis; Pathology and Surgical Treatment. E. N. Liell.
14 Beginning General Paresis; Its Recognition and Management. Charles Lewis Allen.
15 *The Bacteriology of Panophthalmitis. Richard N. Johnston.
16 Autointoxication of Gastrointestinal Origin. Clifton Mayfield.
17 Bacteriuria, with Special Reference to Coli Bacilluria. Arthur R. Elliott.
18 *The Uses of X-ray in Medicine and Surgery. Russell H. Boggs.

9. **Technical Errors in the Use of Rubber Gloves.**—Collins says that often it is possible during major operations to see gross errors of technic in the manner of using gloves; errors not so much of carelessness, but of lack of instruction and thought on the subject. The manner of putting on the glove is often faulty in that it counteracts the very purpose for which the glove is worn, that of covering up an unsterile object—the hand—with one that is sterile, the glove. The best and most pleasant use of gloves comes from putting them on dry with sterile starch or lycopodium as a lubricant. Collins prepares his gloves in the following way: A wide-mouthed bottle, filled with pulverized starch and provided with a piece of gauze tied over the mouth in a single layer, is sterilized in a live steam sterilizer. At the same time several towels are sterilized by live steam in the usual manner. The gloves are then turned wrong side out, placed in a wire cage and submerged in clean water in the ordinary instrument broiler. Care should be taken that all of the glove is filled with water and the air driven out. Two pair of long dressing forceps or sponge holders should be put into the boiler with the gloves. The gloves are allowed to boil for from five to ten minutes, when they are taken from the cage and allowed to drain hastily. With the sterile forceps the gloves are placed on one of the sterile towels, spread out flat, and another sterile towel laid over them. If all the free water has been allowed to drain from the gloves, a little stroking and patting of the upper towel will thoroughly dry the outer surface (really the inside, for the gloves were turned wrong side out) in a few minutes. The upper towel is then turned back and the gloves, both back and palm, thoroughly dusted with the sterile starch from the bottle. With one pair of forceps the edge of the wristband is lifted and the other pair of forceps introduced into the glove until the blades grasp the web between the middle and ring fingers; by drawing on the interior pair of forceps and turning the cuff over with the other pair, it takes but a moment to reverse the palm or hand portion of the glove. To reverse the fingers, grasp two diametrically opposed points of the edge of the wristband with the two pair of forceps, and twirl the glove two or three times about its transverse axis; this closes the orifice of the glove and imprisons some air in the palm. Lay the glove on a sterile towel, press on the balloon part of the glove with another sterile towel, and the compressed air causes the fingers to be everted with a rush. Dry the outer surfaces with a sterile towel. Place the gloves in a sterile towel with a piece of sterile gauze between the gloves and on top. Fold and pin the towel. They can be kept several weeks without deterioration. To put on the gloves for use, cleanse the hands and dry them on a sterile towel; open the package of gloves, with the gauze pick up a glove and thrust a hand into it. The gloved hand picks up the second glove with the piece of gauze and the other hand is clad. The pieces of gauze prevent contact of any part of the skin with the outer surface of the glove. If an adjusting of the finger-tips is necessary this is not done until both hands have been clothed. This method insures absolute sterility of the gloves, inasmuch as they have not come in contact with any object that was not sterilized.

15. **Bacteriology of Panophthalmitis.**—Johnston confirms the findings of previous investigators that Fraenkel's pneumococcus is the most frequent cause of panophthalmitis. While in some cases a mixed infection of pneumococcus and staphylococcus or streptococcus has been found, the pneumococcus is probably the essential etiologic factor.

18. **The X-Ray in Medicine and Surgery.**—Boggs classifies the cases which are amenable to *x*-ray therapy under four heads: 1. Those cases which respond readily and, as a rule, do not need surgical interference, such as lupus, epithelioma of the face, acne, eczema and tuberculous glands. 2. Those which should be treated for a short time, the mass removed and then continue *x*-ray treatment to prevent recurrence, namely, carcinoma. 3. Those cases of carcinoma which are considered inoperable should be treated to prolong the patient's life and make him more comfortable. 4. Many cases of tuberculosis in the initial stage respond to *x*-ray treatment. But here the *x*-ray should only be considered a useful adjunct.

New York Medical Journal.

August 20.

19 The Management of Genital Sores. E. Wood Ruggles.
20 *The Best Method of Operating to Affect a Radical Cure of Senile Hypertrophy of the Prostate Gland. Orville Horwitz.
21 The Finsen Light Treatment. Rollin H. Stevens.
22 *The Etiology and Treatment of Arteriosclerosis. O. T. Osborne.
23 *Talma's Operation for Cirrhosis of the Liver. L. B. McBrayer.
24 Renal Insufficiency. A. M. Crispin.
25 Surgery Under Difficulties in East Africa. Samuel Gurney.

20. **Senile Hypertrophy of the Prostate Gland.**—Horwitz studied 150 cases with the view of determining the best method of operating for the purpose of effecting a radical cure of senile hypertrophy of the prostate gland, and believes that the following conclusions are justifiable: 1. A routine method is not applicable; every case is a law unto itself. 2. The danger attendant on daily catheterism are greater than those of a radical operation performed at the onset of the symptoms caused by the obstruction. 3. The proper time to perform a radical operation is reached as soon as it becomes necessary to resort to daily catheterism. 4. The Bottini operation is of great surgical value. It is applicable to a large percentage of cases. In selected cases it is the safest and best method of relieving the obstruction caused by a prostatic hypertrophy. When stone in the bladder is associated with prostatic enlargement litholapaxy may be performed in conjunction with a galvanocautery prostatotomy. 5. A complete prostatectomy is justifiable if performed early, before secondary complications have supervened. The mortality from such operation varies between 5 and 7 per cent. 6. In feeble elderly patients with long standing obstruction and secondary complication the mortality ranges between 15 and 18 per cent. If the bladder is hopelessly disabled suprapubic drainage is the only justifiable operation. 7. In 90 per cent. of all cases the gland can be removed readily by means of a median perineal incision. The perineal operation recommended by Bryson is the operation of choice. 8. A suprapubic prostatectomy is safer if combined with perineal drainage. 9. Partial suprapubic prostatectomy is indicated in cases where a valvelike lobe exists which interferes with urination, or where there is a partial hypertrophy of one of the lobes. A complete suprapubic and perineal prostatectomy combined is wisest where there is enormous hypertrophy of the three lobes, especially when associated with tumor-formation giving rise to a stenosis of the prostatic urethra. 10. Perineal prostatectomy is best suited for those cases where the enlargement of the lateral lobes has a tendency to progress toward the rectum, to obstruct the

urethra, or to project backward into the bladder. 11. Prostatectomy always is attended with more danger than the Bottini operation and convalescence is more prolonged. In suitable cases the latter operation, therefore, is the one of choice.

22. **Etiology and Treatment of Arteriosclerosis.**—Osborne believes that while old age, nervous strain, over-eating, abuse of alcohol, etc., are contributing causes in the production of arteriosclerosis, the essential factor in the etiology of this condition may be traced to some error of secretion of the so-called ductless glands. After studying the glands that furnish secretions modifying blood tension, he throws out the hypothesis that a diminution of the thyroid secretion or an increase of the suprarenal secretion, or vice versa, may be the essential cause of arteriosclerosis. There may be too much suprarenal secretion or too little thyroid secretion at any age, but old age with its normal high arterial tension is probably due to an absence of thyroid secretion and the consequent, at least relative, increase of suprarenal secretion. All the other contributing factors in the production of arteriosclerosis are operative in a similar manner, and any treatment to be successful must aim to diminish the high blood pressure. This can be accomplished by thyroid extract in small doses if we believe there is evidence of diminished thyroid secretion, and it must be remembered that any small dosage of iodids will stimulate the thyroid gland to greater activity and hence the long-known value of this drug in arteriosclerosis. The prohibition of all drugs and agents that have a contracting influence on the blood vessels will be followed by the best result. The great value of rest, especially mental, must not be forgotten. The moderate use of tobacco after thirty years of age may be of benefit to these hypertension cases rather than otherwise. It is a narcotic to the brain, which removes a certain amount of nervous tension, and it is a vasodilator, which in moderate amount will not weaken the heart. In excessive amounts, however, it will precipitate a cardiac insufficiency. In cases of arteriosclerosis without kidney or liver lesion in a patient of sixty years of age or more, it is quite possible that small doses of alcohol, especially at night, may cause sufficient vasodilation to produce some bettering of symptoms, but this same improvement can be obtained by nitroglycerin in small doses, even as little as 1/400 of a grain, three or four times a day. Osborne concludes by throwing out the suggestion that it is possible that in the future one of the suprarenal glands might be removed or its artery tied in gout and arteriosclerosis.

23. **Talma's Operation.**—McBrayer reports a case of cirrhosis of the liver occurring in a male patient aged 57 years, in which he did a Talma's operation, the operation proving successful. Prior to the operation the patient was scarcely able to walk, there was marked ascites, and he was very much emaciated. Now he is up all the time, walks anywhere on a level and up and down stairs, his jaundice has disappeared and he has gained twenty pounds in weight with two pounds of his normal weight. The ascites has not required paracentesis for over three months. The only medical treatment he has had is 15 grains of compound jalap powder, as needed, and 1/30 gr. strychnin nitrate, three times a day.

Medical Record, New York.

August 20.

26 A Possible Cause of High tension Pulse in Nephritis. W. H. Thomson.
27 *Treatment of Rupture of the Posterior Urethra. Weller Van Hook.
28 Primitive Medicine. E. J. Kempf.
29 *Alcoholism and Drug Habits: Their Pathology and Treatment. K. A. Enlind.

27. **Rupture of the Posterior Urethra.**—The study of the literature of injury of the posterior urethra by external violence, says Van Hook, leads to the unavoidable conclusion that primary operations should be resorted to whenever possible under a technic somewhat as follows: In the lithotomy position, with the grooved staff introduced through the urethra into the perineal tissues, immediate incision is made, beginning a half-inch in front of the rectum and extending forward toward the scrotum an inch to an inch and a half. While the skin may be divided freely, the deep tissues are only to be incised beneath the sound at a point posterior to the bulb of the urethra. The bulb of the urethra may then be drawn forward by means of a blunt hook, and the ends of the urethra must be sought. The distal portion of the urethra is found at once because the sound passes through it. If the finger be passed over the deep surfaces of the wound, smooth mucous membrane may be felt guiding the operator to the proximal end of the tube. With full exposure of the wound surfaces the proximal end of the urethra may be found by probing. In a recent case a large probe must be used, or even a catheter, but if cicatrization has occurred a fine probe or a grooved director must be used. Van Hook's method of palpation, which is original with him, is as follows: By palpation with the volar surface of the finger the urethra can be rolled under the pubic arch as a somewhat flattened cylindrical mass. This mass is fixed by the fingers against the bone, and a longitudinal incision is made through the middle of it. The finger is then introduced into this opening and the slippery mucous membrane can be recognized without difficulty. The method may be carried out without the aid of inspection, if desired. This is an advantage in cases where hemostasis is difficult. When defects of the urethra are great enough to prevent the ends from being approximated without too great tension several alternatives are open for consideration: 1. The method of Ljunggren, which can not, however, be recommended as a routine method. It makes too great demands on the regenerative power of the urethral tissues, increases the period of healing and probably heightens the danger of infection. 2. The parts of the urethra may be loosened from their bed. 3. The method of Ekehorn, an autoplastic operation. The after-treatment of these cases consists in the use of urinary antiseptics, the administration of large quantities of water, free drainage, carried out according to the views of the operator, and the passage of sounds to prevent the contraction of scar tissue. Van Hook believes that the use of a catheter *a demeure* is harmful rather than beneficial. As a rule, if the bladder needs immediate drainage by a tube, it is better to leave a very large catheter or tube in the bladder to pass out of the perineal wound, which is left almost without transverse suture. The use of the permanent catheter in the presence of infected urine often produces a suppurative urethritis that may result in permanent damage to the canal.

29. **Treatment of Alcoholism and Drug Habits.**—The author's treatment consists of thorough elimination and the stimulation of the nervous system by rest, fresh air, exercise and diet. Large doses of strychnin and drugs of a similar class should be avoided, as they have a tendency to aggravate the nerves. Medicines of nerve tissue building properties should be used in large and frequent doses. In case a heart stimulant should be required liberal doses of spartein sulphate can be used with perfect safety. His personal experience with the various preparations of ergot has been very unsatisfactory. As a curative agent ergot is a failure; as an aid in restoring the vascular system to a normal condition after the addiction has been cured ergot is of material benefit.

Cincinnati Lancet-Clinic.

August 20.

30 Prescriptions of Fifty Years. Charles T. P. Fennell.
31 Face Blemishes. F. E. Wisecup.
32 Acute Lacunar Tonsillitis. Frank H. Lamb.
33 Couple of Simple Points in the Diagnosis of Enlarged Prostate. C. M. Harpster.

Archives of Ophthalmology, New York.

July.

34 *Empyema of the Frontal Sinus, Orbital Complication Treated by Superheated Steam. David Dennis.
35 Choroidal Hemorrhage Following Cataract Extraction. Alex Quackenboss.
36 Trachoma Among the Ancient Greeks and Romans. C. V. Fukala.
37 *Extirpation of the Lachrymal Sac After Injection of Paraffin. Frank C. Todd.
38 A New Formation of Elastic Tissue in the Anterior Chamber of the Eye. Alfred Wiener.
39 Hereditary Optic Atrophy. Arnold Knapp.
40 Severe Pseudo-membranous Conjunctivitis in an Infant, Presumably Due to the Influenza Bacillus. Arnold Knapp.
41 *Parinaud's Conjunctivitis. F. H. Verhoeff and G. S. Derby.
42 Fibromyoma of Bulbar Conjunctiva. Kenneth Scott.
43 The Relation Between the Ocular Muscles and Refraction. S. M. Payne.

34. **Empyema of the Frontal Sinus and Superheated Steam.**—Dennis emphasizes the importance of conservative treatment in the orbital complications of empyema of the frontal sinus. Steam is safe, thorough, reaching all points of the sinus. With proper precautions this will leave a minimum amount of disfigurement. The operation is comparatively easy to perform. It is not applicable to cases of necrosis, or where the disease has extended to the brain. It may be used to advantage combined with the radical operation. Any apparatus can be utilized that will insure high temperature. The most available would be one of the forms of steam atomizers used for throwing carbolic acid spray. There should be a pipe leading into a small additional metal chamber to one side of the atomizer, under which a second alcohol lamp is placed, so that the steam may be still further heated and freed from moisture. From this second chamber a rather heavy rubber hose should lead to a small metal pipe. A small silver eustachian catheter answers the purpose very well. This should be passed through a large wooden handle, so that the heat will not burn the fingers of the operator. The tissues around the opening must be protected from the steam, and a paste made of powdered asbestos may be used. This paste is packed around the tissue and is far superior to cold compresses. The rubber pipe should be closed by pressure while taking the tip in and out of the sinus, otherwise the tissues will be burned.

37. **Extirpation of the Lachrymal Sac.**—Todd describes his method of extirpating the lachrymal sac after its injection with paraffin as follows: After the patient has been prepared properly the contents of the sac are pressed out and the sac is thoroughly and repeatedly irrigated with boric acid solution and with argyrol or another antiseptic. By means of a suitable syringe paraffin, at a melting point of 110, is injected through the lower canaliculus into the sac until it is completely filled. This at once hardens and the sac is outlined perfectly. An incision is made in the skin over the sac in its long axis, extending from one-fourth of an inch below the dome down toward the lower extremity of the swelling. The sac is exposed, can be seen easily, and is dissected out by means of a knife, dull instruments and scissors. It should be followed well down into the duct; if it is buttonholed no damage is done, as the paraffin is hard and will not escape. Any necrosed bone found should be curetted and drainage will take place into the nose. The skin is sutured and the canaliculi destroyed by cauterization. By following these directions no large vessels will be cut and the entire incision may be made below the tendo oculi. If the latter is cut it should be sutured. When a general anesthetic is administered the patient's head may be dropped over the end of the table, as in adenoid operations, to allow the hemorrhage to run out of the nostrils and prevent its entrance into the larynx. If cocain is used, some should be injected into the sac previous to the injection of paraffin; and before making the incision the skin is anesthetized by the infiltration method, in which case adrenalin also may be used.

41. **Parinaud's Conjunctivitis.**—The authors add one more case of this disease to those already recorded. The symptoms were typical of the disease as described by Parinaud. All the outgrowths were excised and ichthyol ointment was applied externally to the swollen glands, and liquor potassi arsenitis, minims 8, was administered internally three times a day. After three weeks the process began to retrograde, the vegetations ceased forming, the lid returned to nearly normal size and the glands subsided without showing fluctuation. Three months after the patient was first seen the eye was practically well; there was still a slight degree of ptosis and some induration in front of the ear. The scars resulting from the excisions are visible, but have produced no apparent cicatricial contraction. The authors made a very careful bacteriologic and histologic examination and summarize as follows: The lesion consists essentially of marked cell necrosis in the subconjunctival tissue with extensive infiltration of the latter with lymphoid and phagocytic epitheloid cells. This is accompanied by chronic inflammatory reaction of the deeper tissue leading to the process of organization and the production of new fibrous tissue. The agent which produces the local lesion is non-pyogenic, suppuration, when its does occur, probably being due to a secondary infection. The infection is, in all probability, not due to any of the known micro-organisms. The theory of animal origin is founded on insufficient evidence. The most efficient treatment consists in the early and repeated excision of the polypoid vegetations.

Annals of Surgery, Philadelphia.

August.

44 Observations on the Results in 125 Cases of Sarcoma. Andrew J. McCosh.
45 The Combined Transverse and Longitudinal Incision in Laparotomy. Lewis A. Stimson.
46 *Peptic Ulcer of the Jejunum. A. W. Mayo Robson.
47 *The Treatment of Post-operative Vomiting by Gastric Lavage. Charles S. White.
48 Primary Spasm and Hypertrophy of the Pyloric Sphincter, and Resultant Enormous Dilatation of the Stomach. Michael J. Rebert.
49 Congenital and Infantile Omentocele on Same Side, Separated from Greater Omentum and Peritoneal Cavity. Jacob Frank and Wm. T. Eckley.
50 Unsuspected Lesions in Movable Kidneys Discovered During Nephropexy. Frank E. Taylor.
51 Transverse Ectopy of the Testes. Albert Ashton Berg.
52 Osteomalacia in the Male. Thomas A. Davis and D. J. Davis
53 Physiological Salt Solutions. Frank S. Mathews.

46. **Peptic Ulcer of the Jejunum.**—Robson reports a case of peptic ulcer occurring in the jejunum three years and four months after gastro-enterostomy, which he treated by performing an enterectomy and Roux' operation. The patient made a complete recovery.

47. **Treatment of Post-Operative Vomiting by Gastric Lavage.**—White's method is based on the etiology of post-operative vomiting, namely, that during anesthesia there is a condition of atony of the stomach walls, together with an exudate of chloroform or ether into the stomach, acting as an irritant, and there is formed in their presence an increased amount of toxic substances. The lavage is performed immediately after the anesthetic is stopped and before the patient leaves the table. The stomach tube required is one of the usual length, size and moderately stiff, one eye in the extreme end, the second half an inch from the end, and the third an inch from the end, but opposite the second. No pump or bulb is necessary and the rubber funnel usually attached should be replaced by one of glass. While the patient is thoroughly under the anesthetic a mouth gag separates the jaws, the head resting on the occiput. The tube is inserted well back against the pharynx and gently pushed down into the esophagus until the end enters the stomach. The occasional esophageal spasm is best overcome by steady gentle pressure. Salt solution or sterile water is poured into the funnel, held about two feet above the patient, until a pint and a half or two pints are used; then the funnel is inverted close to a bucket on the floor at the right of the table, and at the same time the patient's head should be rotated strongly toward the right. This process should be repeated once or twice or until the fluid returns clear. In removing the tube from the mouth it should be pinched tightly until it is withdrawn so the fluid it may contain does not flow back into the mouth. Although this method has not abolished post-operative vomiting, it has lessened it to a very great extent. It is essential that the patient should be well under the anesthetic at the time the tube is inserted. There are three conditions in which this prophylactic treatment is indicated: 1. In cases where there has been insufficient time to prepare the patient properly. 2. In cases where the anesthetic lasts an hour or more. 3. In cases where the patient, previous to operation, has suffered with attacks of nausea and vomiting or chronic gastritis.

Journal of Medical Research, Boston.

August.

54 *Studies on the Tuberculin Reaction. E. L. Trudeau, E. R. Baldwin and H. M. Kinghorn.
55 The Production of Hemolytic Serum by Injecting Animals with Different Constituents of Erythrocytes. P. A. Levene.
56 The Biological Relationship Between Proteids. P. A. Levene.
57 The antihemolytic Action of Some Cells and Tissue Constituents. P. A. Levene and E. R. Baldwin.
58 Action of Pepsin Digestion on Tuberculin. H. M. Kinghorn.

59 Studies on Tuberculous Serums and the Bacteriolysis of Bacillus Tuberculosis. E. R. Baldwin.
60 Antituberculin or Tuberculin—Precipitin Serums. E. R. Baldwin.
61 Differences in Precipitins Produced by Tubercle Bacilli. E. R. Baldwin.
62 Effect of Bacillus Mycoides XIII on Local Tuberculosis. H. M. Kinghorn.
63 The Biochemistry of the Bacillus Tuberculosis. P. A. Levene.

54. The Tuberculin Reaction.—The authors have carried on a series of experiments having as their object the better understanding of the nature and specificity of the tuberculin reaction. The subjects for inquiry which prominently suggested themselves were: 1. Can the diagnostic use of tuberculin scatter the disease and produce new tuberculous foci? 2. What relation has healed or eradicated tuberculosis to the reaction? 3. Is the reaction always dependent on the presence of specific tubercle? 4. What relations have the alleged reactions from other substances to the true tuberculin reaction? Is the reaction due to enzymes like trypsin? 5. How long after infection with tuberculosis does reaction-susceptibility begin? 6. What constituent of the tubercle bacillus induces reaction-susceptibility in the animal? The conclusions arrived at in answer to these queries are as follows: 1. In localized corneal tuberculosis of the rabbit's eye no spread of the disease could be observed after the use of tuberculin injections. On the contrary, a favorable absorptive influence was noted on the diseased focus. 2. Extirpation of a tuberculous focus was followed by loss of reaction-susceptibility in the one rabbit where the operation was thorough. 3. No signs of local reactions were found about the capsules containing tubercle bacilli, except when imperfectly sealed. The temperature elevations gave no evidence of susceptibility to tuberculin resulting from the presence of bacilli in the filter capsule. Hence it is evident that either the poison contained in the bacilli was not diffused through the capsules in sufficient amount to produce susceptibility in the surrounding tissue, or, if so diffused, did not remain in store in the tissues, as has been assumed to be true of tubercles containing actual living or dead bacillus. In either case the presence of tubercle bacilli or their substance in the tissues appears necessary to a true tuberculin reaction. Moreover, the nuclein substance of tubercle bacilli will not pass through a filter, and it is known by chemical research to be the most important poison in tubercle bacilli. 4. Temperature and local reactions may occasionally result from the injection of trypsin, pepton and sodium cinnamate, but only when large doses were injected, whose bulk might produce constitutional disturbance and fever. Atropin produced no reaction in moderate doses. Local reactions occurred seldom, and, except in fatal poisoning by pepton, did not bear a close resemblance to the typical tuberculin reaction. It is possible that pepton contains proteid substances chemically similar to tuberculin, the injection of which excites more or less reaction in the tuberculous tissue. The direct action of trypsin on tuberculous abscesses failed to produce reaction, and thus did not favor an enzyme theory of the tuberculin reaction. 5. The temperature variations noted preclude uniform results from tuberculin reactions in the early stages of tuberculosis. The reaction-susceptibility is apparently distinct on the fourth and fifth days after inoculation, then irregular until the thirteenth and fourteenth days, after which the reactions are the rule. Since ten to fifteen days are required for the full development of tubercle, it is more than probable that the specific susceptibility is not fully acquired until this stage is reached. 6. The tuberculin-extracted bacilli used probably still retained enough active substance to produce susceptibility. The fat-extracted bacilli appeared to have more reacting substance than the others. Neither were completely extracted so as to be free from intact well-stained tubercle bacilli. The nuclein substance of the bacilli was presumably more abundant in the fat-extracted bacilli, and may produce reaction-susceptibility independently of the fat, though this is only suggested by the results of the experiments.

Journal of the Michigan State Medical Society, Detroit.

August.

64 *Treatment of the Intestinal Fistulas by the Elastic Ligature. Theodore A. McGraw.
65 The Influence of Breast Feeding on the Infant's Development. Henry Dwight Chapin.
66 Cow's Milk for Infant Feeding. Augustus Caillé.
67 Milk Laboratories. John Lovett Morse.
68 *Substitute Feeding During the First Year. Thomas Morgan Rotch.
69 Difficult Cases of Feeding. L. Emmett Holt.

64. The Elastic Ligature in Intestinal Fistulas.—McGraw considers the etiology and pathology of intestinal fistula, and in speaking of the treatment, describes his method of procedure, which obviates the necessity of a second operation in these cases. The bowel is drawn out of the wound until a portion is reached that is nearly normal in appearance, and then a lateral anastomosis is made between the two limbs with an elastic ligature, the idea being to provide a passage for the bowel contents and thus enable the false anus, which is no longer needed, to heal. After the ligature has been applied the bowel is disinfected and all that seems in condition to recover is pushed back into the peritoneal cavity. That part which is mortified, and that which appears dangerously near mortification, is fastened outside of the abdomen by stitching it to the abdominal wall. The immediate result of such a procedure would be the relief of the distended bowel by means of the false anus and the gradual subsidence of internal congestion. When that had taken place and the ligature had cut through, it was hoped that the fistula would heal spontaneously or could be made to heal by inverting the ends of the protruding bowel—a simple operation of little danger. Two cases are reported which, though fatal, were both successful in opening the passage between the afferent and efferent bowel, and in obviating the passage of feces through the false anus. In both cases the false anus had begun to heal before death cut the matter short.

68. Substitute Feeding During First Year.—Rotch's article reiterates what he has said before, that infants can not be fed by rule of thumb. We can only lay down the general principles governing the milk supply and subsequent modification of the milk and, finally, its adaptation to the individual infant. Each infant must be studied by itself. The most successful feeder of infants will be the man who is thoroughly acquainted with the many resources in our modern methods of percentage feeding, and who can appreciate the individual needs of the especial infant.

Journal of Nervous and Mental Disease, New York.

August.

70 *Remarks on the Surgical Treatment of Obstetrical Paralysis. Royal Whitman.
71 The Retrograde Atrophy of the Pyramidal Tracts. J. Ramsey Hunt.
72 Manic-Depressive Insanity, with the Report of a Typical Case. John W. Stevens.
73 Microscopic Study of the Non-compressed Spinal Cord in a Case of Pott's Disease. Alfred Gordon.

70. Surgical Treatment of Obstetric Paralysis.—Whitman divides these cases into three classes: 1. Those seen soon after birth, in which the paralysis may be combined with other, and what is often considered more serious injury, such as fracture. 2. The cases brought for treatment during the latter part of the first year when it has become apparent that complete recovery is doubtful. 3. The cases seen in childhood and adolescence when treatment is sought from the hope that the disabled arm may be made more useful. In the first class the treatment is rest and the infant's arm should be fixed to the chest with the fingers extended. Gentle massage, flexion, extension and supination of the forearm, manipulation of the fingers, and the like, should be employed. As soon as the local sensitiveness has subsided the same treatment should be applied at the shoulder. In the second class manipulation and forced movements at each joint, with the aim of regaining the entire range of normal motion, is a first essential, combined with systematic exercise, as far as is compatible with the intelligence of the patient. It is during this period that progressive distortions occur, which in themselves prevent recovery, and it is never possible to estimate the degree of irremediable injury to the nervous apparatus until they are overcome. The most important of the distortions due to obstetrical paralysis is the subluxation of the

humerus downward and backward. Cases of this character are often classified as congenital rather than acquired dislocations of the shoulder. The author's method of treatment of this displacement, both the congenital and the acquired, has been somewhat similar to that of the reduction of congenital dislocation of the hip. Contractions are overcome by leverage of the arm, first in an elevated and an extended attitude, the aim being to force the head of the humerus forward. It is then pushed upward by lowering the arm, and finally, by adducting it forcibly while the scapula is fixed as well as may be. When the displacement has been reduced other contractions are stretched. The limb is then fixed, usually by adhesive plaster and the plaster bandage, with the elbow behind the thorax and with the forearm, if practicable, in supination across the chest. This fixation is continued for weeks or months, as may be necessary. After its removal more or less forcible manipulation must be carried out, with the aim of preventing the tendency toward recurrence of the former attitude. If the paralysis of the deltoid muscle is complete the head of the humerus must be held in its new position and in outward rotation until it becomes securely fixed, or, if necessary, the attitude may be assured by arthrodesis. If the injury to the brachial plexus has been extensive and subluxation of the humerus is not present, operative treatment may be of value in lessening the disability.

Bulletin of the Johns Hopkins Hospital, Baltimore.

July.

74 The Biography of Stephen Hales, D.D., F.R.S. Percy M. Dawson.
75 *A Case of Cancer of the Mamma Cured by Means of Roentgen Rays. E. Schiff.
76 Thrombosis of the Internal Iliac Vein During Pregnancy. F. C. Goldsborough.
77 Changes in the Nervous System After Parathyroidectomy. Colin K. Russell.
78 The Relation Between Carcinoma Cervicis Uteri and the Rectum, and Its Significance in the More Radical Operations for that Disease. John A. Sampson.
79 Observations on a Study of the Subclavian Artery in Man. Robert B. Bean.
80 *The Blood in Pregnancy. Wm. L. Thompson.
81 A Case of Generalized Lead-Paralysis, with a Review of the Cases of Lead Palsy Seen in the Hospital. Henry M. Thomas.

75. **Breast Cancer Cured by the Roentgen Ray.**—Schiff reports such a case on account of the most favorable result of the cure and also because he was enabled to study the case histologically. The left thorax was invaded by a tumor with large basis and of a solid consistence, extending from the left sternal margin to the axillary cavity where it reached the glands and formed a hard bunch. The surface was ulcerated and bled when touched. Ten or twelve tumors of about the size of a hazelnut were located along the lower border of the larger tumor. Five similar nodules were located on the back of the patient. Beneath the mass of enlarged axillary glands existed a crateriform cavity having gangrenous edges and a necrotic base. The supra- and infra-clavicular glands were hard. The diagnosis was inoperable cancer *en cuirasse* of the left mamma with lenticular metastases of the cutis. It was decided to use the Roentgen ray, and after the third sitting the pains diminished considerably and the purulent discharge was lessened. Improvement continued, and four months after beginning the treatment, excepting some superficial excoriated parts, a flat scar, crossed by some enlarged capillary vessels, had taken the place of the former tumor. The cutaneous metastasis had disappeared, and all the lymph glands had become soft and were diminished in size. The general health of the patient was good. An examination of the fragment of the lenticular nodule of the back, which was considerably diminished in size by the treatment, showed that the greater portion of it consisted of large fibers, poorly nucleated, having the appearance of cicatricial tissue. Between the fibers were seen leucocytes. The deeper parts of the fragment contained cancerous tissue in the shape of small bundles of cells separated by a stroma of very thin fibers. A fragment of the granulated surface of the cancerous ulceration showed the normal appearance of granulation tissue with many new-formed capillary vessels. Another fragment excised near the preceding one showed beneath a regenerating epidermis a large layer of cutis, and in its lower layers a small nest of cancerous tissue composed of six or seven cones pressed together.

80. **The Blood in Pregnancy.**—Thompson conducted a series of observations concerning the blood state of pregnancy in 12 cases, all living under practically the same hygienic and dietary conditions, suffering from no constitutional disease and having no special pathological affections. The observations covered a period of seven months, and each patient was examined once a month during that time. Two of the cases first came under observation at the second month of pregnancy; two at the third month; four at the fourth month; three at the fifth and one at the sixth month. Four of the cases were followed throughout their pregnancy and subsequent delivery, and eight are still under observation. The examination in each case included (1) an enumeration of red blood corpuscles; (2) estimation of hemoglobin percentage; (3) leucocyte count; (4) differentiation of leucocytes, and (5) determination of specific gravity of the total blood content. From these examinations the author draws the following conclusion: 1. A moderate decrease is observed in red blood corpuscles rather early in pregnancy, remaining subnormal throughout the middle months, to rise again to normal at the termination of pregnancy—not, however, in all cases. 2. A low percentage of hemoglobin constant throughout the first seven months, rapidly approaching normal as pregnancy draws to a close. 3. A slight absolute leucocytosis exists in every case of pregnancy, but this does not support the theory that it is due to positive chemiotaxis. 4. There is no variation from the normal in the different forms of white corpuscles, the leucocytosis affecting all forms of white cells alike. 5. The specific gravity is high at the onset of pregnancy, diminishing by progressive steps to reach its lowest level in the middle months, rising to normal at term.

Journal of Cutaneous Diseases, New York.

August.

82 *A Peculiar Eczematoid Eruption of the Lip Region. Henry W. Stelwagon.
83 A Second Case of Creeping Eruption. Henry W. Stelwagon.
84 Some Notes Concerning Domestic Remedies Formerly Used in Skin Diseases. James C. White.
85 Reasons for Considering Dermatitis Coccidioides an Independent Disease. Douglass W. Montgomery and Howard Morrow.
86 A Case of Multiple Myomata of the Skin. W. A. Hardaway.

82. **Peculiar Eczematoid Eruption.**—Stelwagon describes cases of eruption about the region of the lips that had many of the aspects of eczema, but with such unusual features as to give it a distinctive stamp. The eruption usually begins on the vermilion of the lips, and shows at first as a slight superficial eczematous irritation with scanty exfoliation, and in some cases, or at times in the same case, variable crusting. There never seems to be any liquid exudation. There is rarely any distinctive thickening or infiltration; some burning and heat are sometimes complained of, but seldom any troublesome itching. Slight fissuring is not uncommon, especially at the angles of the month, and these may be painful. The condition may retrogress and fluctuate, or even relative or complete recovery take place, to be followed, as a rule, sooner or later by collapse. After some weeks or months the disease generally extends somewhat on to the skin proper, either more or less evenly or with a slight or pronounced segmental border. Usually after some duration, or sometimes coincidently with the lip involvement, the malady spreads inward to the contiguous mucous membrane, where it appears first as an ill-defined pinkish discoloration, which later looks somewhat thickened, of a deeper red, and with or without a superficially abraded or coated surface, sometimes slightly roughed. The disease is limited usually to the lower lip. In two or three instances the upper surface of the tongue also was invaded, but the invasion was not characteristic of leukoplakia. Usually the mucous parts are only slightly sensitive or tender, except when the patient takes very hot drinks or acid fruits. The neighboring cutaneous surface also becomes invaded. The face lesions are rarely seen higher up than the level of the alae nasi, their most common region being just beyond these parts and near the angles of the mouth and on the chin. The disease is evidently of a benign character, and leaves absolutely

no trace. The interest naturally centers itself in the question of diagnosis, which hovers between eczema seborrhoicum, lupus erythematosus or a disease *sui generis*. The disease on the skin is rebellious and that on the mucous membrane seems almost irremedial. The treatment of the cutaneous lesions that seems to be most useful is similar to that of eczema seborrhoicum. On the vermilion of the lips occasional mild superficial cauterization with liquor potassæ and the subsequent application of a soothing ointment will have a curative influence. After relief is afforded attention to the digestive tract will do much toward warding off relapses, which are the rule. Beyond the maintenance of the free action of the bowels and caring for the digestive functions, little else seems to be called for or is of any distinct service in the way of constitutional treatment.

Journal of the Mississippi State Medical Association, Vicksburg.

August.

87 *Address on Hookworm Disease or Uncinariasis, with Special Reference to Its Eradication. Charles Wardell Stiles.
88 Malaria; Its Causes and Treatment. J. M. Alford.
89 Treatment of Broncho-pneumonia. H. L. Sutherland.
90 The Importance of Early Diagnosis in Syphilis. S. W. Johnston.

87. **Hook-Worm Disease.**—Stiles describes the species of hookworm found in man with reference to its general structure, its habitat, eggs, embryo and method of infection. The classes of cases and the symptoms of the disease are discussed thoroughly, special emphasis being placed on the so-called "hookworm stare" and the findings in the feces. The distribution and economic aspects of the disease also come in for their share of attention. With reference to its prevention Stiles says that the most rational and radical method of procedure is to dispose properly of the fecal discharges, as these are directly responsible for the conveyance of the infection. It is necessary, first, that state and local boards of health call attention to the necessity of building properly constructed privies, using them after they are built, and cleaning them periodically. Second, the physician after seeing his patient, should inspect the hygienic conditions of the premises and instruct the family in the methods by which the disease is spread. Cotton mills and other factories should instruct their employes in the fundamental principle of hygiene which will restrict the spread of hookworm disease. Men seeking employment in mines should be subjected to examination for hookworms and, if found infected, should be excluded from employment until they have been treated properly. Boiling or filtering the drinking water and personal hygiene are also of importance, but dwindle into insignificance when compared with the proper disposal of fecal matter. Stiles suggests the following treatment: Place the patient on a milk and soup diet for two or three days. Give an aperient to clear out mucus, which so frequently covers the worm. A mixture containing senna, 2 oz.; calomel, 6 gr., is divided into four doses, one dose to be given every two hours, beginning at noon. The following day give 31 gr. of thymol at 8 a. m. and again at 10 a. m., and magnesium or other laxative at noon. Caution the patient not to take any alcoholics while the thymol is in the body. If he is weak give stimulants other than alcohol. Let the anthelmintic treatment rest for a week, but give the patient good, nourishing food and iron. Repeat the treatment once a week until the parasites are all expelled.

Pennsylvania Medical Journal, Pittsburg.

July.

91 My View of the Profession. A. N. Neyman.
92 Some Drugs Useful in Cardiac Affections. Solomon Solis-Cohen.
93 The Syphilitic Nose and Throat. Charles P. Grayson.
94 *Some of the More Unusual Results of Movable Kidneys. Charles P. Noble.
95 Danger Signals of Intracranial Infection from the Pneumatic Cavities of the Ear and Nose. B. Alex. Randall.
96 The Upper Respiratory Tract. J. C. McAllister.
97 The Use of Myelocene in Catarrhal Deafness. W. B. Weldler.
98 Traumatic Rupture of Internal Viscera Without External Signs of Injury. W. G. Weaver.
99 Perforated Gastric and Duodenal Ulcers. John H. Gibbon.

94.—See abstract in THE JOURNAL, xlii, ¶13, p. 676.

Illinois Medical Journal, Springfield.

August.

100 *Vaccination. What to Do; How to Do It; What to Expect. Ezra R. Larned.
101 *A Unique Case of Imperforate Hymen. C. B. Horrell.
102 The Physician and the State. George W. Webster.
103 Relationship of Excretion of Common Salts to Dropsy and Renal Diseases. N. S. Davis, Jr.
104 Radioactivity. J. C. Sullivan.
105 Bacteriuria, with Special Reference to Coli Bacilluria. Arthur R. Elliott.
106 The Medical Treatment of Puerperal Eclampsia. H. H. Whitten.
107 Defects of Vision and Hearing in the Public Schools. J. W. Smith.
108 When to Operate for Appendicitis. S. C. Stremmel.
109 Report of a Case of Intestinal Obstruction. J. F. Percy.
110 *Infectious Ulcer of the Cornea. Wm. H. Wilder.
111 Acute Pancreatitis, with Report of Case. F. A. Guthrie.
112 Lumbar Puncture; Its Value in Diagnosis and Treatment. E. P. Cook.

100.—This article has appeared elsewhere. See THE JOURNAL of July 23, ¶62, p. 284.

101.—See abstract in THE JOURNAL, xlii, p. 1511.

110.—Ibid., p. 1441.

Medical Age, Detroit.

August 10.

113 Special Topography of the Ureter, Rectum, Liver, Pancreas and Spleen. Byron Robinson.
114 Compound Comminuted Fracture Associated with Dislocation of the Ankle Joint; Compound Comminuted Intercondyle Fracture. L. L. McArthur.
115 Tubercular Spondylitis—Etiology. Edwin W. Ryerson.

Kansas City Medical Index-Lancet.

August.

116 Stone in the Kidney; Its Diagnosis and Operative Treatment. Joseph Ransohoff.
117 The Early Diagnosis of Pulmonary Tuberculosis. H. C. Shuttee.
118 Notes on Some of the Newer Ophthalmic Remedies. Joseph S. Lichtenberg.
119 Malaria: Its Complications and Sequelæ. R. W. Caldwell.
120 Scabies. Halsey M. Lyle.

The Post-Graduate, New York.

August.

121 Care of the Newborn. Augustus Caillé.
122 A Contribution to the Treatment of Fractures of Both Bones of the Forearm. Carter S. Cole.
123 Tumors. Robert Langerhans.
124 Clinic by Dr. Albert Hoffa, Professor of Orthopedic Surgery in Berlin, Held at the Post-Graduate Hospital, June 3, 1904. Henry Ling Taylor.
125 Aural and Ophthalmic Clinic. S. B. St. John Roosa.
126 Dietary of the Child in Health and Disease. Herman B. Sheffield.

Quarterly Journal of Inebriety, Hartford, Conn.

July.

127 Summary of the Effects of Alcoholic Liquors on the Functions and Structures of the Human Body in the Small, Moderate and Large Doses, Both in Health and in Conditions of Disease. Also on the Degeneracy of Offspring. The late N. S. Davis.
128 Recent Contributions to Our Knowledge of Alcohol and Its Action on the Animal Body. Winfield S. Hall.
129 Evolutionary Pathology of Chronic Alcoholism. W. Ford Robertson.
130 Unconscious Pro-alcohol Influences in Literature. John Madden.
131 Disguised Intemperance. David Paulson.
132 Alcoholism and Tuberculosis. Legrain.

Washington Medical Annals, Washington, D. C.

July.

133 Early Diagnosis of Pott's Disease. Frank P. Vale.
134 The Value of a Knowledge of Abnormal Mobility of the Iris as an Aid in Diagnosing Diseases of the Nervous System. D. Kerfoot Shute.
135 Three Cases of Endocarditis, in Two of Which There Was Also Pericarditis. D. S. Lamb.
136 Case of Chronic Pericarditis and Hypertrophy of Heart. D. Percy Hickling.
137 Scarlet Fever. Thomas N. Vincent.
138 Cases of Fibroids of the Uterus. Henry D. Fry.
139 Some Responsibilities of the Modern Obstetrician. Henry D. Fry.
140 Hypertrophied Pharyngeal, Faucial and Lingual Tonsils: Their Significance and Treatment. C. R. Dufour.
141 Case of General Cancer. N. D. Graham.

Canada Lancet, Toronto.

August.

142 Newer Methods of Diagnosis of Kidney Cases as Applied to Renal Surgery. W. A. Hackett.
143 Lithotomy vs. Litholapaxy. Charles B. Shuttleworth.
144 Oration in Surgery, Minnesota State Medical Association. Alexander Hugh Ferguson.
145 The Surgical Treatment of Enlarged Prostate. George A. Bingham.
146 Enlargement of the Prostate Gland. Frederick W. Marlow.
147 Treatment of Prostatic Hypertrophy. T. K. Holmes.

Dominion Medical Monthly, Toronto.

August.

148 Address, Ontario Medical Association. J. F. W. Ross.
149 Newer Methods of Diagnosis of Kidney Cases as Applied to Renal Surgery. W. A. Hackett.

Canadian Practitioner and Review, Toronto.

August.

150 Address, Ontario Medical Association. J. F. W. Ross.
151 A Case of Appendicitis in Pregnancy. John Sheahan.
152 A Restatement of the Attitude of the Profession Toward Placenta Previa. K. C. McIlwraith.

New York State Journal of Medicine, New York.

August.

153 Report on the Results in Infant Feeding with Different Kinds of Pure and Impure Milk in Tenement Houses of New York City. A Clinical and Bacteriologic Study. Wm. H. Park and L. Emmett Holt.
154 Treatment of Puerperal Infection. James Hawley Burtenshaw.
155 Non-surgical Treatment of Appendicitis. Peter Stockschlaeder.
156 Abortion, with Report of Cases. Jennie M. Turner.

California State Journal of Medicine, San Francisco.

August.

157 *Preliminary Report on a Peculiar Infection of the Mouth and Throat, with a New Variety of Oidium Resembling Thrush. H. R. Oliver.
158 Illustrative Cases of Myelogenous Leukemia—Preliminary Report. George H. Evans.
159 Concretio-Pericardii Cum Corde. George L. Cole.
160 Tendon Transplantation, with Report of a Case. S. J. Hunkin.
161 Intestinal Obstruction—with Report of Three Unusual Cases. C. S. Lockwood.
162 Surgical Anatomy of the Inguinal Canal. Claire W. Murphy.
163 Uretero-cystostomy, with Report of Case. J. Henry Barbat.
164 Innervation of the Heart and Use of Cardiac Stimulants in Treatment of Shock. O. O. Witherbee.
165 Determination of the Functional Capacity of the Kidneys with Special Reference to Kidney Surgery. M. Krotoszyner.

157.—To be noted editorially.

Mobile Medical and Surgical Journal.

July.

166 Cardiac and Vascular Complications and Sequels of Typhoid Fever. Jerome Cochran Lecture. William Sydney Thayer.
167 Some Remarks on Hookworm Disease. Claude A. Smith.

Physician and Surgeon, Detroit.

June.

168 The Present Campaign Against Insanity. William J. Herdman.
169 Report of a Case of Cellulitis Involving the Arm and Forearm. Dean Loree.
170 A New Retractor for Mastoid Operation. Emil Amberg.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 13.

1 Discussion on Standards of Ventilation. Drs. Haldane, Jones, Oliver, Hay, Thomas, Symons, Hunter and Groves.
2 Discussion on Compressed-air Illness or Caisson Disease. Drs. Oliver, Smith, Snell.
3 The Influence of Antenatal Conditions on Infantile Mortality. G. F. McCleary.
4 *Discussion on Malta Fever. Drs. Bruce, Bassett-Smith, Hutton, Grech, Clarkson and Preston.
5 A Naval Surgeon's Notes. John Lloyd Thomas.
6 The General Hospital in War; Its Working and Staff. C. R. Kilkelly.
7 Is the Widespread Slight Training in Ambulance Work Beneficial to the Community? S. Hamilton.
8 *The Organization of the Treatment of Syphilis in the Navy. P. H. A. Clayton.
9 *Note on the Wounded in the Naval War Between Japan and Russia, 1904. S. Suzuki.

4. **Etiology of Mediterranean Fever.**—Bassett-Smith summarizes his paper as follows: Mediterranean fever shows no sign of decrease at Haslar. Both officers and men suffer severely, but the percentage of young officers and men in early adult age is proportionately great. All ships appear to be equally affected, according to the time spent by them at Malta Harbor, the permanent harbor ships giving the most cases. Men very frequently contract the fever while in Malta Hospital, while admitted for other diseases, and the nursing staff in attendance on them show a great tendency to develop the disease, but whether that is due to its endemicity or to direct infection there is no clue. Most of the cases occur during May and June. There is no evidence of infection being received from the shore other than through the agency of wind-carried germs. The organism can retain its vitality for a considerable period when desiccated, but dies in about five days in sterile fresh and sea water and urine, but remains active long in sterile milk. The organism is very virulent in laboratory cultures, readily causing attacks when taken in by the mouth or through accidental inoculation. The micrococcus melitensis is present in the peripheral blood in all cases during the early stages and in severe pyrexial relapses. In the afebrile intervals and following cachexia it is not demonstrable. In no case is it very abundant. The disease may remain latent for several months, and relapses may occur for a period of two years at least, but when once completely cured it confers permanent immunity. The evidence at hand suggests that in the presence of bad sanitation, where the disease is endemic, infection is probably conveyed in dust by winds, mostly in the hot dry months following the rains, and that it gains access to the patient through some breach of surface, probably in the throat.

8. **Treatment of Syphilis in the Navy.**—Clayton says that men who have contracted syphilis should have the consequences of their misfortune impressed on them by giving them a small pamphlet of advice, and should, as far as possible, be prepared both for combating the disease and for preventing any ill effects of mercury by proper care of the teeth, etc. Their attendance for observation and treatment should be made a part of routine both in ships and shore establishments, and proper records of attendance kept. Such records should include the dates and nature of symptoms and treatment, and any other points of value, in order that to ensure continuity, the requisite information might be sent with the patient on transfer to another ship.

9. **Observations of a Japanese Naval Surgeon.**—Suzuki's experience during several actions has led him to the following conclusions as regards the surgical arrangements on board warships: 1. First-aid dressings are of importance if applied immediately after the injury, at the site of its occurrence, instead of being applied in the surgery or hospital. Ambulance parties should be stationed at various parts of the ship. The practical and careful education of ambulance parties is essential to future progress in the treatment of wounds. 2. The first-aid packages used in the navies of different countries are folded too small, as the wounds inflicted by shell fragments are always larger than those made by small caliber rifle bullets. A convenient size for the sterile absorbent cotton-wool is four inches square and one-quarter inch thick, covered with gauze and stitched in a few places around. To this pad the middle part of a gauze bandage eight feet long and four inches wide should be stitched and kept aseptic. This does away with the triangular bandage. 3. The modes of carrying the wounded vary with the size and build of the ship. Hand-carrying is practiced in small ships. In the battleships and first-class cruisers, stretchers may be used if the surgeons impress on the bearers how to handle them quickly. No one form of stretcher is suitable for all purposes on board ship. 4. On board warships in action surgeries should be provided in more than one place, even when there is only one surgeon on board. A place below water-line is preferable, but every ship does not allow surgeons to do this. 5. Slight protection may save serious injury to the body. It is possible that in time every combatant on board warships in action will wear some kind of a protecting mask and jacket, such as the rifle-proof jacket devised by the Germans some time ago. It is important to remember, in regard to the disposal of wounded men, that the non-firing side of a ship is more dangerous than the firing side, that is, the one exposed to the enemy, as the fragments of bursting shells are disposed in a radiating manner. 6. Strict observance of aseptic surgery is essential in military as in civil surgery, but the performance of serious operations on board warships is incompatible with the good progress of cases. It is advisable to transfer such cases as soon as possible to hospital ships. The surgeon-in-chief must take care to secure the fullest efficiency in the use of hospital ships as non-combatant steamers are desired to be left as far as possible behind the actual seat of war.

The Lancet, London.

August 13.

10 *The Value of the Addition of Citrate of Soda to Cow's Milk in Infant Feeding. F. J. Poynton.
11 Infective Cyclitis (So-called Sympathetic Ophthalmia). H. Percy Dunn.
12 Suggestions for the Prevention of Puerperal Infection in Private Practice. John W. Byers.
13 Nephritis in Infantile Scurvy. George F. Still.
14 *Interrupted Circulation as a Therapeutic Agent. Wm. Ewart.
15 An Epidemic of Acute Ophthalmia. Simeon Snell.
16 The Prevalence of Cancer and Its Increase. W. Rodger Williams.
17 Paralysis from Lesion of the Upper Part of the Brachial Plexus. R. T. Williamson.
18 A Case of Anterior Dislocation of the Semilunar Bone of the Wrist. Ernest W. H. Groves.
19 A Case of Sloughing Pancreas; Death from Secondary Hemorrhage. W. H. Brown.

10. Citrate of Soda in Infant Feeding.—Poynton attaches more importance to the peculiar nature of the fluid fed the infants as a substitute for mother's milk than to its percentage composition. It is not always possible to obtain the proper kind of milk, nor can all babies be fed alike because of individual peculiarities. For some time the author has been following a method proposed about eleven years ago by Dr. A. E. Wright, that of mixing with each feeding citrate of soda. The advantages accruing from the use of citrate of soda are: 1. It renders the curd of cow's milk more easily digestible. 2. It is cheap. 3. It is convenient to handle, easy to control and progressive in principle. 4. It allows the milk to be given in a more concentrated form and thus avoids, to some extent, the danger of underfeeding. 5. There is no danger of scurvy. 6. Given as a medicine it gains the confidence of the mother. The indications for its use are: (1) as a routine for weaning a healthy infant onto cow's milk; and (2) for correcting milk dyspepsia. The drawback is a tendency to constipation, which is, however, easily controlled. The limitations are: 1. In rare cases of complete intolerance of cow's milk. 2. In severe cases of gastroenteritis from impure milk. 3. In organic disease, such as congenital hypertrophic stenosis. 4. In very intractable cases which have been subjected to all sorts of different methods beforehand. As a routine method for the artificial feeding of the poor child, the best is citrate of soda in the milk, provided the milk is sound.

14. Interrupted Circulation as a Therapeutic Agent.—Ewart discusses the physiologic action of "interrupted circulation" in the treatment of rheumatoid arthritis. He believes that the emptied arteries suddenly receive a ramming charge when the tourniquet is removed, and that the internal surface of the capillaries and of the lymph spaces, in which they are immersed, is submitted to sudden stimulation. On the other hand, during the preceding stage of ischemia a certain amount of suction must have existed within them, not only owing to the collapse of the elastic tissues, but also from the intravascular negative pressure set up by the procedure. The tendency would be for the emptied blood vessels to suck up some of the remaining tissue lymph or in cases of inflammation some of the more fluid inflammatory exudates. In rheumatoid arthritis, with its special features of immobilization of the joints and of stagnation of the lymphatic circulation, both theories would fulfill direct indications; and it proves to do so in the two cases cited by the author. The technic is exceedingly simple. A padded armlet of soft leather, or a circular pad of lint and cotton-wool of sufficient thickness to protect the nerves having been secured round the upper arm, or the thigh, a loop of India-rubber tubing of suitable thickness is passed behind the limb over the pad, and the two ends of the loop are strongly put on the stretch with one hand. The other hand grasps the tubes close up to the front of the lint, thus tightening the loop into a strong ligature or tourniquet. The degree of arterial occlusion depends on the strength with which the two ends of the loop are pulled up, the limb having previously been drained of much venous blood by raising it and by stroking the larger veins empty. The compression quickly induces blanching of the skin and numbness of the extremity, similar changes doubtless taking place through the thickness of the limb. For ordinary purposes half a minute, or at most two minutes of this will suffice. The tube is then let go, and this is at once followed by a bright cutaneous flush of capillary injection and a pleasant feeling of warmth. The same maneuver is repeated, say six times, at intervals of a few seconds. Two or more such sittings may be used daily. In both the author's cases the results have been most satisfactory. The synovial and lymphatic effusions have been benefited more largely than the periarticular fibrosis, and this is consistent with the views expressed as to the probable mode of action of this method. In the treatment of the stiffness of joints there is a definite help in the numbness which accompanies the stage of ischemia, and which allows, within prudence, an increased amount of passive motion to be applied. The method would, therefore, be specially promising in the early stages and in the exudative forms of rheumatoid arthritis, it being understood that it is merely an adjunct in our treatment, from which we can not spare any other available resource, whether local or constitutional.

Medical Press and Circular, London.

August 10.

20 Difficulties Met in the Experimental Treatment of Cancer. Skene Keith.
21 The Present Position of Radium in Therapeutics. C. M. O'Brien.
22 New Methods of Treatment. Lucein Weyll.
23 The Mode of Origin of Nasal Polypi. Eugene S. Yonge.

The Clinical Journal, London.

August 10.

24 Clinical Lecture on Pain in the Chest. F. J. Smith.
25 Neurotic Children. Leonard Guthrie.
26 Personal Hygiene. Leonard Williams.

Calcutta Practitioner.

April.

27 *Hydnocarpus Oil in Diabetes, Rheumatism, Chronic Skin Diseases and Leprosy. Hem Chandra Sen.
28 Some Obscure Forms of Diseases of Joints and Diseases in Their Neighborhood. Suresh Chandra Bhattacharya.
29 Case of Chronic Malarial Fever. Indu Madhab Mallick.

27. Hydnocarpus Oil.—This oil is obtained from the seeds of *Hydnocarpus wightiana*, or *H. inebrians*, belonging to the natural order *Bixineæ*. It is a common tree found along the coast ranges of the western Gats. The seeds yield by expression or by boiling in water about 44 per cent. of oil which has a faintly yellow color and is devoid of any characteristic odor. It is allied to Chaulmoogra oil, but it does not, at ordinary temperature, deposit a crystalline fatty acid. Treated with sulphuric acid, the oil affords the gynocardiac acid reaction. The oil has been employed as a domestic remedy by the natives of the western coast ranges in skin diseases, ophthalmia, and as a dressing for wounds and ulcers. It is a gastrointestinal irritant and in large doses acts as an emetic and purgative. It is prescribed in doses of from 15 minims to two drams in cases of leprosy, various skin diseases, secondaries of syphilis, chronic rheumatism, and diabetes. When taking the oil the patient should take light liquid food, soft rice, etc. It is well to combine it with the decoction of catechu. When used as an ointment it is mixed with equal parts of sulphur, camphor, lime juice and jatropha carcus oil.

Presse Médicale, Paris.

30 (I, No. 51.) *Traitement des prurites. F. Trémolières.
31 La question du lait (of milk). P. Dilloth.
32 (No. 52.) *Cirrhose du foie et appendicite (cirrhosis of liver and ap.). T. Tuffier and A. Mauté.
33 Les abcès du foie dans la fièvre typhoïde. A. Guinard.
34 (No. 53.) *La cure radicale de la hernie crurale. Le procédé du rideau et de la suture des gaines (curtain act and suture of sheaths). H. Chaput.
35 A propos d'un cas de super tuberculisation. Contamination mutuelle des tuberculeux et nécessité de leur isolement individuel. P. Arnaud.
36 A propos des tremulations ventriculaires (in massage of heart). E. Gley.
37 Insuffisance nasale fonctionnelle, et ré-éducation respiratoire. M. Lermoyez.
38 (No. 53.) Technique de l'hystérectomie abdominale pour cancer du col de l'uterus (of neck). F. Jayle. Illustrated
39 Les toxicomanes. A propos d'un cas d' héroïn-omanie. G. Comar and Ruvat.
40 (No. 54.) L'analgésie locale par la stovaine. P. Reclus. See abstract, page 575.
41 *Traitement de l'hystérie et de la neurasthénie par l'isolement et la psychothérapie. A. Thomas.
42 *Le faux rein flottant (false floating kidney). A. Mayor.

30. Treatment of Pruritus.—Trémolières reviews the various endocutaneous, hematic and nervous causes that may contribute

to induce pruritus. He attributes it essentially to a pathologic condition, an exaggeration of the perpetual and reciprocal interchange of impressions between the nerve centers, the tissues, the viscera and the sensory and cutaneous terminals, a true nervous circulation, with a closed circuit. In this closed circuit excitations circulate and can not escape. They accumulate, and although each may be trivial in itself, yet by their accumulation they pile up a state of sensory excitability which in time manifests itself as pain or pruritus. Each cell stores up in its memory the excitations that have acted on it, and this "mnemodermia," as Jacquet calls it, aids in locating of a pain or pruritus later. For example, if the hands are chilled during a drive, a glass of spirits later in the day is liable to induce pruritus in the parts of the hands that had been most exposed. Pruritus may be described as the exaggèration of those elementary cutaneous sensations which emanate from the sensory fibers of the great sympathetic nerve. Prophylaxis of pruritus consists in avoiding nerve strain and overwork of all kinds, in studying temperance in all things, with an easily digestible diet, wearing linen or fine cotton next the skin, with exercise and cold douches or tubs, followed by frictioning, to aid in the distribution of the peripheral sensibility. Removal of the cause of the pruritus may be promoted by venesection, 200 to 250 gm., repeated after a few weeks if necessary. Among the symptomatic measures great relief may be obtained from tempered douches, once or twice a day, at 35 C., one to three minutes at a time, the jet interrupted, terminating with a brief, very cold douche. The various modes of treating pruritus by different authorities are reviewed, but the main stress is laid on prevention by removing the cause and reducing the general nervous excitability.

32. **Cirrhosis of Liver and Appendicitis.**—The influence of appendicitis on the liver is confirmed by the case described. The patient was a young man who succumbed to peritonitis the fiftieth day after the first vague symptoms of appendicitis. Two appendicitic abscesses had been evacuated. At the necropsy the organs were found sound, with the exception of the liver, which presented a typical picture of recent portal cirrhosis. There were no antecedents of alcohol, malaria or syphilis, and the connection between the appendicitis and the sclerous process in the liver seems unquestionable. Letulle, Achard and Dieulafoy have observed somewhat similar cases. All this testimony suggests that the plan of waiting and operating *à froid* in appendicitis may leave the liver and kidneys a prey to evils that might be avoided. The intensity of the infectious process and the reactional aptitude of the subject, with his inherited predispositions, will determine whether the result is trivial and transient or entails a chronic nephritis or cirrhosis of the liver.

34. **The "Curtain" Operation for Femoral Hernia.**—Chaput points out that in very large femoral hernias the neck of the sac extends in front of the femoral vessels in such a way that the hernia is liable to recur through the femoral canal, either in front of the femoral vessels or inward from the femoral vein. The best technic to prevent recurrence consists in pulling down, like a curtain, the internal oblique and the transversalis, as far as the pectineal spine, completing the operation by suturing the sheaths of the vessels to Poupart's ligament, both in front and inside, and also to the internal oblique. He has operated on 10 patients by this "curtain" technic, and has found it highly satisfactory in every respect.

41. **Isolation in Public Hospitals in Hysteria and Neurasthenia.**—Déjerine is so impressed with the value of isolation and psychotherapy in the treatment of hysteric and neurasthenic women that he has adopted these measures in his general hospital practice. He isolates the patient's bed in the ward by curtains around the bed, prohibiting all intercourse with the family, friends or even the nurses. The visit of the physician in the morning and of the interne in the evening, and the attendance of the nurses under the strict supervision of the head nurse, are the only means of communication between the patient and the world outside her curtains. The only exception is that other patients of the same category, improving or cured under this treatment, are brought to the bedside and allowed to describe the favorable results obtained in their case. The course of isolation and psychotherapy lasts at least three or four weeks, but it is astonishing how complete and permanent the cure attained in this way in the public hospital. These isolation cures have generally been regarded as the prerogative of the rich. During the first week or so nothing is given the patient but milk, from three to five quarts a day. Forty patients have been thus treated, and wonders have been accomplished in the cure of extreme emaciation, fixed ideas and the phobias of neurasthenics and of the contractures and paralyses of hysteria.

42. **Improved Technic of Palpation of Abdomen.**—Mayor mentions among other points that if vaselin be rubbed into the skin of the abdomen palpation is very much facilitated. The organs can be examined almost as if they were stripped of the parts above.

Berliner klinische Wochenschrift.

43 (XLI, No. 30.) *Further Inoculation from the Syphilitically Infected Chimpanzee. O. Lassar (Berlin).—Ueber eine Weiter-Impfung vom syphilitisch inficirten Chimpansen.
44 *Fall von transitorischem Diabetes. E. Mann.
45 Die hemolytische Wirkung des Sublimats. L. Detre and J. Sellei.
46 2 Fälle von Cystadenoma mammæ. E. Kethel.
47 *Importance of Intestinal Gases for the Animal Body in Condensed and Rarefied Air. E. Aron.—Die Bedeutung der Darmgase für den Tierkörper in verdichteter und verdünnter Luft. (Commenced in No. 29.)
48 *Review of Recent Works on Public Health, etc. G. Meyer (Berlin).—Sammelreferat.

43. **Further Inoculation from Syphilitic Chimpanzee.**—Lassar gives an illustrated description of his successful inoculation of a second chimpanzee from the first one which he inoculated with human syphilis, as mentioned in these columns at the time. The course of the infection was identical in each. The primary sore healed completely and the syphilitic lesions developed later on the brow, soles, arm and hand. These successful results suggest the possibility of obtaining an effectual curative serum from these animals. [The Paris dailies, by the way, relate that two apes which are being made the subjects of experiments in this line at the Pasteur Institute, were recently taken out for a walk by an attendant. One of them broke away and attacked an infant in a passing baby carriage, scratching it severely. The infant was taken into the institute, and the parents reassured with the statement that the ape had not yet been inoculated with syphilis.—ED.] Both of Lassar's apes succumbed later, one to genuine pneumonia, the other to acute miliary tuberculosis.

44. **Case of Transient Diabetes.**—Mann remarks that the transition of diabetes insipidus into diabetes mellitus is a rare occurrence—he knows of only a single instance, reported by Senator in 1897. He describes an additional case, which was under constant observation all the time. Diabetes insipidus developed under his eyes, and this in turn changed into genuine diabetes mellitus, accompanied by intense acidosis. This severe affection lasted only 16 days, and then disappeared as suddenly as it had come on, the acidosis vanishing before the sugar in the urine. Such an acute course of severe, typical diabetes passing into at least temporary, complete recovery, is a hitherto unknown phenomenon. The few cases of transient diabetes on record always lasted at least six weeks, and were consecutive to trauma or infectious diseases, in youthful subjects. The patient in the case described was a man of 45, who entered the hospital on account of cholelithiasis with a possibility of cancer in the stomach. Diabetes insipidus developed under expectant treatment for a month, and this became transformed into diabetes mellitus, but by the end of the second month the patient was free from any symptoms of either. Two or three months later he succumbed to sudden hematemesis, and the necropsy revealed a gangrenous carcinoma in the lesser curvature, adherent to the pancreas. The liver and brain were apparently normal, and the pancreas was macroscopically intact If the pancreas had been microscopically cancerous, diabetes due to this source would have persisted without change to the end. The recovery noted speaks against any anatomic connection between the cancer and the diabetes.

47. **Importance of Intestinal Gases for Pressure in Pleura.**—Aron summarizes his experiments in the statement that the pressure in the pleura varies when the intestinal gases are sup-

pressed. He experimented on animals in the pneumatic chamber.

48. **Recent Works on Public Health, Vital Statistics, Etc.**—Meyer reviews a host of recent works inaccessible to physicians in general and yet repaying study. Among the points brought out we note that the morbidity in the Prussian army dropped from 908.3 per thousand in 1890 to 682.5 in 1898. The mortality has fallen from 4.1 per thousand in 1885 to 2.2 in 1898. The proportion of venereal diseases has dropped by 10 per thousand during the last five years, although the army numbered 10,218 more men. In the German army, 1898, the proportion was 19.9; in the French army, 37.2; Austrian, 61.5; Italian, 96, and English, 132.7. There has been a decrease in all the armies since 1881. The mortality from cancer in Saxony increased from .58 to .96 per thousand inhabitants between 1873 and 1899, although the total mortality during this period has fallen from 28.7 to 23.3, and that of tuberculosis from 2.29 to 1.98. The collective cancer inquiry of October 15, 1900, showed 160 male cancer subjects and 269 female to every million inhabitants in the German Empire. Behla has recently published "Die Carcinom-Litteratur," in which the titles of 5,500 works on this subject are given, classified by the organs affected. He urges that greater attention should be paid to cancer in plants and animals. His book is the outcome of years of painstaking collecting.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 522.

49 (XXXI, No. 27.) Ein neuer kompletter Apparat zur chirurgischen Paraffin-Plastik. W. Krlln (Prague).

50 *Official Report of XXXIII German Congress of Surgery, 1904. Mostly auto-abstracts.

51 (No. 28.) *Sweeping Out the Choledochus. H. Kehr (Halberstadt).—Die "Choledochusfege."

52 (No. 29.) *Zur prophylaktischen Blutstillung bei der Trepanation (hemostasis). von Hacker (Graz).

53 (No. 30.) *Open Treatment of Wounds After Transplantations. F. Brüning (Freiburg).—Ueber offene Wundbehandlung nach Transplantationen.

50A. **Ephemeral Traumatic Glycosuria.**—Kausch noted this phenomenon in 11 cases of recent trauma, fracture or contusion. He ascribes it to the psychic excitement induced by the injury.

50B. **Narcosis in Diabetics.**—Chloroform should be systematically avoided for diabetics; ether is the anesthetic for them, preferably operating during the first whiffs. Chloroform induces more acetonuria than ether. The amount of the narcotic and the duration of the narcosis should be reduced to the minimum. Inhalation narcosis should always be undertaken early in the morning, and the diabetic should always be prepared for every operation with sodium bicarbonate until the urine gives an alkaline reaction. The narcosis should be restricted to a sugar-free period, if possible, but it should not coincide with the disappearance of the sugar or follow it too closely. If coma impends or has already developed, push the bicarbonate per os, per anum, subcutaneous and intravenous. Gluconic acid (carbohydrate acids) should also be given a trial. It is consumed by the organism, does not burden the carbohydrate metabolism and reduces the acetonuria.

50C. **Lumbar Anesthesia.**—Klapp announces that an oily vehicle retards the absorption of cocain. Dogs can be injected subcutaneously with a fatal dose of cocain in an oil medium without any symptoms of intoxication. It is also possible to induce complete general anesthesia in a dog by injection through lumbar puncture of cocain, in a concentrated solution of gelatin, without any signs of toxic action. His experiments have demonstrated that the absorbing power of the dura is tremendous. Intradural absorption occurs in the first hour, while the subcutaneous requires five hours. Adrenalin retards dural absorption, but not as much as it retards the subcutaneous. Lumbar anesthesia with cocain in a mucilaginous vehicle is a peculiarly convenient and effectual method of inducing general anesthesia in animals for surgical purposes. Dogs thus treated allow, without a sound, operations on the most varied parts of their body. The technic is particularly adapted for veterinary practice. The conditions are different in man. Man has more cerebrospinal fluid and does not tolerate cocain as well as the dog. The necessary fractioned sterilization of the gelatin might also interfere with its efficacy in man.

50D. **To Enhance Resisting Powers of Peritoneum.**—Mikulicz reduces the danger of an inflammatory reaction in the peritoneum during abdominal operations by artificially enhancing its resisting forces. As a specific immunization is out of the question, owing to the multiplicity of the causal agents, he accomplishes his aim by inducing an artificial hyperleucocytosis. Nucleic acid was found the most energetic agent in this respect of all the substances tested. Twenty to forty times the otherwise fatal dose of coli infection is tolerated by the guinea-pig's peritoneum without reaction when the nucleic acid is injected seven hours before the operation. The measure has been tried on man in 34 instances. It seems as harmless in the clinic as in experimental tests, and it frequently induced a hyperleucocytosis up to 25,800. The maximum is reached in man about twelve hours after the injection. All the patients passed through the dangerous first week without any peritoneal complications. The operations had included 7 resections of the stomach, 13 gastroenterostomies and other severe abdominal operations. One patient succumbed to pneumonia three weeks later, and one in a month to a pre-existing complication. The general course of the recovery seemed smoother than usually observed. He injects 50 c.c. of a 2 per cent. solution of neutralized yeast, nucleic acid injected subcutaneously in the chest wall. He advocates copious rinsing of the abdominal cavity with warm physiologic salt solution, as this has also a tendency to elicit hyperleucocytosis in the peritoneum beside its other advantages.

50E. **Thrombosis in Mesenteric Vessels During Operations.**—Payr noticed that the omentum appeared inflamed in 7 cases when the abdomen was opened. During the course of the operation he witnessed the development of thrombosis in the adjacent veins of the omentum or intestine. Nothing in the operation had inflicted any mechanical injury on these veins, as this was especially guarded against. Inflammatory processes evidently afford a predisposition. In case of infectious embolism, symptoms of intoxication predominate and the prognosis is serious; the hemorrhages appear early. In non-infectious embolism the hemorrhages do not appear until the seventh to the eighth day, and may be arrested by therapeutic measures or spontaneously. In case of extensive thrombosis of the mesenteric veins, the connected intestine should be resected, as also the omentum in case of thrombosis of any of its veins. It must be done very cautiously without traction or injury of the sound parts. Further data should be collected in regard to venous thrombosis in the abdominal organs, and it should be studied from a broader standpoint.

50F. **Horizontal Abdominal Posture After Laparotomies.**—Küster's experiments with colored fluids on cadavers showed that all the fluid injected into the abdominal cavity drained away when lying flat on the belly. In 6 cases of septic peritonitis he had the patients assume this position after the laparotomy, and here extols its advantages. A bolster under the chest allows the arms to be moved.

50G. **Treatment of Hernia by Injections of Alcohol.**—Brodnitz has treated 73 cases of hernia by injecting .5 to 5 gm. of alcohol around the inguinal canal, repeating the injection every second or third day until four to ten have been made. The tissues around the hernial opening swell and harden under the influence of the alcohol. The injections are continued once a week for two or three months, by which time there is a cicatricial induration which opposes an effectual barrier to the tendency to hernia. The results are most beneficial in the incipient cases and in children, but the method is applicable for all cases in which an operation is contraindicated or refused.

50H. **Treatment of Excessively Large Hernia.**—Madelung applies the term "übergrosse Hernien" to those in which reduction is impossible, even by an operation. He treats such cases by resection of the redundant mass of intestines, or by making a fistula in the afferent portion of the intestine. It acts like a safety valve, warding off constipation and its consequences. Helferich has observed 2 deaths following sudden reposition of

an excessively large hernia. Kausch resects the omentum in such cases, but has never resected the intestine for this cause alone.

501. **Splanchnotripsy.**—Lanz has been applying Doyen's angiotribe to intestinal surgery for "splanchnotripsy," and comments here on its many advantages. It is particularly valuable in appendicectomy. He has not had a single death or fistula in 15 early and 405 cold operations for appendicitis since he has been using this splanchnotribe. Exclusion of the intestine is rendered easier by it, as also implantation of the ureter, making an artificial anus for a safety valve, etc. He found that the lumen of the intestine became permeable again in time, although the crushed strip was 1.5 cm. wide, and had been re-enforced by a ligature.

502. **Early Operation for Kidney Tuberculosis.**—Kümmell emphasizes that the best way of curing tuberculosis of the bladder is by removing the kidney responsible for the infection. The bladder should never be operated on for local tuberculosis, but the kidney above should be removed as soon as possible. In 260 operations on the kidney, tuberculosis was found in 48, all but 15 of the subjects being women. A primary focus elsewhere in the body was certain or probable in every case. The kidney became infected by way of the blood or lymph, and the bladder was infected in turn from the kidney. Tubercle bacilli were found in the urine in all of the 6 cases reported in detail, although considerable efforts were required to detect them. The prognosis of tuberculosis of the kidney is favorable on condition of complete removal of the organ. He obliterates the ureter its entire length by inserting a galvanocautery in the shape of a sound, which can be heated for 10 cm. from its tip. It is inserted cold in the ureter from the nephrectomy wound to the bladder, and the current turned on. This insures the complete obliteration of its entire lumen. Of the 32 nephrectomized, cured subjects followed to date, the interval since the operation is fifteen to three years in all but 5, and two years in the latter. Eight patients have been nephrectomized during the last year. Krönlein of Zurich reports 24 still living out of 34 tuberculous nephrectomized patients. None of the deaths was due to insufficiency of the remaining kidney. The interval since the operation has ranged from one to fourteen years. Küster remarked that the finding of tubercle bacilli is not an infallible sign of urogenital tuberculosis. He has recently encountered a case of this kind. In the course of a convulsion there was hemorrhage from the urinary organs, and tubercle bacilli were detected in the urine, and yet both kidneys were completely free from tuberculosis—as shown by excised portions—and there was only interstitial atrophy. He advocates exposure of both kidneys to decide in dubious cases. Rosenstein emphasized the value of palpation of the ureters through vagina and rectum as an aid in the diagnosis. The ureters are involved very early in a tuberculous affection of the kidneys, and the positive results of palpation of the ureters may dispense with their catheterization. Steinthal's experience has been that tuberculosis of the kidney is very rarely primary, and that the other kidney is liable to become affected in time. In one case there was an interval of five years of health after nephrectomy, but then the remaining kidney presented the same symptoms. He believes in operating only in case of severe, destructive processes, but Kümmel insists on the progressive nature of the affection. Kapsammer stated that exposure of the kidney alone does not always suffice. In one instance he found a cavity in the upper pole on slitting the organ when nothing in the aspect of the kidney had indicated its existence.

503. **Venous Hyperemia.**—Heule's technic has already been described in these columns. A rubber tube is wound around the limb and held with a clamp. It is then pumped full of air, which insures constriction with accurate dosage of the pressure by connecting the tube with a manometer. This technic is particularly valuable for constriction preliminary to local anesthesia.

51. **Sweeping Out the Choledochus.**—The German word which Kehr employs, "Fege," is the term applied to sweeping out a chimney. He now makes a practice of cleaning out the common bile duct by pulling a strip of gauze through it, thus sweeping out all concrements that may be lurking in it. He has found that the gauze always brings numerous small stones or scraps to view, whose existence it was impossible to determine by any other means. In one case he repeated the process five times before all the scraps of concrements were completely removed. In this case, as in 2 other similar ones, he performed ectomy, cysticotomy, incision of the supraduodenal portion of the bile duct, duodenotomy, papillotomy, "choledochus-fege," choledochus drainage and hepaticus drainage. The length of such an operation varies from an hour to an hour and a half. Recovery was uneventful in each instance, as also in his 6 cases of drainage of the hepatic duct. Since last April he has performed 25 gallstone operations, and found stones in the common bile duct in 9 of them. After removal of the gall bladder he slits the cystic and common bile duct to the duodenum and removes the stones from the retroduodenal part of the duct, pushing them up and picking them out with forceps. Exposure of this part of the duct never caused any appreciable hemorrhage. In 2 cases he mobilized the duodenum according to Kocher's technic and found it a valuable aid. In 3 cases he was obliged to incise the duodenum. The papilla was seized with König forceps, incised and the stone removed. He then inserted a forceps of the kind Kocher uses for drawing down and out a hernial sac, inserting it from the duodenum into the papilla, and pushing it through the bile duct in the direction toward the liver, until it appeared to view again in the incision in the supraduodenal portion of the duct. The blades of the forceps were then slightly opened and a narrow strip of moist gauze was placed between the blades and drawn down backward with the forceps into the duodenum, thus sweeping out the bile duct as a chimney is swept. He thus advocates for suitable cases transduodenal choledochotomy, with consecutive "choledochus-fege" and careful suture of the duodenum, reinforcing the suture with omentum, as a thorough and certain operation which has afforded excellent results in his hands, as he describes in detail.

52. **Prophylactic Hemostasis in Trephining.**—Heidenhain's method of preliminary hemostasis—described in THE JOURNAL, xlii, page 930, abstract 71—has been modified by von Hacker, who takes merely a single row of the overlapping stitches on the outer side of the incision for the flap, instead of on both sides. This leaves the flap intact, while the hemostasis is ample for the purpose of trephining. He describes a case to show the advantages of this technic. Of course, this percutaneous running stitching with a single thread is adapted for the cases alone in which no large vessels are involved in the base of the flap.

53. **Open Treatment After Transplantation.**—Brüning waxes enthusiastic over the fine results observed when the wound is left open to the air after application of Thiersch flaps. Healing proceeds very rapidly, both on fresh and granulating wounds. He has found this technic peculiarly valuable for operation under local anesthesia, such as is generally used for Thiersch grafting. When possible, he has the patient remain lying quietly on the table for several hours before he is moved, to allow the grafts to adhere to the surface beneath before he stirs. When the subject is in bed he applies a wire frame over the part to protect it from contact with the bedding. Serum exudes between the grafts and sometimes forms tiny blisters under them. The grafts are usually firmly adherent in six to eight hours, and he lightly presses out the serum from the blisters, using a gauze pad for the purpose, without fear of dislodging the grafts. A dressing can be applied during the night if there is danger of rubbing the parts during sleep, but otherwise he prefers the open treatment for both day and night. The grafts all healed in place by the eighth day, at latest, the superfluous parts along the edges drying up and dropping off. None of the grafts shriveled afterward. There is not the slightest tendency to maceration with this open treatment; the blood coagulates and helps to hold the grafts, and the danger of displacing them by the dressings is entirely obviated.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

54 (XXX, No. 31.) *Diminished Responsibility. G. Aschaffenburg.—Verminderte Zurechnungsfähigkeit.
55 Fractures of Auditory Canal. Passow.—Anatomische Untersuchungen über das Zustandekommen von Gehörsgangsfrakturen, mit Krankenvorstellung.
56 *Ueber die Rückbildung der Mäuse-Karzinome unter dem Einfluss der Radium-Strahlen. H. Apolant (Ehrlich's laboratory, Frankfurt).
57 *Behandlung und Heilung der Alopecia areata durch direkte Bestrahlung mit kaltem Elsenlicht (with cold iron light). E. Kromayer.
58 *Ein neues immunisierendes Heilverfahren der Lungen-Phthise mit Perlsucht-Tuberkulin. C. Spengler (Davos).
59 *Klinische Erfahrungen über die Dekapsulation der Nieren beim Morbus Brightii. P. Rosenstein (J. Israel's clinic, Berlin).
60 Disturbances in Hearing. Treitel.—Ueber Störungen des musikalischen und Sprach-Gehörs.
61 Neuere Erfahrungen über die Therapie der perniziösen Anaemien. E. Grawitz. (Commenced in No. 30.) See abstract in last issue.
62 Letter from America. A. Hoffa.

54. **Diminished Responsibility.**—Two recent sensational cases in Germany, the Dippold and the Prince Arenberg cases, have focused public attention on the questions of diminished responsibility and the socially dangerous insane. Several important works have been published on the subject, and the tenth conference of the German branch of the international association for the study of criminology adopted a set of resolutions at the Stuttgart meeting in May. The lawyers' congress, to convene in September, has also appointed these questions for discussion. Aschaffenburg reviews the recent works and discusses the views advanced, giving the Stuttgart resolutions, which are as follows: 1. Criminals not fully responsible for their acts should receive a milder sentence. Appropriate measures to protect society should be imposed in the case of those acquitted on account of absolute lack of a sense of responsibility, as also for those whose sentence is milder on account of diminished responsibility. Similar protecting measures should be imposed on persons with diminished or lacking sense of responsibility, although they have not yet committed a crime. These protecting measures should be imposed by a special process similar to the process of the guardianship of minors. 2. The president of the international association is commissioned to request that a law to this effect be enacted for the empire. 3. Mentally deficient prisoners should be placed under the special supervision of the physician. The physician should have the deciding voice in regard to these prisoners' disciplinary and other treatment, and also in regard to appealing for their release from the full execution of their sentence.

56. **Retrogression of Carcinoma on Mice Under Radium Rays.**—Apolant has previously described his cancer research on mice. (See page 1111 of vol. xlii.) He here illustrates the microscopic findings during retrogression of the carcinomas under the influence of radium rays. The carcinoma cells vanish, and there is a proliferation of connective tissue. The radium rays evidently have a specific destructive action on the carcinoma cells, supplemented by the inducing of a specific absorption of the dying carcinoma cells under the influence of the rays. This specific action is shown peculiarly vividly in the case of carcinomata on mice, as the dying cells are not absorbed nor cast off without the radium exposures, the animals otherwise carrying them around as dead ballast so long as they live. This necrotic mass is generally cast off under intensive radium treatment powerful enough to induce ulceration and transform the cancer into an open ulcer, after which the cancer cells are absorbed and the lesion heals. The rays have to be applied so vigorously to accomplish this result that some of the animals succumbed. The lack of penetrating power imposes a limit on the efficacy of radium treatment which renders it dubious whether as a therapeutic measure it has much of a future.

57. **Successful Treatment of Alopecia Areata with Iron Light.**—Kromayer of Berlin does not hesitate to proclaim that phototherapy with the iron lamp is by far the most effectual means at our command for treating alopecia areata. We can confidently count on a cure with it, even in those cases in which all other measures have totally failed. His technic is simple, convenient and does not require much time. The results observed confirm the assumption that alopecia areata is not a parasitic affection. All that is required to cure it is a stimulus, and this is supplied by the superficial inflammation of the skin induced by the iron light; it extends along the hair follicles to their depths and stimulates the roots of the hair to renewed proliferation. He gives the details of 6 cases thus treated with the iron "triplet" or "dermo" lamp. (See abstract of his previous communication on the subject, page 1119 of vol. xli.) Another promising field for the cold iron light is in superficial disinfection of the skin. This light does not require preliminary compression of the part.

58. **Immunization of Consumptives with a Bovine Tuberculin.**—Spengler makes a tuberculin from bovine material which has very pronounced therapeutic value, while the reaction that follows its use is like that of very weak human tuberculin. He calls it Perlsucht-Original tuberculin (P. T. O.). It is the filtered bouillon in which Perlsucht bacilli have been grown until they formed a very thin film over the surface. The bouillon is evaporated to one-half, the missing fluid substituted by glycerin. The initial dose is 1 mg. diluted with 9 mg. of a .5 per cent. carbolic solution. The injection is made centrifugally in the forearm, and is repeated, doubled, when every trace of the consecutive edema has vanished. In case of great debility he rubs the tuberculin into the skin of the arm instead of injecting it. He has found this percutaneous method especially valuable for acute tuberculosis in children. He uses it also at times for the Koch tuberculin. He combines the two in his new technic and calls a patient cured when he can take an alternating dose of 100 mg. P. T. O. and 100 mg. tuberculin (Koch's T. O. A.) without reaction, and constantly negative sputum findings. By this technic the course of treatment with tuberculin can be very much shortened and more complete results attained. There is absolutely no danger from the Perlsucht tuberculin. The very first doses confer marked immunity. Spengler believes that human and bovine tuberculosis were originally one, but that the bacilli have adapted themselves to their hosts until each has become the vaccine material for the other. The Perlsucht toxins are much less virulent for man than human tuberculosis toxins.

59. **Decapsulation of the Kidneys.**—Rosenstein reports 6 cases from Israel's clinic and sifts Edebohls' published material. He concludes that all the cases cured by decapsulation of the kidney were merely inflammatory processes, due to abnormal movability of the organ. Bright's disease is never unilateral, and the unilateral cases cited as evidence of the efficacy of the treatment must have been merely inflammation of a wandering kidney. In severe Bright's disease, decapsulation of the kidney has a mortality record of 26 per cent. Permanent cure has not been obtained in a single instance, and in the cases in which improvement was noted the edema persisted in one case and the albumin and tube casts in the urine. In another case the headaches and scotoma persisted unmodified.

Münchener medicinische Wochenschrift.

63 (LI, No. 30.) *Ueber den Einfluss von Anomalien des Brust Skeletts auf den Perkussions-Schall der Lunge und auf die Lage des Herzens. C. Bäumler.
64 *Ueber Behandlung schwerer komplizierter Frakturen mit Aufklappung und temporärer Voringerung der Fragmente (bringing out the stumps). G. Doberauer (Pragne).
65 *Results of Single Carlsbad Course on Gallstones. F. Fink.—Die Erfolge eines einmaligen Kur in Karlsbad bei Gallensteinkranken.
66 Ueber Bestimmung des Hemoglobin-Gehalts mittels der Tallqvistschen Skala. zur Verth and Schuhmacher.
67 *Odor of Infant Feces. P. Selter (Solingen).—Die Gerüche der Säuglings-fäzes.
68 Die Behandlnug des Ekzems mit den neueren und neuesten Mitteln, u. a. auch am eigenen Körper untersucht. L. Mayer (Munich).
69 *Zur Hygiene des Rauchens (of smoking). J. Bamberger.
70 Schwere Nephritis nach Einreibung eines Seehlösen mit Peru Balsam. A. Gassmann.
71 Sutnre of Fresh Laceration of Perineum G. Vogel. Ibid J. Eversmann.
72 "To Promote the Study of the History of Medicine." K. Sudhoff.

63. **Anomalies in Chest Wall.**—Bäumler has sometimes found that the diagnosis of tuberculosis was based on abnormal percussion findings due solely to anomalies in the bony frame of the thorax, while the lungs were sound in reality. In examining patients, special attention should be paid to the sym-

metry of the halves of the thorax, both sitting and standing. The size, shape and depth of the supraclavicular regions on each side should be compared. Slight scoliosis may cause the bulging of the rear portion of the upper ribs, with consequent abnormal percussion and auscultation findings, although the lungs may be perfectly sound. It is a good plan to inspect the seated patient from behind, comparing the sagittal diameter of both sides of the chest, and tracing the spine its entire length. An irregular configuration of the "shoulder girdle" is responsible for many abnormal findings on percussion. The anomalies in the chest wall usually entail a displacement of the heart. When the spine is abnormally straight, the front intercostal spaces are liable to be very wide. This pushes the sternum up and the heart lies with a greater portion of its surface parallel to the wall of the thorax than in normal conditions. The apex beat is broader and stronger. The reverse occurs when the spine is unduly curved, and its sideward curve also has an influence on the position of the heart. The organ may be perfectly sound, but these unusual positions may simulate hypertrophy of the left ventricle, especially in rapidly growing young persons with an "excitable heart."

64. **Temporary Exposure of Stumps in Complicated Fractures.**—At Wölfler's clinic it is the practice now in severe, complicated, septic fractures to avoid amputation, if possible, by freely exposing the parts. Five cases thus treated are described in detail. The fractured leg or arm was turned back on itself in such a way as to make the wound gape and the fractured stumps project, the stumps held well apart by antiseptic sponges. This allows better inspection of the wound, does away with all menacing recesses and dead spaces and injury of the soft parts from the jagged stumps. Necrotic tissues can be more readily removed and drainage facilitated. When mere incision and drainage prove ineffectual, this opening up of the region may control the severest infection and save the limb after failure of all other measures. It is so simple and effectual that it can be applied even without waiting to try other measures, in certain cases, and may save many a limb otherwise doomed to amputation.

65. **Results of a Single Carlsbad Gallstone Course.**—Fink has been practicing at Carlsbad for about a dozen years. He reports his observation of 263 cases of gallstones in which a single course of treatment was taken. In the majority of cases the gall bladder did not cause any symptoms. The disturbances in the liver predominated, and had been the incitement to the Carlsbad course. A single course resulted in an apparent permanent cure in 72.83 per cent. of a former series of cases and in 87.33 per cent. of the present series. Its efficacy is limited by long continuance of the affection, by a superposed infection and by chronic occlusion of the bile duct. Hence the importance of early diagnosis and treatment.

67. **Odor of Infants' Feces.**—Selter comments on the rather agreeable, acid, aromatic odor of normal breast-milk stools, due to the fat acid and lactic acid and absence of albumin putrefaction. Any change from normal is evident at once in the odor. Cow's milk stools are always pasty, whitish, alkaline and have a true fecal odor. In mucous catarr of the intestines the stools smell more like wet hay, when digestion is good, but this odor is overshadowed by putrefaction or fermentation. The nose is thus able to determine conditions in the digestive tract, sometimes before they can be revealed by any chemical tests, thus disclosing impending fatty diarrhea, fermentation of carbohydrates or of albumin, etc.

69. **Hygiene of Cigar Smoking.**—Bamberger classifies smokers as the "dry" and the "wet." The "dry" smokers are those who hold the cigar in their lips without wetting it with saliva. This is free from the dangers of "wet" smoking—that is, allowing the cigar to soak in the saliva. The saliva dissolves out of the tobacco many harmful substances which are swallowed and help to induce tobacco poisoning. Alcohol in the stomach, even in minute amounts, aids in the dissolving and rapid diffusion of the swallowed poisons. All cases of tobacco poisoning probably have occurred in "wet" smokers. Cigarettes are not wet in this way so much; their harmfulness is mainly in the large number used and the swallowing of the smoke. Chewing tobacco contains so little nicotin that it can scarcely be regarded as directly harmful, especially as it lacks the products of combustion. When nicotin poisoning from this source does occur, it assumes a special type, a painful weakness, hallucinations, tendency to suicide, with various sensory disturbances (deafness, loss of sense of taste) and prosopalgia, neuralgia. Erb has recently noted a connection between arteriosclerosis and tobacco (see page 232), and Bamberger has had occasion to observe an attack of angina pectoris, with other manifestations of arteriosclerosis in a "wet" smoker of 40. Erb has also informed him in regard to a still later case in a young man, a pronounced "wet" smoker, but free from other taints. Smokers should be warned to keep their cigars dry and to take them out of the mouth between the whiffs. Thoms has recently patented his method of preventing tobacco poisoning. It is based on the fact that certain iron salts hold in combination the bases of tobacco smoke. Cotton impregnated with ferric chlorid is an efficient filter for this purpose. It holds back 77.78 per cent. of the nicotin and its bases, and 86.11 per cent. of the ammonia. The ethereal brenz oil and surphur hydrate are completely held in combination and none escapes. A tampon of cotton dipped in ferric chlorid, applied to the tip of the cigar, will thus afford efficient protection against tobacco poisoning. It is even affirmed that it improves the flavor of a cheap cigar, making the flavor more like that of genuine Havana tobacco, on account of the effacement of so much of the nicotin and of the rank-smelling chemicals in the cheap tobacco.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS. By Robert W. Taylor, A.M., M.D., Clinical Professor of Genito-urinary Diseases at the College of Physicians and Surgeons (Columbia University), New York. Third Edition. Thoroughly Revised. With 162 Illustrations and 39 Plates in Colors and Monochrome. Cloth. Pp. 757. Price, $5.00. New York and Philadelphia: Lea Brothers & Co.

SPECIAL CATALOGUE OF THE HYGIENE EXHIBITION, German Empire. The World's Fair in St. Louis. Catalogue on the Exhibits on Hygienic Matters and of All Other Exhibits, Prepared Under the Direction or the Participation of the Imperial Board of Health in Berlin. Paper. Pp. 246. Berlin: Julius Springer, 1904. St. Louis: Emil Savor, Educational Building.

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY, for Students and Practitioners. By E. C. Dudley, A.M., M.D., President of the American Gynecological Society. Fourth Edition, Revised. With 409 Illustrations in Colors and Monochrome, of which 18 Are Full-page Plates. Cloth. Pp. 771. Price, $5.00 net. Philadelphia and New York: Lea Brothers & Co. 1904.

A MANUAL OF PRACTICAL MEDICAL ELECTRICITY. The Roentgen Rays, Finsen Light, Radium and Its Radiations and High-frequency Currents. By Dawson Turner, B.A., M.D., F.R.C.P. Edin., M.R.C.P. Lond., President of the Royal Scottish Society of Arts. Fourth Edition. Revised and Enlarged. Cloth. Pp. 435. Price, $4.25. New York: Wm. Wood & Co. 1904.

THE PURIN BODIES OF FOODSTUFFS and the Rôle of Uric Acid in Health and Disease. By I. Walker Hall, M.D., Assistant Lecturer and Demonstrator in Pathology, the Owens College. Second Edition, Revised. Cloth. Pp. 201-xiii. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1904.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume XVI. Sixteenth Session Held at Atlanta, Ga., Dec. 15, 16 and 17, 1903. Edited by W. D. Haggard, M.D. Cloth. Pp. 486. Published by the Association. 1904.

AN INDEX OF SYMPTOMS AS A CLEW TO DIAGNOSIS. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Third Edition. Cloth. Pp. 398 Price, $2.00. New York: Wm. Wood & Co. 1904.

DISEASES OF THE STOMACH AND THEIR SURGICAL TREATMENT. By A. W. Mayo Robson, F.R.C.S., and B. G. A. Moynihan, M.D. Lond., F.R.C.S. Second Edition. Cloth. Pp. 508. Price, $4.25. New York: Wm. Wood & Co. 1904.

THE CLASSIFICATION AND PATHOLOGY OF BERI-BERI. By Hamilton Wright, M.D. (McGill), Honorary Fellow of Johns Hopkins University. Paper. Pp. 74. Price, 3s. 6d. net. London: John Bale, Sons & Danielsson, Ltd. 1903.

EL HOSPITAL LAS ANIMAS. Por el Dr. Enrique B. Barnet. Con un Apendice por los Dres. Juan Guiteras Y Mario G. Lebredo. Publicado Para Distribucion Gratuita. Paper. Pp. 51. Spanish and English Edition. Habana. 1904.

CHAPTA Acropatia Mutilante Informe Presentado al Jefe de Sanidad de la Republica. Por el Dr. Juan Guiteras. Publica para Distribucion Gratuita. Spanish and English Edition. Paper. Pp. 41. Habana. 1904

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Original Articles.

THE PELVIC URETERAL SHEATH.

ITS RELATION TO THE EXTENSION OF CARCINOMA CERVICIS UTERI.*

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BALTIMORE.

During the last year and a half I have been studying the extension of carcinoma cervicis uteri with special reference to its bearing on the more radical operations for that disease. These studies[1] have demanded a knowledge of the anatomy and physiology of the neighboring structures, of how the disease invades these parts, and especially the effect of the more radical operations on such organs as the bladder, ureters, rectum and other pelvic structures.

In studying cross sections of the parametrium of those cases in which the lower ends of the ureters have been resected in order to obtain a wide excision of the primary growth, an opportunity was afforded not only of determining how the growth invaded the parametrium, but also its relation to the ureters. In these cases it was noticed that the ureters were inclosed in a sheath which seemed to be derived from the tissue along or through which the ureters pass, and served as a protection to the ureters from the invasion of the carcinomatous growth.

Waldeyer[2] has called attention to the fact that there is pictured in Krause's anatomy, longitudinal muscular bundles which extend from the bladder up on the ureter, but the cut is not accompanied by any description. He describes them as longitudinal muscular bundles, which are united to each other by connective tissue and separated from the ureter by a space which can be injected. This sheath has a thickness of .5 to .75 mm., and he says extends from 3 to 4 cm. up along the ureter. The lumen he considers to be a lymph space.

Disse[3] refers to Waldeyer's sheath, and says that these muscular bundles, which are greatly hypertrophied, do not come from the bladder, as they appear to do, but from the ureter, and suggests that their hypertrophied condition, as well as the space between them and the ureter, arises from the contractions of the bladder pulling on the outer ureteral coat.

If the abdominal portion of the ureter is exposed at autopsy and partially freed from its surrounding tissue and traction made on it, it can be drawn out from what is apparently a sheath, which seems to be a part of the subperitoneal connective tissue, and is continuous with that surrounding the kidney above and accompanying the ureter into the pelvis below. Cross sections of the abdominal portion of the ureter, with its surrounding tissue, show that the ureter lies in the subperitoneal adipose and fibrous tissue, and that this tissue forms a very imperfect and rather indefinite sheath about the ureter, and it usually requires some play of the imagination to make out a definite ureteral sheath from cross sections of the abdominal portion of the ureter. If the dissection is carried down into the pelvis, this apparent ureteral sheath becomes more definite, so much so that it may be split open and the ureter shelled out from it. On reaching the bladder the lower end of the ureter seems to be reinforced by muscle bundles extending from the bladder up along the ureter, and which have been referred to.

On stripping the peritoneum from the side of the pelvis it will be noticed that the portion of the ureter above the parametrium may be carried down with the peritoneal flap thus formed. This portion of the ureter will be referred to as the subperitoneal portion, while that below the entrance of the ureter into the parametrium may be called the parametrial portion of the ureter.

Cross sections of the subperitoneal portion of the ureter show that it is surrounded by a fibrous sheath which is derived from the tissue along or through which the ureter passes, and here is adherent to the peritoneum; on that account the ureter, with its sheath, may be dissected away from the walls of the pelvis with the peritoneum. This is shown in Figure 1, which represents a cross section of the ureter taken about 1.5 cm. above its entrance into the parametrium. This sheath is better developed in some cases than in others, and by cross sections one may follow it above the brim of the pelvis in one case, while in another case the sheath around the entire subperitoneal portion of the ureter may be poorly developed. Cross sections of the parametrial portion of the ureter show how the sheath accompanies the ureter

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. Sampson: The Importance of a More Radical Operation in Carcinoma Cervicis Uteri, as Suggested by Pathological Findings in the Parametrium. Johns Hopkins Hospital Bulletin, 1902, xiii, 299-307. Also: Ascending Renal Infection; with Special Reference to the Reflux of Urine from the Bladder Into the Ureters as an Etiological Factor in Its Causation and Maintenance. Johns Hopkins Hospital Bulletin, 1903, xiv, 334-352. Also; The Efficiency of the Periureteral Arterial Plexus and the Importance of Its Preservation in the More Radical Operations for Carcinoma Cervicis Uteri. Johns Hopkins Hospital Bulletin, 1904, xv, 36-46. Also: The Relation Between Carcinoma Cervicis Uteri and the Ureters, and Its Significance in the More Radical Operations for that Disease. Johns Hopkins Hospital Bulletin, 1904, xv, 73-84. Also: Complications Arising from Freeing the Ureters in the More Radical Operations for Carcinoma Cervicis Uteri, with Special Reference to Postoperative Ureteral Necrosis. Johns Hopkins Hospital Bulletin, 1904, xv, 123-134. Also: The Relation Between Carcinoma Cervicis Uteri and the Bladder, and Its Significance in the More Radical Operations for that Disease. Johns Hopkins Hospital Bulletin, 1904, xv, 156-162.

2. Waldeyer: Ureter-scheide, Verhandlungen der Anatomischen Gesellschaft, 1892, 259-260.

3. Disse: Von Bardeleben, Handbuch der Anatomie, Gustav Fischer, Jena, 1902, vol. vii, No. 1, pp. 107-109.

through the parametrium, or, to express it more correctly, how there is formed about the ureter a sheath from the tissue along or through which the ureter passes, as shown in Figure. 2.

Cross sections of the lower 1 to 2 cm. of the ureter demonstrate that this portion of the ureter is surrounded by muscle bundles which also give rise to a sheath, and which Waldeyer[2] claims extends up along the ureter for a distance of 3 to 4 cm. In the cases which I have studied the muscular sheath has not extended over 2 cm. above the bladder. Disse[3] claims that these muscles arise from the ureter and not from the bladder, as they appear to do. See Figures 3 and 4.

The pelvic portion of the ureter is surrounded by a sheath which is derived from the tissue along or through which it passes. Near the bladder this sheath is composed mostly of muscle fibers. As one examines cross sections higher up, the muscular fibers gradually disappear, and one finds that another sheath appears which fuses with the muscle fibers, encircling the upper ends of them, and is continued above as the fibrous sheath previously referred to. It is difficult to determine the origin of the muscular fibers about the lower end of the ureter. They apparently arise from the bladder, and I

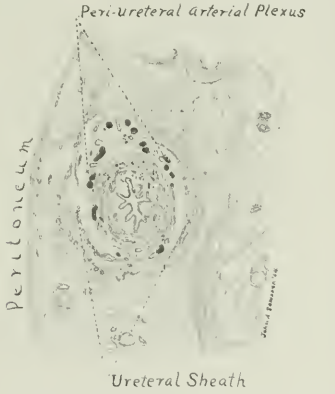

Fig. 1.—Transverse section of ureter with its sheath taken 1.5 cm. above its entrance into the parametrium, ×5. The internal iliac artery was injected one hour after death, with a 15 per cent. solution of gelatin colored with ultramarine blue. The large vessels of the periureteral arterial plexus are shown contrasting with the smaller branches in the walls of the ureter. The inside of the sheath is filled with adipose and fine fibrous tissue in which are imbedded the periureteral vascular plexuses.

think that this is true for some of them; on the other hand, one can see from cross sections taken at different levels that others may arise from the outer coats of the ureter, as Disse[3] claims.

The structure of the sheath is dependent on the structure of the tissues along or through which the ureter passes. Near the bladder one finds muscular fibers predominating, while higher up the sheath is composed of fibrous tissue, with an occasional muscle bundle. The thickness of the sheath varies in different places, and in different cases, and is dependent on the tissue about it, as may be seen by referring to the illustrations. The lumen of the sheath is filled with adipose tissue and strands of fibrous tissue and contains the vascular ureteral plexus. One finds in the sections of this sheath empty spaces, which in some instances may be lymph spaces, but in nearly every instance which I have seen appeared more like artefacts. A hypodermic needle may be inserted along the ureter and colored fluid forced into the tissue about the ureter, and this will follow the course of the ureter, indicating that this sheath restricts

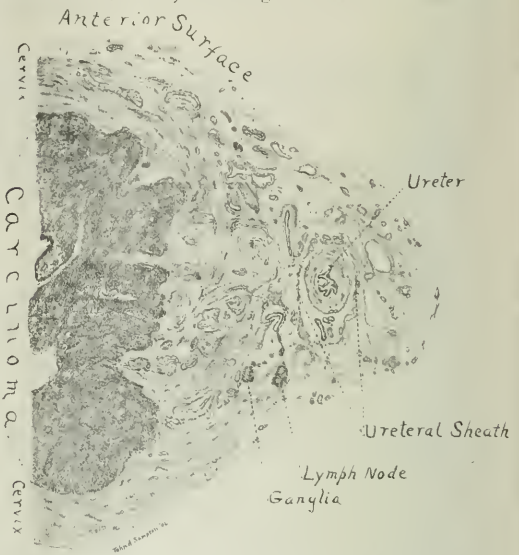

Fig. 2.—Transverse section of ureter with its sheath taken about in the middle of the parametrium, ×2½. Transverse section of right parametrium and one-half of the cervix from a specimen of hysterectomy for carcinoma cervicis uteri in which the lower portion of both ureters was sacrificed and the renal ends of the ureters implanted into the bladder. The ureteral sheath is derived from the tissue along or through which the ureter passes, and here consists of fibrous tissue with a few fine muscle bundles at the upper end. Within its walls can be seen the larger vessels of the periureteral vascular plexuses in cross section.

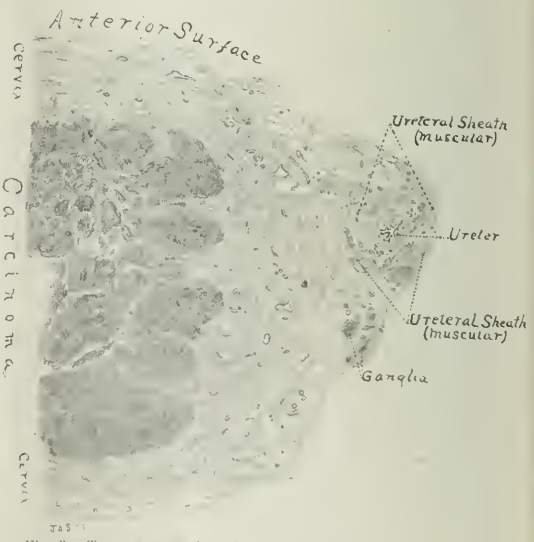

Fig. 3.—Transverse section of ureter with its sheath taken just above the bladder, 2½. From the same specimen from which Figure 2 was drawn. As one can see, the ureter at this level is surrounded by muscle bundles. The ureter at this level is very near the cervix, and it would take but little involvement of the parametrium, either by direct extension or metastases, for the cancer to reach or extend beyond the ureters.

its spreading into the surrounding tissues and forces it to extend along the ureter.

ORIGIN OF URETERAL SHEATH.

It would seem that the sheath was due to the activity of the ureter; the peristalsis, with its sliding motion and distension and contractions of the ureter, forms out of the surrounding tissue a channel, the walls of which

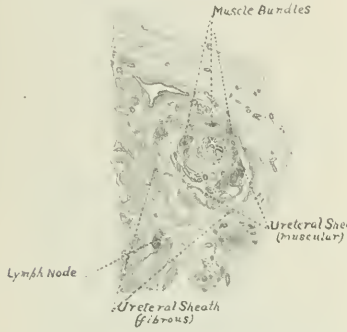

Fig. 4.—Transverse section of the ureter showing the relation between the fibrous portion of the ureteral sheath and the muscular portion, ×2¼. Transverse section of a portion of the parametrium from the same specimen from which Figures 2 and 3 were made, and about half way between the two. In the outer wall of the ureter can be seen heavy muscle bundles suggesting that the muscular sheath (Waldeyer) arises from the ureter, as Disse claims; on the other hand, other muscle bundles may be seen alongside of the ureter, which may come from the bladder (?). Outside the ureter and the remnants of the muscle bundles can be seen a fibrous sheath, which blends with the muscular sheath and gives rise to the fibrous sheath in Figure 2.

Fig. 5.—Demonstrating the effect of the invasion of the ureteral sheath by carcinoma cervicis uteri, ×2¼. Transverse section of the right parametrium and one-half of the cervix from a specimen of hysterectomy for carcinoma cervicis uteri, in which the lower portion of the right ureter was sacrificed and the renal ends of the ureter implanted in the bladder.

may be called a sheath. In support of this view it may be said:

1. The sheath, as such, is absent in the fetus.

2. In a case of double ureter, in which the ureters were close together, one sheath was common to both.

3. Its structure varies with that of the surrounding tissue.

4. The ureter, deprived of its sheath, may form another from the tissue in which it becomes imbedded. A patient was readmitted to this hospital in April of this year with a recurrence of carcinoma cervicis uteri about the left ureter. At the first operation, six months before, the ureters had been freed and the ureteral sheath removed with the uterus and growth. The recurrence, which was about the size of a hen's egg, was removed with the lower 4 cm. of the ureter, and in studying the specimen it was found that a new sheath had formed about the ureter from the tissue in which it had become imbedded.

5. The sheath is developed best in parts where there is opposition to its contractions and expansions, as in the pelvis; while in the abdomen, where the ureter lies in loose adipose and fibrous tissue, which offers very little

Fig. 6.—Demonstrating the relation between a metastasis to a minute parametrial lymph node and the ureter, ×2¼. Transverse section of left parametrium and portion of the cervix. The double ureter has but one ureteral sheath instead of two, thus suggesting that the sheath is derived from the pelvic structures along or through which the ureter passes and not from the ureter. Four lymph nodes are shown, and the one situated lateral and posterior to the double ureter is carcinomatous.

resistance to the peristalsis of the ureters, the sheath is imperfectly formed or absent.

RELATION OF THE URETERAL SHEATH TO DISEASED CONDITIONS.

One can see how the sheath would protect the ureter from inflammatory processes and new growth. On the other hand, thickening of the sheath from these diseased conditions might interfere with the function of the ureter. An interesting condition arises where a stricture occurs at the vesical end of the ureter. The ureter becomes distended and frequently very tortuous, and sometimes kinked. Normally, one finds certain constrictions in the ureter, one below the kidney and another at the brim of the pelvis, apparently due to a thickening of the surrounding tissue (sheath) at this place. Where a hydroureter occurs, these constrictions become more marked and the ureter markedly distended above and below the constrictions where the tissue about the ureter is loose and the sheath formation less perfect. When a kinking of the ureter takes place it is apparently due to

a rupture of the tissue surrounding the ureter, i. e., a hernia of the imperfect ureteral sheath with a protrusion of the ureter and consequent kinking of the ureter by the hernial ring thus formed.

RELATION BETWEEN CARCINOMA CERVICIS UTERI AND THE PELVIC URETERAL SHEATH.

One realizes that the uterus is a relatively movable organ. On the other hand, the ureters follow the pelvic wall and near the bladder they begin to approach each other, so that the distance between the ureteral orifices is from 2 to 3.5 cm., varying in different cases and with the degree of distension of the bladder. As the ureters are relatively fixed, the relation between them and the uterus is dependent on the position of the uterus in the pelvis, whether in anti- or retroposition, high in the pelvis or in the descensus, and especially in the lateral positions of the uterus, for when the cervix is in the right side of the pelvis it will be much nearer the right than the left ureter, and vice versa. At the level of the internal uterine os the ureters may be 7 to 9 cm. apart and consequently would be some distance from the sides of the uterus; on

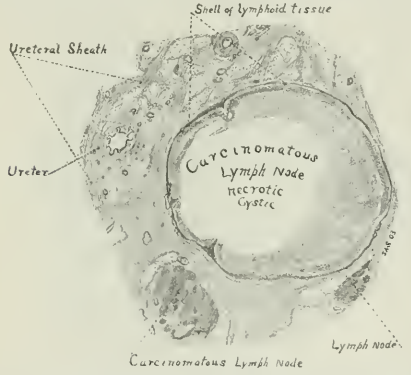

Fig. 7.—Demonstrating the relation between a large carcinomatous lymph node and the ureter, ×2¼. From the same case as the section represented in Figure 6. This carcinomatous lymph node, which had become necrotic and cystic, is situated lateral to the right ureter and is the node sometimes found near the crossing of the uterine artery and ureter.

the other hand, at the level of the external os they are much nearer together and their distance from the cervix may be less than 5 mm., depending on the size of the cervix and its position in the pelvis. It becomes evident that carcinoma cervicis uteri does not have to extend far into the parametrium either by direct extension or metastases, to reach or extend beyond the ureters.

The relation between carcinoma cervicis uteri and the ureters manifests itself clinically, in renal insufficiency resulting from a compression of the ureters by the growth and in the frequency of accidental injury to the ureters occurring during operation for the removal of the growth, there having been in this hospital 19 cases of accidental injury to the ureter in 156 hysterectomies for carcinoma of the cervix, as compared with only 11 similar injuries in 4,513 other major gynecologic operations.

A study of fifteen specimens removed by the more radical operation, i. e., where an attempt is made to remove the lymphatics from the sides of the pelvis and with them the uterus and growth and all the parametrium, either dissecting the ureters free or else resecting the lower ends of them and implanting the renal end in the bladder, has shown that in twelve cases the growth has extended beyond the uterus, thus clearly demonstrating why hysterectomy so seldom cures this condition. In seven of the twelve cases there was a direct extension of the growth from the cervix. There were metastases to the parametrial lymph nodes in four cases, and metas-

Fig. 8.—Demonstrating the invasion of the ureteral sheath by carcinoma cervicis uteri, with resulting compression of the ureter. ×4. The ureter is surrounded by the growth. The sheath, being derived from the tissue through which the ureter passes, can not be differentiated from it, and the effect of the invasion of the growth into the sheath is to compress the ureter, giving rise to hydroureter above.

Fig. 9.—Demonstrating the hydroureter caused by the invasion of the ureteral sheath by carcinoma cervicis uteri, ×4. From same specimen as the one shown in Figure 10, demonstrating the hydroureter caused by the ureteral sheath which has been invaded by the cancer.

tases have been found in the other pelvic lymph nodes in six out of twelve cases in which they have been studied.

Pathologically, the close relation between carcinoma cervicis uteri and the ureters shows itself:

1. In the distension of the cervix by the growth, thus diminishing the distance between the ureters and the cervix.

2. In the direct extension of the growth from the cer-

vix into the parametrium. As the distance between the ureter and the cervix may be less than 5 mm. in the lower portion of the parametrium, which, unfortunately, may be the part of the parametrium first involved by a direct extension of the growth, it takes but very little involvement of the parametrium to reach or extend beyond the ureters.

3. In the metastases to the parametrium, which may occur:

(*a*) In the large parametrial lymph node, occasionally found at the place where the uterine artery crosses the ureter.

(*b*) In the small parametrial lymph nodes scattered throughout the parametrium.

(*c*) In (intravascular?) lymph nodes which apparently protrude into the lymph channels like sponges and may be present in large numbers in these cases. These may be true intravascular nodes or the apparent lymph channel may be an artefact.

Fig. 10.—Demonstrating the reformation of the ureteral sheath about a ureter which had been freed in a more radical operation for carcinoma cervicis uteri. ×4. The lower 4 cm. of the left ureter was excised with a recurrence of carcinoma cervicis uteri. Primary operation six months before, when both ureters had been freed from their sheaths.

(*d*) In the other structures of the parametrium, as sheaths of nerves, ganglia, lymph spaces, etc.

Whatever the form of the invasion of the parametrium it does not have to extend far in order to reach the ureter. In Figure 5 is a drawing from a specimen in which the growth has extended out from the cervix and has involved the ureteral sheath and one can see that the latter has become hypertrophied, thus better protecting the ureter; while in Figures 8 and 9, from another case, the growth has surrounded the ureter with its sheath, compressing and invading the sheath, thus giving rise to a hydroureter above. In Figure 6 is a drawing showing a metastasis to one of the minute (intravascular?) parametrial lymph nodes, which is situated lateral to the double ureter. One finds in the parametrium of these cases minute parametrial lymph nodes which may have a diameter of not over 1 to 2 mm. The nodes have the same structure as the larger lymph nodes found throughout the body, and cancer may metastasize to them without causing any increase in their size. In some cases these nodes give the impression of having been made in a hurry; about them are apparent lymph spaces, and the picture is that of an intravascular lymph node which protrudes into the lumen of the lymph channel like a sponge. These nodes may be the same as the other minute lymph nodes above referred to and the intravascular appearance may be an artefact. The entire subject needs further study.

An invasion of the larger lymph nodes sometimes found in the parametrium is shown in Figure 7. In this instance the node was situated lateral to the ureter and one can see that the portion of the ureteral sheath next to the node is markedly thickened.

ABILITY OF THE URETERAL SHEATH TO RESIST THE INVASION OF CARCINOMA CERVICIS UTERI.

As has been stated, the ureteral sheath is derived from the tissue along or through which the ureter passes, and on this account it is no more able to resist the invasion of carcinoma cervicis uteri than the rest of the tissue

Fig. 11.—Demonstrates the destruction of a new-formed ureteral sheath and the invasion and compression of the ureter by recurrence of carcinoma cervicis uteri. ×4. Same specimen as one shown in Figure 10, but at lower level.

from which it is made, and its apparent ability to resist the invasion of cancer does not depend on any quality inherent in it, but on the nature of the growth. Growths differ greatly in their manner of invading the surrounding parts. One will find a large cancer, which in its growth tends to become encapsulated. The expansion of the growth seems to convert the surrounding tissues into a capsule, and the direct invasion of the surrounding tissue may take place, apparently, very slowly. On the other hand, in another growth there may be no evidence of expansion or encapsulation, but the growth extends in all directions into the surrounding parts, causing but a very little increase in the size of the parts involved. In Figure 5 the invasion of the ureteral sheath has apparently caused a hypertrophy of the sheath which would serve to protect the ureter, but later this very hypertrophy may compress the ureter and cause renal insufficiency. A similar condition is shown in Figure 7, in which the wall of the sheath next to the cancerous lymph node has become greatly hypertrophied, thus apparently protecting the ureter from an invasion of the growth. In Figures 8 and 9, from another case, one can see that the ureteral sheath apparently is affected by the invasion of

the cancerous growth in no way different from the rest of the surrounding tissue.

In another instance in which I had the opportunity of studying the relation between the growth and the ureter, I found that the growth had apparently broken into the ureteral sheath and had extended along the ureter within its sheath, and the latter in places was intact.

REGENERATION OF THE URETERAL SHEATH.

In November, 1903, I removed a cancerous uterus by one of the more radical operations. The pelvic lymphatics were removed with the uterus and growth and the parametrium out beyond the ureters. The latter were shelled out from the sheath, which was incised along its lateral surface. A study of the specimen showed metastases both to the parametrium and pelvic lymph nodes, while the primary growth was apparently entirely removed. The patient returned in April, 1904, complaining of some indefinite pain in the left side of the pelvis. Pelvic examination showed a lump about the size of a hen's egg apparently about the lower end of the left ureter. In April, 1904, an exploratory operation was made and this lump proved to be a return of the cancer, probably from a minute lymph node which had been overlooked and was situated laterally and below the left ureter. The mass, about the size of a hen's egg, was removed with the lower 4 cm. of the ureter and the renal end of the ureter was implanted in the bladder.

An interesting pathologic feature about the case was that a new ureteral sheath had formed from the tissue in which the barred ureter had become imbedded, as shown in Figure 10, and that this latter had become invaded by the cancerous growth, as shown in Figure 11, where one can see that the growth has destroyed the portion of the ureteral sheath next to it and has pushed the ureter against the outer wall of the sheath, and soon the left kidney would be thrown out of function.

CONCLUSIONS.

1. The pelvic portion of the ureter is surrounded by a sheath which is apparently derived from the tissue along or through which the ureter passes and owes its origin to the peristaltic movements of the ureter, thus causing intermittent pressure on its surrounding tissue. In favor of the above it may be said: (*a*) That the sheath as such is absent in the fetus; (*b*) that in a case of double ureter, in which the ureters were close together, one sheath was common to both; (*c*) that its structure varies with that of the surrounding tissue; (*d*) the ureter deprived of its sheath may form another from the tissue in which it becomes imbedded; (*e*) the sheath is developed best in parts where there is opposition to its contractions, as in the pelvis; while in the abdomen, where it lies in loose adipose and fibrous tissue which offers very little resistance to the contractions of the ureter, a definite sheath is imperfectly formed or absent.

2. Near the bladder the ureter is reinforced by muscle bundles, some of which apparently come from the bladder, as described by Waldyer, while others are apparently derived from the outer coat of the ureter, as described by Disse. These muscle bundles also form a sheath about the ureter, with which the sheath previously referred to fuses. While the two may be considered different portions of one sheath, on account of their origin and the fact that the lower end of the fibrous sheath apparently encircles the upper end of the other, they should be considered as separate structures.

3. The formation of a sheath about the abdominal portion of the ureter is very imperfect and in places apparently absent, which may possibly be explained on the ground that the surrounding tissue is loose and on this account offers little resistance to the contractions and expansions of the ureter.

4. The inside of the sheath is filled with adipose tissue and fine strands of connective tissue in which are imbedded the larger vessels of the periureteral vascular plexuses, and also possibly lymph channels.

5. While this sheath protects the ureter from the invasion of inflammatory processes and new growths, at the same time the local thickening of the sheath may interfere with the function of the ureter, thus giving rise to hydroureter and renal insufficiency and predisposing the kidney to infection, and in cases of ureteritis helps form the thickened ureter found in these cases.

6. Stricture of the lower end of the ureter demonstrates the imperfect formation of this sheath, as where the sheath is well formed expansion of the ureter is restricted, causing a stricture, while above this place the loose tissue (sheath) about the ureter may give way, permitting the tortuous condition and kinking of the ureter sometimes found in these cases, i. e., a hernia of the ureter through its sheath.

7. The ability of the ureteral sheath to resist the invasion of carcinoma depends more on the nature of the particular growth than any quality of the sheath, for the latter is derived from the surrounding tissue and behaves toward the growth as does the rest of the tissue about it (*a*) In some cases one finds a marked hypertrophy of the sheath, thus temporarily protecting the ureter, and later this hypertrophy may compress the ureter. (*b*) In other cases the ureteral sheath may be invaded with very little or no apparent attempt at hypertrophy, while in one case studied the growth gained access to the inside of the sheath and extended along the ureter within the sheath.

8. This sheath is of importance in operations in the pelvis, for if the integrity of the sheath is preserved, that of the ureter is assured. On the other hand, freeing the ureter from the sheath, unless done with great care, is attended with dangers of ureteral necrosis. Also in ureterovesical implantations the ureteral sheath should be preserved and sutured to the bladder, thus not only protecting the ureter, but, what is also of great importance, the tension of the implantation is relieved.

EXCISION OF PART OF THE ILEUM AND ALL OF THE CECUM AND ASCENDING COLON.

ILEUM AND TRANSVERSE COLON UNITED BY A NEW METHOD.*

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The various ingenious methods used at present to unite the divided ends of the intestinal tract are prima facie evidence that no one method is satisfactory in all cases. The trend of surgical opinion seems in the direction of suture, as against mechanical appliances, and this results from the fact that an operative procedure requiring for its performance special apparatus is thereby handicapped. When the appliance is one that must be left in the intestinal canal till healing has been completed, additional disadvantages, such as gangrene and obstruction, at once suggest themselves. Undoubtedly, mechanical contrivances are sometimes indicated, but

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

such instances should constitute the exception and not the rule.

In a previous paper[1] I have given results of experimental work in intestinal suturing and attempted to demonstrate the great advantages that the continuous suture penetrating all the intestinal coats has over the interrupted. They are uniform pressure, splint-like action and rapidity of application, all of which have been gone into in some detail in the paper mentioned, and will not be taken up here. As a result of this experimental work a new method of intestinal union was

Fig. 1.

evolved, which is particularly applicable to intestines of small or unequal caliber, as it is in these cases that suturing is most difficult and stricture most disastrous. In bowels of uniform and ordinary caliber there is probably no better method of union than by the Connell continuous, or the Cushing right-angled suture, penetrating all coats.

Fig. 2.

Intestines of unequal caliber frequently have to be united. Not only does this condition obtain when the ileum must be joined to the colon, but it occurs pathologically after partial or complete obstruction in intestines of normally uniform caliber. It is common knowledge that in cases of this character the bowel above the obstruction may become greatly dilated, when the surgeon is confronted with the serious problem of uniting the dilated segment to that of normal diameter. Not only are the technical difficulties great, but, as pointed out by Treves, there is much danger of stricture resulting.

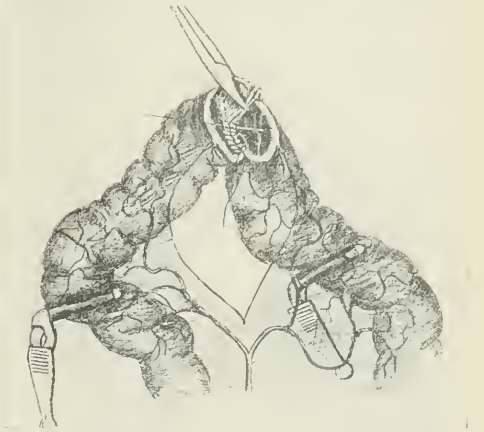

Fig. 3.

This new method seeks to simplify the technical difficulties and to obviate stricture in such cases, and in cases where the caliber, though uniform, is small. The method will be described as applied to intestines of small diameter; then the slight modification necessary when intestines of unequal caliber are to be united will be given.

The intestinal clamps are placed, or a single knot of a

Fig. 4.

soft rubber tube used, as recommended by Ballance and Edmunds, to obtain coprostasis. The mesentery is incised; in resection, a triangular portion may be removed. The vessels at the mesenteric border of the intestine are clamped before being cut. The forceps that clamp the vessels are also made to include both layers of perito-

1. Annals of Surgery, Nov., 1903.

neum as they separate from the mesentery to encircle the bowel. The tissue within the bite of the forceps is ligated with fine silk, so drawing the peritoneum over the area of bowel usually devoid of a serous coat, and at the same time closing the vessels. This stage is shown in Figure 1. Next, the bowel is divided or resected, as the case may be, and the convex borders placed in contact and held in this position with hemostatic forceps. An

Fig. 5.

ordinary No. 8 sewing needle, threaded with No. 2 braided silk, transfixes both walls of the intestinal ends about half way between the mesenteric insertion and the forceps (Fig. 2). The suture is drawn through and tied. A portion of the intestinal walls forming a crescentic area, the center of which is grasped by the hemo-

Fig. 6.

static forceps, is now cut out with scissors, by cutting about one-third of an inch at a time and suturing the cut edges together with a continuous circular (over-hand) stitch, penetrating all coats, and then cutting another one-third inch and suturing, and so on until the crescentic area is excised (Fig. 3). Or the continuous Connell suture may be used, suturing first for a few stitches and then cutting. The needle is inserted about six times to the inch, and moderately firm tension is constantly kept on the thread with the left hand. When this crescentic area has been removed, and the margins from which it was cut have been sutured in the manner described, the needle is thrust directly through the intestinal wall just to the right of its last puncture and emerges from the serosa. The character of the stitch is now changed to a Cushing right-angled continuous suture, penetrating all coats, which readily inverts the

Fig. 7.

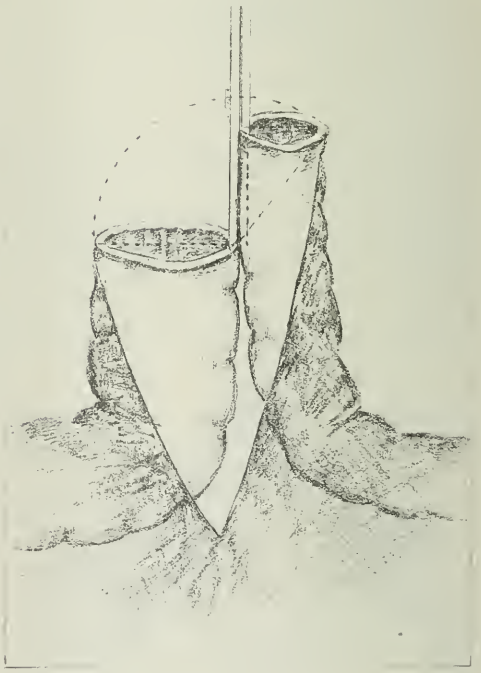

Fig. 8.

remaining margins of the wound (Fig. 4). The stitch is continued (Fig. 5) with moderately firm traction on the thread. When the first knot is reached it is invaginated, and the suture continued by two more insertions of the needle. With these last two insertions of the needle as secure a hold as possible is obtained without penetrating to the mucosa. The very last insertion is in the reverse direction of the other insertions, so that when the knot is tied it is partly buried (Fig. 6). If

desired, it may be completely buried by a single mattress stitch, though I have never thought this necessary. After this suturing is completed but little of the thread can be seen. The bowel is then turned to its natural position, and with another needle, similarly threaded, the mesentery is sewed up with a continuous stitch (Fig. 7). The needle is inserted in the mesentery at its junction with the bowel, and the first knot when tied acts as a mesenteric stitch. It is placed close to the bowel, though no attempt is made to include any portion of the intestinal wall in its grasp, as in the Mitchell-Heaminer or Halsted mesenteric stitch.

When bowel of unequal caliber is to be united, the two segments are clamped by taking a deeper bite on the small bowel than on the large, so, when the mesenteric borders of both segments are lifted up, these borders will be on the same level (Fig. 8). One corner is caught with a hemostat and the suturing is begun at the other corner (Fig. 9). All of the crescentic area is cut

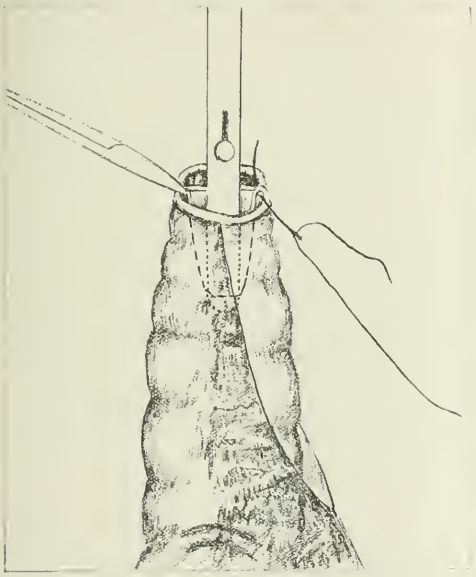

Fig. 9.

from the small gut except at the points where the hemostats are applied, as here both bowels are clamped. Otherwise the operation is finished as above described.

The following case may be interesting, not only from a surgical standpoint as involving a new method of operating, but also pathologically, for the tumor proved to be different from what it was thought to be at the time of operation:

Mr. P. L., Mexican, married; cigarmaker; aged 26; previous history negative; has one child, who is healthy. There was a history of youthful dissipation before marriage. His wife is healthy.

History.—Since 1900 he had been suffering from pains in the abdomen, located chiefly on the right side and in the iliac region. He had lost very much in weight a few months before coming under my care, in April, 1902. He was thin, and there was considerable spasm of the abdominal muscles on the right side, with the greatest tenderness, apparently, over the region of the appendix. He was operated on April 7, 1902, and the appendix removed. Macroscopically, it showed the ordinary appearances of catarrhal appendicitis. He was discharged three weeks after the operation in good condition, the wound having healed primarily. For several months he improved and complained of little or no pain. He gained materially in weight.

About October, 1902, pains again set up of similar character to those from which he originally suffered. They gradually increased. He went to different physicians, who treated him for various ailments. Continually growing worse, he finally came to me again, in May, 1903, a little more than a year from the time of operation. His condition was pitiable. He was excessively emaciated, and there were frequent paroxysms, from which he suffered intensely. There was some pain all the time, but these attacks would come on during the

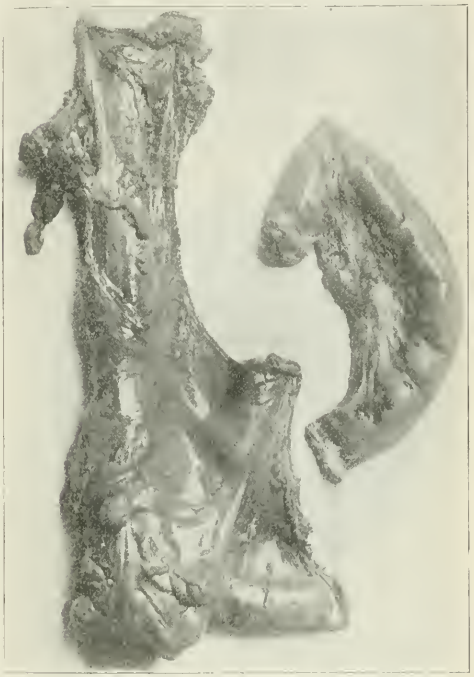

Fig. 10.—Photograph of specimen two hours after removal.

day without any particular reference to what he had eaten, or to anything that he had done. Another examination showed him to be in apparently normal condition, as far as kidneys, lungs and heart were concerned. There was no evidence of any constitutional disease. It was very difficult to make out anything in the abdomen, owing to his sensitiveness to pressure there, and to spasms of the muscles over the whole abdomen, particularly on the right side; consequently, examination was practically negative. His bowels had been regular; there was some tympanites, but no marked distension. An exploratory incision was advised, and this the patient readily consented to, with the understanding that any operation found to be necessary would be done.

Operation.—June 2, 1903. A vertical incision was made through the outer edge of the right rectus muscle below the level of the umbilicus. Cecum was adherent to the peritoneum at the site of the old operation scar made when the appendix had been removed. Cecum and most of the ascending colon were infiltrated by a neoplasm and greatly thickened. The glands in the mesentery were enlarged. Nodules, the size of

buck-shot, appeared in various portions of the colon and cecum. About the middle of the colon a stricture had formed, which rendered the intestinal wall here very thick. The photograph of the specimen (Fig. 10), taken shortly after its removal, shows most of the points mentioned. The pathologic process, supposed to be carcinoma, stopped at the upper part of the ascending colon. The involved tissues were firm and elastic. In order to remove the mesenteric glands, the last ten inches of the ileum were excised, though this intestine was not diseased. The cecum and all of the ascending colon were cut away, going well into the healthy tissue of the transverse colon. The vessels were very large. They were ligated in sections. But little blood was lost.

The clamps used for coprostasis were covered with rubber tubing, and once during the operation both clamps slipped, allowing some fecal matter to escape. This was cleaned away as quickly as possible, but as the operation could not be done entirely extraperitoneally, owing to the short mesentery, infection of the peritoneum necessarily occurred. An end-to-end union of ileum and transverse colon was made with suture according to the method described above for intestines of unequal caliber.

The intestinal suture took sixteen minutes, which, with the dissection, ligating the numerous vessels, thorough toilet of the peritoneum, and suturing the abdominal wall, made the opera-

Fig. 11.—Syphilis of the intestine, thickened artery walls.

tion two hours in length. A tube surrounded by gauze, and this wrapped with rubber tissue, was used as a drain.

The patient complained bitterly of pain as soon as he recovered consciousness, though pulse and general condition were satisfactory. He passed gas from the bowel a few hours after the operation, and several large movements occurred during the first forty-eight hours. On the evening of the third day the temperature went up; drainage had practically stopped.

In spite of thorough bowel movement, with no tympanites or indication of general peritonitis, the patient rapidly failed and died on the afternoon of the third day after the operation. His clinical chart shows as follows:

June 2, before operation—Temperature, 98; pulse, 78.
June 2, after operation—Temperature, 98.4; pulse, 110.
June 3—Morning temperature, 100.2; pulse, 105.
June 3—Afternoon temperature, 101; pulse, 98.
June 4—Morning temperature, 100.2; pulse, 100.
June 4—Afternoon temperature, 102; pulse 128.

Autopsy.—Postmortem examination was made in the presence of a relative, and with the assistance of Dr. A. H. White of El Paso. About eight ounces of seropus had accumulated at the site of the incision, but was firmly walled off from the general peritoneal cavity by omentum and intestines. There was no evidence of general peritonitis, and very slight tympanites. The omentum was plastered over a portion of the suture line at the intestinal union, the site of the union itself making part of the wall of the cavity containing the seropus. The union was in excellent condition, showing no leakage, though it was slightly distended with gas and fecal matter. A segment of the intestine including the union was removed, after separating adhesions, and thoroughly examined both by inspection and water pressure. It was perfectly sound, without any apparent weak point. The peritoneum over a portion of the removed segment was, of course, inflamed from the local infection. Death was evidently caused by the local infection, which the patient's weak condition could not overcome. Had the drainage been efficient or the patient's resistance greater, a fatal issue would probably not have occurred. There was no satisfactory explanation for the drain not working.

The photograph of the gross specimen shows some of the interesting features of the case (Fig. 10). Particular attention is called to the stricture, to various nodules, and to two or three prominences in the mesentery, which were enlarged glands.

A thorough microscopic examination of the specimen was made by Dr. Greer Baughman, assistant pathologist to Memorial Hospital, to whom I am greatly indebted for the following report:

Microscopic Examination of the Tumor.—Pieces were taken from the tumor, from the intestinal wall and from the place where the tumor began to rise from the intestine. These were hardened in the usual way, cut in collodion and stained with hematoxylin and eosin. All of the sections showed a diffuse thickening of the arterial walls (Fig. 11), and a proliferation of the endothelium lining the vessels; some of the smaller arteries seemed obliterated. The thickening of the arterial walls was not limited to the small arteries.

The tumor itself was almost entirely submucous. There was an occasional infiltration of round cells through the muscle, and in some places the superficial glands seemed to be worn away. The cells composing the tumor were round. A cheesy degeneration was noticed here and there. In several of these cheesy nodes giant cells could be distinctly made out.

The cheesy masses were made up of cell detritus, with a few nuclei. The cells composing the tumor proper were irregular-sized round cells; a few epithelioid cells were in the neighborhood of the cheesy masses.

The thickening of the arterial walls, the presence of gumma like nodules, in which giant cells are noticed, and the submucous situation of the tumor led to the diagnosis of syphilitic gumma of the intestine.

DISCUSSION.

DR. O. C. SMITH, Hartford, Conn.—I congratulate Dr. Horsley on his ingenious method of anastomosis, and also on his temerity to report a case which did not recover, and one where the diagnosis was made at autopsy. Such cases are of vastly more interest than the simple ones which go on to a cure. He refers to having operated for appendicitis. Time was when nearly every physician and surgeon, whatever else his failings, felt that he was proficient in obstetrics, but now nearly every surgeon believes that he can, at least, operate well for appendicitis. Not infrequently the surgeon operating for appendicitis will encounter such a case as this, for here in the region of the ileocecal valve is the most frequent location of cancer in the abdominal cavity. We have had such cases at the Hartford Hospital where the most probable diagnosis was appendicitis and found instead carcinoma, and when a novice comes on such a case he may be at a loss to know what to do. If he is timid or conservative he will content himself with performing colostomy above the obstructing growth. If he is courageous he may attempt excision and entero-enterostomy, but by the time he has separated the ileopsoas fascia and dealt with the mesentery he is likely to be used up, but he still has to undertake the removal of the diseased portion of the intestine and perform the anastomosis. He would have choice of several methods for the latter procedure, and he might not know which to select. Had he better close the ends of both

intestines and do a side-to-side anastomosis; or should he close the end of the colon and implant the end of the ileum into its side, thereby imitating the natural junction of the ileum and cecum; or should he bevel the end of the small intestine to make its circumference like that of the colon and do an end-to-end anastomosis? If he decided to use a mechanical device for the anastomosis, he would have to decide between those which are removed at the time of the operation, as, for instance, the Laplace clamp, and those which are to be left in the lumen of the bowel, whether a button, a bobbin or a bone plate; and so it behooves every man who operates for appendicitis to equip himself with some definite plan for doing these more serious operations which may suddenly come to him as a surprise.

DR. A. J. OCHSNER, Chicago—No surgeon has a very large personal experience in the excision of the cecum, ascending colon and ileum, and for this reason the subject has never been thoroughly discussed before this Section. It is one which should be discussed, because the success of the operation depends on the recognition of several simple principles. It depends on this: We must plan the operation so that the steps may be carried out with facility in order to reduce the amount of unnecessary manipulation. The danger in every operation that has not been frequently performed is that we manipulate too much. We find that in every form of surgery, when the early mortality is exceedingly large, it is not because the operation is especially difficult or dangerous, but because we do not know how to go about it. We kill the patients by unnecessary manipulation. As to the manner in which this operation should be performed, I would say that a clamp should be placed on the ileum and the transverse colon at points beyond the diseased portion, and it should be remembered that we are in danger of wounding the buried portion of the duodenum. If the two points of section of the ileum and colon are successfully grasped and the tissues behind the portion of the intestine to be removed are carefully secured with hemostatic forceps to prevent hemorrhage, it is necessary only to avoid the ureter on the one side and the duodenum on the other. As to the difference in the size of the two ends of the intestines to be united, the question of adjusting the size of large and small intestines should have been dropped many years ago. Surgeons of experience will not meddle with this because it is absolutely unnecessary. The two ends of the intestines are simply closed and a lateral anastomosis is made with sutures or an end-to-side anastomosis is made by inserting a Murphy button. The same principles that we employ in intestinal surgery always come into play here. We must have good nutrition in the intestine, there must be no tension or angulation and we must always see that serous surface is opposite serous surface. By making use of these simple principles the operation may be performed within thirty minutes, and it is accompanied with as little danger as most of the operations on the intestine.

DR. F. GREGORY CONNELL, Leadville, Colo.—Perhaps the most important element in enterorrhaphy is the security, the elimination of the danger of the yielding of the stitch. The peritoneum and the muscularis do not guarantee this security, while the submucosa does. Hence the necessity of including the submucosa in the bite of the stitch. Until comparatively recently it has been taught that it was possible to penetrate and not perforate this layer of the intestinal wall. A short time ago this presentation of Dr. Horsley's would not have been seriously considered and would have been looked on as dangerous. We now know it is practically impossible to secure a proper hold in the submucosa without passing the suture through that layer. The point as to the capillarity and infection would seem to be more or less theoretical, but it certainly would seem reasonable to suppose that this danger would be decreased by placing the knot within the lumen.

DR. HORSLEY—I feel that some explanation should be made for taking about two hours to complete the operation. There were adhesions to the abdominal wall, the mesentery was short and thick and the vessels were large and tortuous. The intestinal clamps slipped, which caused delay by additional cleansing of the field. After removal of the cecum and colon, some involved mesenteric glands were found which necessitated resection of a portion of the ileum. The time consumed in uniting the ileum and colon was sixteen minutes. The specimen presented shows satisfactory union. Dr. Ochsner has called attention to the important surgical axiom that during an operation tissues should be manipulated as little as possible. Yet he recommends that big and small gut be joined by an end to-side or a lateral method—thus leaving two or more distinct wounds to make and to close, whereas in the method described practically the whole process is an end-to-end union accomplished by a single row of continuous sutures. This must be quicker and involve less manipulation than making an end-to-side or a lateral anastomosis and then closing the intestinal ends. I have done the operation on the dog in eight minutes, with recovery.

GALLSTONES IN THE COMMON DUCT.*

ARCHIBALD MACLAREN, M.D.
ST. PAUL, MINN.

Whether the formation of gallstones is due to chemical or to bacterial causes, it seems fairly certain that the stones are first formed in the gall bladder and are usually associated with recurring attacks of cholecystitis, usually of a subacute character. Whether the inflammation of a gall bladder stands in the relation of cause or effect, it is apparently a clinical fact that, while we may occasionally see a primary cholecystitis without stones, we do not find a secondary attack occurring after any appreciable length of time without finding stones present either in the gall bladder or in the ducts. I suppose it is possible for a patient to pass all of his stones through the common duct, and so cure himself, but my experience leads me to believe that such a result is almost impossible. In fact, the passage into the intestine of a single stone is rare, and in the only case in which I have ever been able to prove such a passage and recover the small stone, there were many similar stones in the gall bladder, and the woman also had a chronic pancreatitis, evidently due to the temporary lodgement of the stone in the ampulla and consequent damming back of the infected bile into the pancreatic duct.

After the formation of stones in the gall bladder they may, under favorable conditions, remain for long periods of time without causing any characteristic symptoms, the so-called slumbering gallstones.

When, however, the gall bladder becomes infected or reinfected, gallstones being present, the stones apparently keep up the inflammation and irritate the gall bladder into recurrent and usually ineffectual colicky attempts to rid itself of its undesirable tenants.

If the gall bladder succeeds in forcing a stone into the common duct, it is very likely to lodge there, because the middle portion of this duct is more easily dilated than its distal extremity. Mayo Robson finds that of all his gallstone cases one in five contains a stone in the common duct, while the Mayos have found one in seven at the time of the operation. My own experience leads me to believe that Robson's figure is none too high

When a gallstone becomes lodged in the common duct there is an interference with biliary drainage, and infected bile from the gall bladder passes back into the hepatic ducts, setting up a more or less acute cholangitis. After the lodging of a gall bladder stone in the common duct, a later crop or a younger set of stones may be formed in the common or hepatic ducts be-

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

hind it. But the stone nearest to the intestine will be found to correspond in appearance and evident age to the gall bladder stones and not to the secondary hepatic duct concretions (Mayo).

It is of the utmost importance to entirely clear the ducts of all stones, for it is very distressing to our patients, and also to ourselves, to find that a secondary operation is necessary on account of a persistent biliary fistula, and this is the least of the evils that may follow.

In one of my early cases I removed fifteen gallstones from an inflamed gall bladder, but the patient failed to improve; she grew steadily worse, and died on the fifth day. At the postmortem examination I found several stones impacted low down in the common duct, no other cause of death being apparent.

The presence of a stone in the common duct keeps up or aggravates the subacute cholecystitis which accompanies so many of these cases. Contraction of the gall bladder wall soon takes place, which, if carried to its fullest extent, leaves the gall bladder a dense, hardened mass of cicatricial tissue, resembling a small tumor on the common duct. Very recently I removed such an obliterated gall bladder that was not one-half inch in diameter.

There are many analogies between the appendix and the gall bladder. This chronic obliterative inflammation which affects them both is one of the closest, and is another reason for cholecystectomy as against simple drainage of the gall bladder in cases when we believe that this process is well under way.

Dr. Maurice Richardson is unquestionably right when he says that cholecystectomy should be an operation of necessity, and not of choice; he is undoubtedly correct in his general propositions as to the advantages and greater safety of cholecystotomy over removal of the gall bladder; but occasionally, even in the moderately advanced cases of this class, removal of the common duct stone which is the cause of the obliterative inflammation, and draining of the infected gall bladder, will not effect a cure.

When should gallstones be removed from the gall bladder? There is still a considerable amount of uncertainty in the minds of many good men on this subject. Kerr voices the sentiment of the greatest so-called conservatism, and sends many of his patients back to the internist and to the springs. It would seem that perhaps his general mortality of 16 per cent., and his unexplainable mortality of 96 per cent. in 75 "complicated cases" out of some 800 operations, would be a strong argument against this plan of procedure. My own answer to the above question would be, that the operation should be done before the stones have reached the common duct, or before other complications have had a chance to occur.

If it were possible in any given case to predict the progress of a gall bladder stone, however innocent it might seem, then we should be justified in postponing removal, but such a prediction is impossible. Some cases give ample warning; in others, the lodging of the stone in the common duct is the first symptom of the disease or of its renewed activity.

It would seem as though the only safe advice which can be given is that gallstones, wherever they are, should be removed as soon as the diagnosis can be made with certainty. As Mr. E. Stamnon Bishop in the London *Lancet* has recently said, no temporizing would be justifiable in the presence of a urinary calculus even though it were not producing active symptoms.

If Mr. Robson finds that in the cases calling for operation one case in every five has stones in the common duct, and if, as all agree, the mortality of the operation for removal of common duct stones is from 4 to 5 or more per cent. greater than for ordinary opening and drainage of the gall bladder, ought we not to operate or remove the stones before they have started to migrate?

COMPLICATIONS.

What are the complications produced by a stone in the common duct?

1. *Jaundice.*—Jaundice is seldom caused by stones confined to the gall bladder. An attack of jaundice with colic is very suggestive of the passage of either thick, ropy mucus or of a stone into or through the common duct. Jaundice is not necessarily produced by common duct stones; a single stone seems to cause jaundice more certainly than a larger number. I have seen several stones packed into the duct when there had never been any jaundice at all, and this is not an uncommon occurrence. Kerr says that he finds jaundice absent in 33 per cent. of the cases where stones are lodged in the common and hepatic ducts. As a result of chronic jaundice, we have a decrease in the ordinary coagulability of the blood leading to persistent and fatal hemorrhage from even unimportant operative procedures. Chlorid of calcium probably helps to overcome this tendency, as has been suggested by Mr. Robson.

2. *Cholangitis.*—This may be either acute, going on to hepatic abscess, or in a subacute form, frequently with chills, fever, sweating, so intermittent in character as to strongly suggest the diagnosis of malaria, as was recently emphasized by Brewer.

In this connection it should not be forgotten that syphilitic cholangitis occasionally gives this same train of symptoms, probably due to the inflammation of or to the formation of a small gumma in the common duct. Dr. J. B. Murphy recently reported such a case to me in a personal communication, and I have seen one such case myself; both of these cases were temporarily cured by a course of antisyphilitic treatment.

3. *Peritonitis.*—This, from the ulceration through the duct of a large stone, is a not uncommon occurrence. Some of these escape through the intestine; others form local abscesses, if the inflammation does not become general.

4. *Inflammations of the Pancreas.*—These are undoubtedly associated with impacted or passing choledochous stones. The duct of Wirsung occasionally discharges into the duodenum through a separate opening, but usually it unites with the common duct to reach the intestine through the ampulla of Vater. In this latter case a small stone may obstruct the secretions from both the liver and the pancreas. Infected bile may in this way set up an inflammation of the pancreatic ducts, or the interference with the flow may allow the entrance of intestinal bacteria.

The fact that pancreatic infections are rare as compared with biliary inflammations has always seemed to me to be an argument against direct intestinal infection as opposed to blood or other channels of contamination. For, if the bacteria usually came up from the intestine, the shorter and more direct duct of Wirsung would be the course which they ought to follow.

5. *Cancer.*—This is probably a late or an indirect result of the irritation following the prolonged presence of a common duct stone.

It has been my misfortune to overlook stones in the common duct on several occasions, some of which I have

been able to remove at a later date. Others have recovered with a persistent biliary fistula, probably due to choledochous stones. In some other cases I have removed common duct stones in patients who had been previously operated on by other surgeons.

The question naturally arises, how can we best prevent the leaving of stones in the common duct? By placing a sand bag under the small of the back, and by making an ample incision, say five inches in length, and raising and rotating the liver so as to expose the common duct, according to Robson. The small, short incision, while giving room enough to deal with the gall bladder, is not sufficient for thorough exploration of the common and hepatic ducts. One should make it a rule to thoroughly explore the common duct by passing a finger through the foramen of Winslow in all gallstone cases before the gall bladder is opened, and this should be done even in cystic gall bladder cases due to an impacted stone in the cystic duct, for even in this class of cases other stones may at times be found in the common duct.

If the common duct is dilated, and especially if the gall bladder is small and contracted, there is probably either an impacted ball valve or a floating stone in the common duct, and under these conditions it is justifiable to open and explore the duct with spoon probe or the finger, as advised by Mayo, who also says that the finger is the only certain instrument of exploration.

I have seen several ducts which contained stones into which I was not able to pass the finger without using undue force, but when it is possible the finger should be passed into the duct, as a small stone, especially if it be lodged near the ampulla, can at times only be discovered in this manner.

After removing a stone from the common duct, how shall we treat the opening? Usually by draining the duct. We hear of late a great deal about drainage of the hepatic duct. I can not see that the passage of a tube up into the duct can have any advantage over simply stitching the end of a rubber drain into the opening. A continuous or purse-string catgut suture which catches the tube on either side will close the opening in the duct and prevent the bile from passing into the peritoneal cavity. If the gall bladder or stump of the cystic duct, after cholecystectomy, is treated in the same manner, just as thorough drainage will result as if the tube were passed deep into the common or hepatic duct.

The common duct tube can be removed as soon as the catgut softens, while the gall bladder tube can remain until the bile becomes sterile.

I have operated on fifteen gallstone cases during the past seven months, in five of which I found stones in the common duct, at the time of the operation, and one other vomited up a gallstone after having an attack of colic the day after the drainage fistula closed. Fourteen of these cases recovered, and one died. The death occurred in a young woman of 27, who had been sick one year, had suffered for three months with constant fever, chills and chronic jaundice. At the time of operation the gall bladder was found thickened, inflamed and adherent, containing four gallstones, while there were eight in the common duct. Infected bile flowed very freely from the time of the operation until her death.

She died on the fifth day with symptoms of septic meningitis and cholangitis, her liver reaching to the crest of the ilium. At the partial postmortem no peritonitis was found.

DISCUSSION

ON PAPERS BY DRS. RICHARDSON* AND MACLAREN

Dr. Joseph D. Bryant, New York City—I believe in free drainage of the hepatic ducts, and regard gallstones as agents of trouble that ought not to be lightly considered. As an earnest of the latter fact, we have only to note the outcome of the case of an apparently innocuous gallstone affliction just cited by Dr. Richardson. Probably the handling of the gall bladder with its burden of gallstones precipitated the attack that followed so soon after the manipulation of the organ. If this be true, then, indeed, is emphasized the importance in such cases of all bodily movements, especially those of a lifting, straining or jarring nature that might easily disturb the relations of the gall bladder and its contents, arousing to renewed activity the infecting agents that some time since gained a substantial foothold there. In other words, it seems to me that in the presence of gallstones in the gall bladder one has but to recall the fact that irritation produced by their manipulation or movement may beget prompt and perhaps continuous trouble. So far as my experience goes, drainage seems to be an important proposition. We must remember that the bile ducts are of a limited diameter and more or less firmly related to the contiguous liver tissue. They possess the characteristics of mucous membrane, and are subject to the same inflammatory processes. Undoubtedly infection forms very largely the basis of all inflammatory troubles at this situation. Infection gains entrance chiefly by way of the duodenum and the gall bladder. The mucous membrane of the ducts, in such instance, as it seems to me, becomes increased in thickness, obliterating the lumen of the ducts completely in some cases, and in circumscribed portions of the ducts in other instances, causing thereby interference with the discharge of the bile into the larger ducts and, no doubt, circumscribed collections in the smaller. Since the flow of bile from the liver is accomplished under a low degree of pressure, it becomes very easy to understand how its free discharge should be encouraged by drainage under these circumstances. Early and prompt drainage in connection with operations should be practiced in proper cases. If one but stops for a moment to make comparison between infected liver structure and infected portions of other parts of the body, making the same application of the principles of drainage in both, it seems to me that the illustration of the need in gall ducts is complete. As to the points of drainage: We have two distinct points of entrance of infection, one by way of the gall bladder and the other through the common duct. Therefore, these points—the common portals of entrance—should be the ones through which it seems best that drainage should be established in proper cases. That the gall bladder should be utilized for the purpose of drainage seems to me to be a perfectly clear proposition, especially since we know that the gall bladder and the cystic duct are common channels of infection, and, therefore should become at once the direct channels for the discharge of the infecting agents. To remove the gall bladder, leaving an infected cystic duct, would perpetuate the continuance of infection. I regard drainage of the gall bladder in suitable cases in the manner recommended by Dr. Richardson as the proper course to be pursued, and I regard drainage of the common duct for similar reasons as being a meritorious proposition. It is hardly enough to drain the gall bladder only for the relief of infection associated with the common duct.

Dr. C. O. Thienhaus, Milwaukee—I shall confine my remarks to one question, which nowadays seems to occupy the most prominent place in scientific discussions of gallstone surgery. That is the methods of different operative procedures in vogue for stones impacted in the common duct. When we consider the anatomy of the common duct and its anatomic relationship with the duodenum, we can differentiate three distinct localities in which stones in the common duct are found, and are liable to get impacted, and according to which different methods of operative procedures must be used.

*The paper of Dr. Richardson appeared in The Journal, September 3.

Stones in the common duct may be found, first, in that portion which lies above the duodenum, the so-called supraduodenal portion of the common duct; second, stones may lie in that portion of the common duct which is situated within the wall of the duodenum and near the papilla, the so-called papillary portion of the common duct; third, stones may be impacted in that portion of the common duct which lies behind the duodenum, the so-called retroduodenal portion of the common duct. In the first class, stones in the supraduodenal portion, when there exists no possibility (and such a possibility is extremely rare) to press them back through the cystic duct into the gall bladder, supraduodenal choledochotomy with drainage of the common duct, or, better, the hepatic duct is the method par excellence. For the second class, impaction at or near the papilla, the transduodenal route as first described by McBurney, 1891 (lithotomia transduodenalis), is the best method, when attempts to dislodge the stone into the duodenum by manipulation have proven futile. This method must be followed by drainage of the gall bladder or the supraduodenal portion of the common duct. For the third class, stones impacted in the retroduodenal portion, when they can not be dislodged upward into the supraduodenal portion, retroduodenal choledochotomy or transduodenal choledochotomy come into question and are rival operations. Retroduodenal choledochotomy was first advised by Lane, 1894 (Clin. Society Trans., p. 149). An incision is made 3 or 4 cm. long parallel to the duodenum descendens through the peritoneum on the outer side of the duodenum (in the same manner as advised by Kocher in cases of gastroduodenostomy). After blunt dissection the duodenum can easily be detached and turned over to the left side, and there by the retrodnodenal region of the common duct together with the pancreas, be freely exposed. Then the pancreas is dissected (either by blunt dissection, the thermocautery or the knife), the choledochus opened and the stone extracted.

Against this excellent method, used by Czerny, Kehr, Kocher, DeQuervain and others with good results, I have but one objection, and that is, that it can only be employed when there are no dense adhesions to be dealt with, and such cases are comparatively rare. When we find, as is usually the case (when stones are impacted in the retroduodenal space for a longer period of time), the duodenum, pancreas and common duct matted together in one mass and surrounded by dense adhesions, retroduodenal choledochotomy is inadvisable and transduodenal choledochotomy followed by choledochoduodenostomia interna has to be preferred. It is performed in the following manner: Opening of the duodenum; incision through the posterior wall of the duodenum to the impacted stone or near the papilla; extraction of the impacted stone and of other stones higher up in the common duct by milking the choledochus from above downward, the index finger of the left hand being introduced into the foramen of Winslow and the thumb lying above the duct. When the common duct is freed from stones it is sutured to the posterior wall of the duodenum, thereby producing a new anastomosis between the common duct and the duodenum. Then the duodenum is closed and either the gall bladder drained or the common duct from a supraduodenal incision. This latter method I used two years ago in a case which I have cited in the Annals of Surgery, 1902, where the woman was jaundiced for over one year and had lost 100 pounds in weight. She is perfectly well to-day and has gained over seventy pounds since the operation. I am not in favor, in cases of impaction of gallstones in the retroduodenal part or the papillary portion of the common duct, of performing a supraduodenal choledochotomy and introducing scoops and other instruments in the dark to dislodge the stone upward. Such attempts have been often followed by severe lacerations of the duodenum and the pancreas and subsequent infection or death from starvation (duodenal fistula). Some have objected against transduodenal choledochotomy that it may be followed by infection from the inside of the duodenum. In my opinion, the opening of the duodenum is not more dangerous than the opening of the bowel in any other part of the gastrointestinal tract, and statistics have shown that transduodenal choledochotomy is not more dangerous than supraduodenal choledochotomy.

DR. J. E. MOORE, Minneapolis—In my experience in gall bladder surgery, I have been impressed with the importance of saving that organ when possible to carry out the very suggestions made by the writer to-day. I learned very much from a very recent experience. It emphasized the importance of early operation, of thorough drainage, and that it is wise not to give up the patient as long as he is alive. The patient was a little girl, 13 years old, who had been jaundiced since she was eighteen months old. She had repeated bellyache all this time and had been under the care of a general practitioner. The diagnosis recently made was stone in the common duct and there was a clear history of gallstone colic. The child's age interfered with early diagnosis, but an operation was performed and stones were found in the gall bladder and common duct. I depended on drainage and made what I supposed was sufficient drainage, but it proved to be not sufficient. I introdnced a cigarette drain with a good sized roll of gauze surrounded by rubber tissue, and all went well for three days. The patient was jaundiced after the operation and on the fourth day I was informed that she had a convulsion. The temperature was 103, the pulse 130, and I went to see her immediately. I decided it was not a case of peritonitis, but that she was suffering from cholemia. I thought I could stop the convulsions, although when I got her on the table she was semi-comatose. I used chloroform, removed the drainage from the abdominal cavity and took a blunt instrument and made pressnre on the loin. Over this I made an incision and found a pint of bile. I irrigated the abdominal cavity with several gallons of normal salt solution, established drainage from the loin, and she is now convalescing.

DR. ERNEST LAPLACE, Philadelphia—Dr. Richardson is right in saying that a gallstone should be removed as soon as diagnosed. Drainage of the ducts is also essential. When a rubber tube is used, the surrounding parts should be packed with gauze so as to drain whatever leakage that might take place. I insist on an abdominal incision long enough to allow easy access to the entire field of operation. I have known gallstones to have been accompanied by local malignant disease to which they possibly were the predisposing cause.

DR. WILLIAM J. MAYO, Rochester, Minn.—I agree with Dr. Richardson most fully that early operation in these cases stands in exactly the same position as does the early operation for appendicitis. When the operation for appendicitis was done only when the patient was in a most serious condition the mortality was high, and our responsibilities to the public were largely increased. It used to be said that if surgeons could not give better results they had better leave the cases to Nature, but to-day the practitioner himself must bear a part of that responsibility. If he does not send his case to the surgeon soon enough, he must bear part of the responsibility for the result, and this will be equally true in connection with gallstones. There is one particular point that Dr. Richardson has brought out, and that is the necessity for bile drainage in probably about 40 per cent. of the cases. I can not quite agree that the operation of cholecystectomy is an obsolete one. We find ourselves performing this operation more frequently, but it should be for certain reasons. If one has a cystic gall bladder where the stone is obstructing and the gall bladder is free from bile, it can be removed, the cystic duct can be ligated and I have seen no harm follow because Nature has already thrown a ligature in the shape of an obstructing stone. Some mild cases of cholecystitis with or without gallstones that have given trouble at various times, but are at the time of operation in a quiescent stage, may be removed, and so far as our experience goes, no harm results—but rather good. All of these cases, however, should be drained, for occasionally there will be bile pressure and leakage. A light catgut ligature protected by a drain is satisfactory. If the cystic duct is obstructed by a stone or stricture, leaving a thick-walled functionless gall bladder which may really be followed by cancer, I believe these gall bladders are better out. You may say that you can take the stones out of the gall

drainage. I have never seen sepsis result from so doing. As to the common duct stones, I think these calculi should be removed and at a primary operation, as this is the safest time. You may say that you can take the stones out of the gall bladder and drain, and later remove those in the common duct, but the second operation is more dangerous than it would have been at the primary. It is wiser to remove all the stones at one primary operation. As to the McBurney operation of duodenocholedochotomy, it is a good operation in a certain class of well-selected cases, but it is better to make this operation in conjunction with the operation on the common duct. If you open the duodenum and take away the stone there, it may not be the largest stone present, and others may still remain in the duct; therefore, the common duct should at the same time be opened, explored and drained. Remove all the stones if you can and you should nearly always be able to do so. In rare cases it may be wiser to do a two-time operation, and occasionally a stone will be overlooked with the most experienced.

DR. J. C. BLOODGOOD, Baltimore—I hope, in the future, that if I am asked to discuss a paper, that the chairman will be good enough to allow me to speak before Dr. Mayo, because when one speaks after him on the subject of gallstones there is but little left to say but "ditto." Our experience in gall stone surgery has brought out conclusions very similar to those just expressed by Dr. Mayo. The two papers under discussion impress us that there is a change in feeling toward the operation of cholecystectomy. After this operation was introduced by Finney some years ago, many surgeons throughout the country were influenced to perform cholecystectomy rather than cholecystostomy in the larger proportion of cases irrespective of the condition of the gall bladder. Dr. Richardson in his paper did not discuss this point, probably because in a very recent article he has given his view in regard to the indications for cholecystectomy. In this paper Dr. Richardson limits the indications for cholecystectomy. The surgery of gallstones may be divided into three groups: First, those cases in which cholecystostomy and drainage of the gall bladder are sufficient; second, those in which removal of the gall bladder (cholecystectomy) is indicated; in this group, in some instances, the cystic duct may be ligated; in others it should be left open and drained. In the third group either a simple or complicated operation on the common bile duct is demanded. As a rule cholecystectomy should not be performed, especially in the complicated cases. Cholecystostomy is frequently indicated. I prefer, after duct operations, drainage through the gall bladder rather than through the common duct. The experience in Dr. Halsted's clinic is most favorable to the immediate suture of the duct. I have recently received communications from all cases of gallstone operated on in the Johns Hopkins Hospital surgical clinic and from a good many outside cases. These communications have impressed me with the uniformly splendid results after cholecystostomy in appropriate cases. Secondary operations have never been necessary, except in those cases in which all the stones were not removed, either because they were overlooked (all early operations), or because the condition of the patient contraindicated the necessary manipulations. The experience in gallstone surgery during recent years most emphatically indicates the earliest possible removal of gallstones and the drainage of the gall bladder in cases of inflammation without the gallstones. The chief mortality after these operations is found among those cases in which the stone is in the common duct and in which jaundice has been present many months. In every one of these instances there should have been no difficulty in making the proper diagnosis at a much earlier stage of the disease.

DR. RICHARDSON—The main subject of my paper is the drainage of the biliary passages and the indications for operation. In answer to Dr. Bloodgood, I believe certain gall bladders must be removed, whereas others are better drained. The best practice is, when possible, the preservation and drainage of the gall bladder. In those cases in which we must remove the gall bladder we are learning the immediate and the permanent effects of cholecystectomy. When I take out the gall bladder I am having trouble, but just what this trouble is I do not yet know. Whether this trouble is caused by inflammatory processes about the remains of the gall bladder and the cystic duct, by gallstones, by adhesions, or by neoplasms, time only will tell. Drainage is the chief thing to accomplish—whether we provide it through the gall bladder, the cystic, the hepatic or the common duct. I am convinced that cholecystostomy is the preferable operation whenever the gall bladder is normal or comparatively normal. Diseased gall bladders, with hypertrophied and contracted walls, and gall bladders that are friable, poorly nourished and gangrenous, I should remove.

DR. MACLAREN—I have had the same experience as Dr. Moore, due to leakage of bile about the drain, either from the gall bladder or the common duct. The method which will most frequently prevent such a leakage is a purse-string suture of catgut tied down tightly on the rubber drainage tube. This is easily applied about an opening in the fundus of the bladder and it is almost as easily placed about a common duct opening. My experience with a number of these cases is that they drain freely and that there is no difficulty in keeping the patient dry while the tube is in place.

THE ANATOMY AND RADICAL CURE OF INGUINAL HERNIA.*

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CHICAGO.

An accurate conception of the anatomic relations of the inguinal region in its normal condition and again when a hernia is present is essential to the surgeon. The inguinal canal as we find it during the course of an operation differs somewhat from that as we know it from our dissections.

Normally there is no inguinal canal after the testis has descended into the scrotum. Even prior to the migration of the testis from its position just below the kidney to the inguinal canal, the latter contains a pouch or diverticulum of peritoneum which is the vaginal process.

If the testis remains in the inguinal canal or even in the upper part of the scrotum (just outside the external abdominal ring) this pouch remains open and a hernia results in the majority (50 per cent.) of cases of undescended testis.

The same sort of a pouch fills the inguinal canal in the female independent of the descent of any organ of generation.

When the testis has descended into the scrotum in the normal manner there is no longer an open inguinal canal, but only a vas deferens and its vessels in the male and the round ligament in the female.

It is of more than passing anatomic interest to study the constituents of the various walls of the normal so-called inguinal canal, because many of the modern operations for the radical cure of hernia are based on the desire to restore these conditions as fully as possible.

One of the first points to remember is that the internal or deep abdominal ring (see Figs. 3 and 5) is situated about an inch above and somewhat to the outer side of the middle of Poupart's ligament. The anterior wall of the canal is thus formed by both muscular (internal oblique) and fascial (external oblique) aponeurosis fibers in its outer third. In its inner two-thirds the anterior wall is formed by the external oblique aponeurosis alone (see Fig. 1) strengthened by the intercolumnar fibers.

These are the conditions as they exist in the male. In

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. P. Moore.

the female the internal oblique, on account of the greater length of its attachment to Poupart's ligament (see Figs. 2, 3 and 5), assists in forming the anterior wall in its outer two-thirds. This greater protection and the fact that there is no structure to transmit which varies so in size as the cord, probably accounts in part for the lesser liability of females to inguinal hernia.

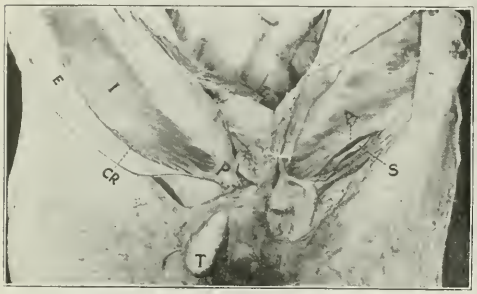

Fig. 1.—Dissection of inguinal region. Observe undescended testis on right side. E. External oblique aponeurosis turned back. I. Internal oblique muscle. P. Conjoined tendon. T. Non-descended testis. CR. Cremaster muscle. S. Spermatic cord. A. Arching fibers of internal oblique and transversalis.

There can be no longer any question that where the cremaster muscle or its fascia are well developed, they play a rôle in protecting the cord on the anterior wall (Fig. 1).

The posterior wall of the inguinal canal in both sexes is formed by the transversalis fascia, which is somewhat strengthened by the conjoined tendon of the internal oblique and transversalis muscles just behind the external ring, i. e., in its inner third.

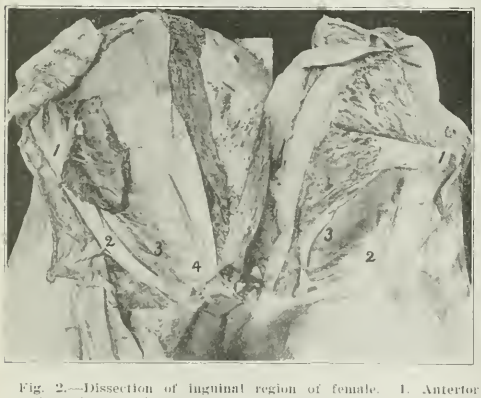

Fig. 2.—Dissection of inguinal region of female. 1. Anterior superior spines of ilium. 2. External portion of aponeurosis of external oblique turned back. 3. Internal oblique muscle showing attachment to outer two-thirds of Poupart's ligament. 4. Conjoined tendon and sheath of rectus.

The roof or upper wall is formed by the arching fibers of the internal oblique and transversalis muscles. That this arch is shorter in females follows from the greater attachment to Poupart's ligament referred to above (Fig. 2).

The floor of the inguinal canal is formed by the shelving edge of Poupart's ligament and when the cremaster is well developed, also by this portion of the original internal oblique muscle.

In the child the canal is relatively shorter and straighter than in the adult.

In an examination of twenty-five male and nine female normal adult cadavers Dr. R. C. Turck of Chicago[1] found that the average length of attachment of the internal oblique was to the outer two-thirds of Poupart's ligament in the male and to the outer four-fifths of the same structure in the female. Drs. A. H. Ferguson and Turck state that a smaller extent of attachment is a factor which greatly favors the origin of an oblique inguinal hernia through taking away one of the anterior supports of the deep or internal ring. My own observations have just begun in regard to this point, but in ten male cadavers which I have so far examined the findings were those which are given in the standard text-books of anatomy (Heule, Cunningham, Gray, Joessel and Hughes), viz., that the internal oblique is normally attached to the outer half only of Poupart's ligament.

I mention this fact because one of the arguments advanced in favor of not transplanting the cord and for suturing the internal oblique to Poupart's ligament in front of the cord is that it restores the normal anatomic conditions. There are undoubtedly cases of hernia in which a congenital deficiency in the insertion of the internal oblique exists, but their number is a small one.

I have taken especial care to observe the internal oblique in a large number of hernia cases and have never

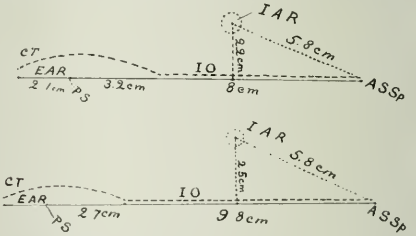

Fig. 3. Taken from article by Dr. R. C. Turck. Relation of normal attachment of internal oblique muscle (IO) to Poupart's ligament and to the internal or deep abdominal ring (IAR). CT Conjoined tendon. EAR. External abdominal ring. PS. Pubic spine. AS. SP. Anterior superior spine of ilium. The upper figure represents conditions in 25 adult males, the lower in 9 adult female cadavers.

observed a case in which the insertion of this muscle was less than to the outer half of Poupart's ligament.

We must look farther for the anatomic factors which favor the origin and development of oblique inguinal hernia, and these are the laxity of the support which the internal ring and posterior wall receive from the transversalis fascia and conjoined tendon.

As regards the latter, J. B. Blake found in twenty-five dissections that the extent of the insertion of this tendon seldom exceeded five-eighths of an inch. This has been confirmed by the observations of Bloodgood.

A study of the recurrences of radical cure cases shows that in the majority it takes place at or near the internal ring. This may be due in part, as Halstead and Bloodgood have shown, to the space which must be left for the spermatic veins unless they are ligated and dropped back. In other cases it is no doubt due to the fact that the muscles which were sutured to Poupart's ligament have retracted or that too much faith was placed in the strength of the conjoined tendon and this part of the canal not sufficiently strengthened.

The smaller hernias, especially if congenital, do not

1. THE JOURNAL, A. M. A., April 15, 1899.

cause much enlargement of the internal ring or pushing aside of the arching fibers of the internal oblique or transversalis. These structures normally act as a sphincter when the abdominal muscles are contracted, to help strengthen this weak point in the abdominal wall.

The larger herniæ, such as the scrotal, tend to drag on the inner edge of the deep or internal ring so as to cause a considerable enlargement of the same.

Every surgeon who has occasion to perform many radical cure operations will frequently encounter cases in which the internal ring has become so greatly enlarged as to lie opposite the external. At the same time the gap lying between the arched fibers and Poupart's ligament and the edge of the rectus becomes a considerable one. These are the cases in which a plastic operation with the employment of strong structures to fill the defect is needed. It is the object of this paper to show that the modification of the original Bassini operation first suggested by Dr. E. Wyllys Andrews in 1895[2] is the ideal one to use in such patients as well as in those where the defect is not so great.

Before describing this operation permit me to briefly review the chief objects of the various methods of radical

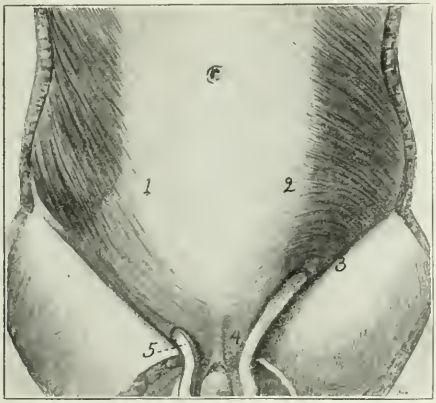

Fig. 4.—Dissection of inguinal region (superficial layers). 1. Placed on aponeurosis of external oblique muscle. 2. Placed on aponeurosis of internal oblique muscle. 3. Extent of attachment of internal oblique to Poupart's ligament (outer half). 4. Conjoined tendon of internal oblique and transversalis muscles. 5. Spermatic cord emerging from the external abdominal ring.

cure which are being most frequently employed in this country and abroad.

The original Bassini operation (see Fig. 10) aimed to strengthen the normally weak posterior wall of the inguinal canal by suturing the internal oblique and transversalis muscles to the inner aspect of Poupart's ligament behind the cord. Coley made a valuable modification by inserting a suture above the cord, thus enabling the operator to still further reduce the space left at the upper angle of the wound for the passage of the cord and its vessels. The fact that in 91% of his cases there were only 11 recurrences certainly speaks well for this operation. These were all cases in which the cord was transplanted. In 20 in which it was left behind the muscles there were six recurrences. In many of the cases a fatty or atrophied internal oblique or a weak conjoined tendon were no doubt the cause of the recurrence. The Bassini operation with the additional suture suggested by Coley is still the operation of choice with the majority of surgeons.

Such cases of fatty and atrophic or deficient internal oblique as well as the other causes of recurrence after the typical Bassini operation, led a number of surgeons to devise methods in which the cord should be left in its

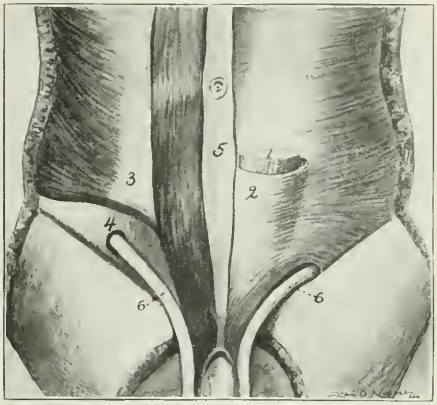

Fig. 5.—Dissection of inguinal region (deeper layers). 1. Body of rectus muscle lying in its sheath. 2. Sheath of rectus formed here by aponeuroses of external oblique, internal oblique and transversalis muscles. 3. Aponeurosis of transversalis muscle. 4. Transversalis fascia and internal or deep abdominal ring. 5. Linea alba. 6. Spermatic cord.

natural bed, resting on the transversalis fascia and not transplanted. The internal oblique and transversalis muscles are thus sutured to the inner side of Poupart's ligament in front of the cord.

I will describe these briefly in the order of their publication. In 1892 Wölfler[3] suggested suturing the inter-

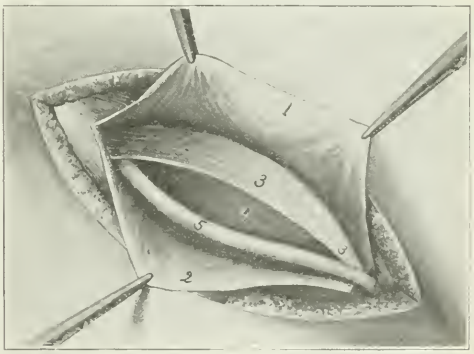

Fig. 6.—Inguinal canal laid open by incising the aponeurosis of the external oblique muscle. (Step 1 of Andrews' operation.) 1. Internal portion of external oblique aponeurosis. 2. External portion of external oblique aponeurosis. 3. Edge of internal oblique muscle. 4. Transversalis fascia. 5. Spermatic cord.

nal oblique and transversalis to Poupart's and closing the remainder of the gap by also bringing the edge of the rectus or its sheath to the same ligament.

In 1899 the excellent report by Dr. Bloodgood[4] again

2. Chicago Med. Rec., August, 1895.

3. Wiener medizinische Blätter, No. 43, 1892.

4. Johns Hopkins Hospital Reports, vol. vii, 1899.

called attention to his own method of transplantation of the rectus in closing the defect at the lower angle of the wounds.

In the same year Dr. A. H. Ferguson[5] described the operation named after him. He laid stress on the observations made by Dr. Turck on cadavers (referred to at the beginning of this paper) and to his own clinical

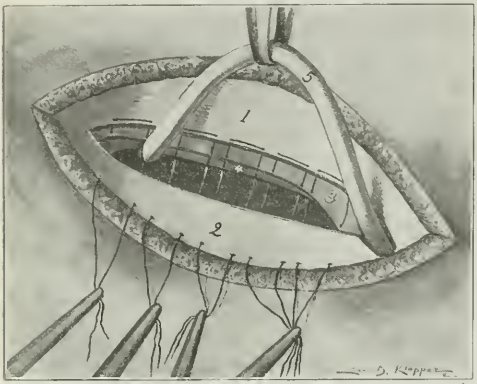

Fig. 7.—Step 2 of Andrews' operation. This illustration shows how sutures have been inserted through the internal portion of the external oblique aponeurosis (1) and the edges of the internal obliqne (3) and transversalis (4) muscles and carried through the shelving edge of Poupart's ligament and close to the insertion of the external portion of the external oblique aponeurosis (2). One suture is placed above the spermatic cord (5), which is held to one side and 2 to 4 below it. (See text.)

experience to the effect that the extent of the normal insertion of the internal oblique was the outer two-thirds of Poupart's. In his operation he aims to restore normal anatomic conditions by suturing the internal oblique and transversalis to Poupart's in front of the cord (Fig. 10).

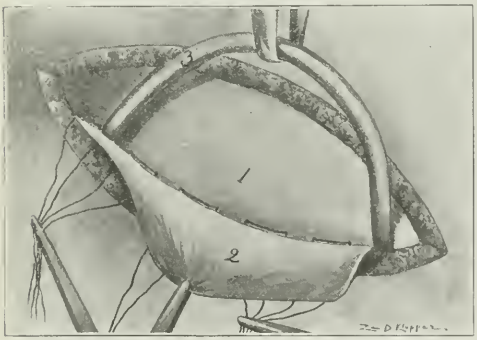

Fig. 8.—Step 3 of Andrews' operation. The structures which have been included in the sutures above and below the cord (3) are drawn over to Poupart's ligament just before tying the sutures and replacing the cord between its new coverings, which are the internal (1) and external (2) portions of the external oblique aponeurosis.

At the same time he diminishes the size of the internal ring in the transversalis fascia by sutures.

In 1900 Ch. Girard of Berne[6] published a method (see Fig. 10), which he states was previously described by one of his students in a thesis in 1894. This latter, so far as I am able to learn, never was published in any journal prior to 1900.

Girard advised suturing the internal oblique and transversalis to Poupart's ligament without displacing the cord. At the same time he imbricates the external oblique edges in a manner similar to that of Andrews (to be described below).

In 1903 Dr. W. S. Halsted[7] (see Fig. 10), described the method now in uniform use at the Johns Hopkins Hospital, in which the cord is left in its bed and its veins ligated when large, and the vein stump dropped back. The suture with which the hernial sac is ligated is carried far out under the internal oblique muscle and tied after passing through this muscle. The cremaster muscle is then sutured to the posterior surface of the internal oblique. The edge of the latter muscle, as well as the anterior sheath of the rectus, is now sewed to Poupart's ligament. As a last step the external oblique edges are overlapped as in the Andrews operation.

In 1895 Dr. E. W. Andrews[2] described a method which he termed the imbrication or lap joint. It consisted essentially of adding a third layer to those which Bassini places behind the transplanted cord. This third layer is the inner portion of the external oblique aponeurosis

Fig. 9.—Step 4 of Andrews' operation. The kangaroo tendon sutures shown in Figures 5 and 6 have been tied. The knots (4) lie on the outer side of the external portion (1) of the external oblique aponeurosis. The contour of the cord (3) is seen lying in its new canal formed by bringing the edge of the external portion of the external oblique aponeurosis (1) over and suturing it by interrupted catgut sutures to the outer aspect of the internal portion (2) of the same aponeurosis.

which has resulted from the splitting of this structure incidental to opening the canal. The cord is then placed on this layer and the outer portion is brought over it somewhat after the manner of a double-breasted coat.

In this original paper[2] he described and showed illustrations of a number of different ways in which the overlapping could be done. In one of these the inner portion of the external oblique aponeurosis, in addition to the internal oblique and transversalis, are sewed to Poupart's in front of the cord.

I have mentioned all of these methods briefly to show how different surgeons have striven independently of each other to remedy the defects of the Bassini operation. The Wölfler, Ferguson, Girard and recently published Halsted-Bloodgood operation, as well as one of the methods of performing the Andrews operation just referred to, all aim to fill the defect by placing a bulwark of muscles in front of the cord, which latter is not disturbed.

5. The Journal A. M. A., July, 1899.
6. Archives provencale de Chirurgie, October, 1900.
7. Johns Hopkins Hospital Bulletin, August, 1903.

Further experience alone can determine whether we shall adopt these methods universally and discard the transplantation of the cord or continue to transplant by the Bassini or its Andrews modification.

Almost any method which completely obliterates the sac alone will suffice for smaller herniæ.

For those which are larger and of long duration, in which there is a marked muscular defect and a large internal ring, an operation like that of Dr. Andrews seems destined to become the ideal one.

As early as 1871, Billroth said "the secret of the radical cure of hernia is to find tissues which have the strength of fasciæ." This has been accomplished by the operation which I will describe for the purpose of again familiarizing the profession with it. The technic is as follows and can be followed by a reference to Figures 6, 7, 8, 9 and 10.

Step 1.—Skin incision having been made from middle of Poupart's to spine of pubes and edges well retracted, great care is exercised to secure accurate hemostasis. The external oblique aponeurosis is now divided and the two flaps reflected (Fig. 6). Sac separated from cord and after being transfixed is ligated with catgut as high up as possible and dropped back. The outer portion of the external oblique aponeurosis is made free as far as Poupart's ligament.

Step 2.—The cord having been held aside by an assistant, kangaroo tendon sutures (Fig. 7) are inserted above and below the cord, as follows: A needle is threaded on each end of the tendon and the suture first passed through the edge of the inner portion of the external oblique aponeurosis. It next includes as much as possible of the muscular fibers of the internal oblique and transversalis and both needles are then carried through the shelving edge of Poupart's ligament. The free ends of the suture, after the needles have been taken off, lie on the external aspect of the aponeurosis (Fig. 7).

The sutures at the angle of the wound which corresponds to the external ring, include the edge of the rectus and conjoined tendon and are inserted as close as possible through the innermost portion of Poupart's, where it is reflected on the symphisis pubes. One suture above and two to four below the cord usually suffice.

Step 3.—The suture above the cord is first tied, then the one immediately below it, thus enabling the operator to determine the amount of constriction of the cord. The remainder of the deep sutures are now tied, the knots lying on the outer side of that portion (outer) of the external oblique aponeurosis, which is attached to Poupart's ligament (see Fig. 8). The cord is next laid on the posterior wall of its new canal.

Step 4.—The edge of the outer half of the external oblique aponeurosis is brought over so as to cover the cord and sewed by interrupted catgut sutures to the external aspect of the inner half (Fig. 8). The skin is sutured with catgut or horsehair.

The relations after this operation are well shown by the second diagram of Figure 10. The cord lies in a new inguinal canal whose posterior wall has three layers, one of which is a powerful aponeurosis. Its anterior wall is composed of one layer of the same strong character.

The Andrews operation has been used by a number of Chicago surgeons, Drs. Andrews, McArthur, Greensfelder, Williams, Frank, Schroeder and myself, in over 1,000 cases, but no attempt has been made to re-examine this large number of cases.

In order to determine the results of a number of cases operated on with the same technic by Drs. Andrews, Greensfelder and myself at the Michael Reese Hospital, I sent letters to 110 patients who had been operated on one year prior to June 1, 1903. The majority of surgeons agree with Coley that 80 per cent. of all recurrences take place within one year after operation, so that I chose this latter period as a guide.

Only those who have attempted the task of examining cases of radical cure of hernia in our larger cities can appreciate its difficulties, so that the comparatively small number of cases examined is no criterion of the value of this operation.

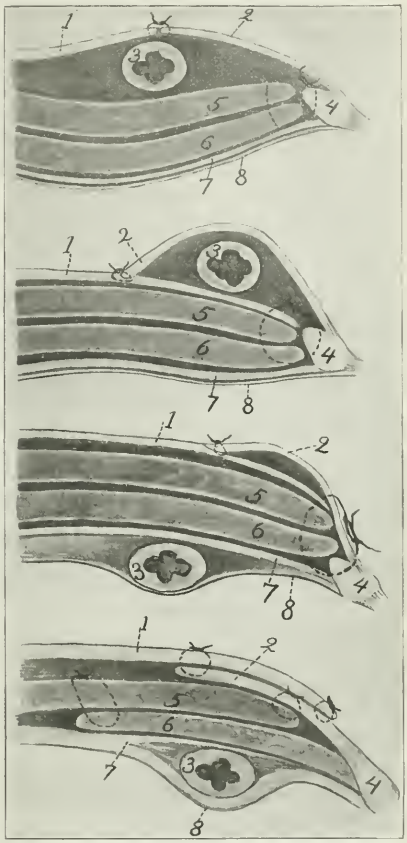

Fig. 10.—Arrangement of aponeurosis and muscles in various modern operations (semi-diagrammatic) for radical cure of inguinal hernia. A. (Uppermost.) Typical Bassini. B. (Second from top.) Andrews' modification of Bassini. C. (Third from top.) Ferguson (Girard-Wolfler). D. (Bottom.) Halstead-Bloodgood. 1. Internal portion of external oblique aponeurosis. 2. External portion of external oblique aponeurosis. 3. Spermatic cord. 4. Poupart's ligament showing shelving edge. 5. Internal oblique muscle. 6. Transversalis muscle, except in Halstead's operation, where represents cremaster muscle. 7. Transversalis fascia. 8. Peritoneum

Of 110 patients whom we wished to examine 27 were no longer in the city directory. Letters were sent to the addresses given in the directory of 52 patients, but none responded. Of 28 who were examined by myself there were two recurrences. In one of the cases the patient had been operated on five years before, had gained fifty pounds in weight and had become dropsical. The hernial protrusion had only occurred two months

before the examination, so that the onset of the ascites from cirrhosis of the liver, combined with hard work as a baker, would in a great measure favor a recurrence.

The second case of relapse occurred two years after operation in a patient with a severe chronic bronchitis. Two other patients answered by letter that their hernia had not recurred and that they were able to do heavy work.

As I stated above, it does not seem fair to figure percentages from the 30 cases examined because the other patients are to a great extent of a migrating class, but who would probably come to the same hospital if a relapse had occurred.

There is no question in the mind of everyone of us who has employed this modification of the Bassini operation that it is the ideal operation, especially for cases of hernia with large ring and extensive muscular defect.

The advantages of overlapping the aponeurotic and muscular structures are that the former while elastic, possess great strength and are not so likely to pull away from Poupart's ligament. The sutures placed just above and below the cord enable one to greatly decrease the size of a large internal ring so that it is not necessary to resect the veins unless they are markedly enlarged.

At the Johns Hopkins Hospital the early period cases of resection of the veins showed atrophy of the testis in 10 per cent., but in his recent article Halsted states that there have been no unfavorable results since resection of the veins is used as a more or less routine measure when the veins are large. Nevertheless the profession in general has been rather skeptical in regard both to the necessity and advisability of such a procedure. I have employed the method in two recent cases without bad results.

In a hernia associated with non-descent of the testis the resection of the veins as pointed out by Griffith and Bevan is of great aid in bringing the testis down. The fear in general of gangrene or atrophy of the testis is probably an exaggerated one, because the cord receives an arterial supply independent of the spermatic vessels.

CONCLUSIONS.

My conclusions are as follows:

1. In the normal inguinal canal the anterior wall is relatively stronger than the posterior.

2. This condition is exaggerated in inguinal hernia so that the larger the hernia the greater the muscular gap between the arching fibers of the internal oblique and Poupart's ligament.

3. In the smaller herniæ almost any of the modern operations either with or without transplantation of the cord will suffice.

4. When the muscular gap is marked some method must be employed in which a strong aponeurotic structure is used to fill the gap.

5. The Andrews modification of the Bassini operation, by utilizing a portion of the external oblique aponeurosis as an additional layer in the posterior wall of the canal, gives the latter great strength.

6. The majority of surgeons believe best results are obtained by not transplanting the cord. It is still an open question whether or not the veins should be resected.

NOTE. The discussion on the papers of Drs. Elsendrath and McArthur will follow the paper of Dr. McArthur in a week or two.

New Variety of Ulcer.—An index medicus published in France (not Baudouin's), includes under the heading of endemic ulcers articles referring to the Murphy button.

THE RELATION OF ACUTE INFECTIONS TO ARTERIOSCLEROSIS *

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AND
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In a recent study in which one of us has been engaged, on the cardiac and vascular complications and sequels of typhoid fever,[1] several rather suggestive facts have come to light with regard to the possible causal relation of this disease to sclerotic changes in the arteries.

One hundred and eighty-nine individuals who had passed through typhoid fever under our observation were examined months and years after their infection. It was found that among these individuals:

(*a*) The radial arteries were palpable in a surprisingly large proportion of cases as compared with control observations on healthy men and women who had never had typhoid fever.

Between the ages of 10 and 50, 48.3 per cent. of the old typhoids showed palpable radials, as compared with 17.5 per cent. among ordinary healthy individuals. These proportions held in every decade, and were not essentially modified in tables from which all giving a history of serious infections or alcoholic habits had been excluded.

(*b*) The average systolic blood pressure (Riva-Rocci) was materially higher in every decade among the old typhoids than in control observations on healthy individuals who had not had typhoid fever.

(*c*) The average size of the heart was larger among the old typhoids when considered in groups arranged by age, according to decade, than in figures obtained from examination of the typhoid patients at the time of admission to the hospital.

Furthermore, we have been rather impressed by the frequency with which early endarteritic plaques are found in the aorta and coronary arteries of patients dying of typhoid fever.

Out of 95 necropsies on patients dying of typhoid notes were made on the condition of the aorta in 52. In 30 of these sclerotic changes were observed. These are described as fresh in at least 21 instances.

In 62 cases the condition of the coronary arteries was noted. In 19 of these definite sclerotic changes were described, while in 4 others "yellow opacities of the intima" were observed. In 13 cases the changes were described as "early" and "fresh."

These figures would tend to support the view that typhoid fever must be regarded as a factor in the production of arteriosclerosis. The rôle of infectious diseases in the production of acute arteritis in medium-sized and smaller vessels is undoubted. Their influence, however, on the development of the more chronic changes which are included under the term arteriosclerosis has been and still is a disputed question.

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

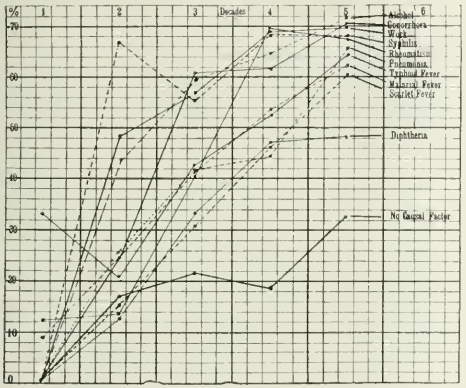
1. Thayer: On the Late Effects of Typhoid Fever on the Heart and Vessels, Am. Jour. Med. Sci., 1904, vol. cxxvii, p. 391. Thayer: On the Cardiac and Vascular Complications and Sequels of Typhoid Fever, the Jerome Cochran Lecture, Mobile Medical and Surgical Journal, 1904, vol. v, No. 1.

EDITOR'S NOTE.—One of the authors wishes it understood that the spelling used in this article is according to the standard adopted by THE JOURNAL.

It occurred to us that some light on the relative influence of acute infections as compared with other, probably more important causal factors might be obtained by a consideration of the records of palpability of the peripheral arteries in a large number of consecutive histories of patients in Professor Osler's wards. In these histories careful inquiry is made, not only into the record of previous infectious diseases, but also into the habits of the patient with regard to alcohol and heavy work.

It may be well to say at the outset that these figures deal entirely with the records of palpability of the radial arteries. It is well recognized that the palpability of a radial artery alone may bear little relation to the existence of sclerotic changes in other vessels, and, in the individual case, by no means justifies the assumption that arteriosclerosis exists elsewhere. It is also recognized that, in thin subjects, radial arteries which are free from change may at times be rolled under the finger. On the other hand, it is common enough to find grave changes in the aorta, coronary arteries and other vessels with perfectly soft radials. Again, in the later decades, the palpability of the radials is, in a certain proportion of cases, dependent on calcification of the media, which is entirely independent of arteriosclerosis as such. Notwithstanding these considerations, we believe that changes in the radial arteries sufficient to justify a note in the course of an ordinary visit are in a considerable proportion of cases associated with arteriosclerotic changes elsewhere, and that this proportion is large enough to give a certain value to a series of observations such as we wish to present.

Chart 1.—Showing the percentage of cases in which the radial arteries were palpable in patients giving the histories of various acute infections, alcohol and work, compared with those cases in which there was a history, no causal factors.



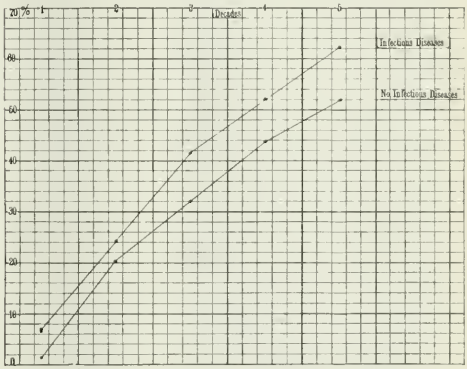
Pr. ct.	0	82	16.6	21.4	18.5	32.6	No causal factor.
Cases	121	186	167	102	52	
Pr. ct.	0	12.8	33.4	17.2	18.1	Diphtheria
Cases	10	39	92	74	49	
Pr. ct.	0	15+	30.8	16.2	60.4	Scarlet fever.
Cases	9	53	123	119	86	
Pr. ct.	9+	25.3	10.8	53.7	62.4	Malarial fever.
Cases	11	71	252	253	213	
Pr. ct.	33.3	20.8	12.5	52.1	61.7	Typhoid fever.
Cases	6	48	162	142	119	
Pr. ct.	0	25.8	11.2	44.1	65.9	Pneumonia.
Cases	9	31	169	120	91	
Pr. ct.	12.5	13	10.6	69.3	67.8	Rheumatism.
Cases	8	16	128	150	109	
Pr. ct.	0	24.1	60.9	61.7	70.3	Gonorrhea.
Cases	0	29	133	128	91	
Pr. ct.	0	66.6	55.8	68.1	68.0	Syphilis.
Cases	0	6	43	66	47	
Pr. ct.	0	13.6	59.4	61.8	70.8	Alcohol.
Cases	1	103	589	490	357	
Pr. ct.	0	18.1	56.1	68.5	69.6	Work.
Cases	0	83	340	312	254	

Out of 3,894 consecutive patients admitted to the medical wards of the Johns Hopkins Hospital, the radial arteries were described as palpable in 1,860 instances, or 47.7 per cent. No note was made as to the condition of the vessel in 1,492 cases, while it is expressly stated that the arteries were soft in 582 cases.

These cases were separated into groups in which a history was obtained of diphtheria, scarlet fever, malarial fever, typhoid fever, pneumonia, rheumatism, syphilis, gonorrhea, alcohol and heavy work. Another group consisted of those cases presenting none of these causal factors. It should be said that under alcohol are included, not alone those who used alcohol to excess, but all patients who acknowledged that they took alcohol in any form.

Chart 1 shows the proportion of cases showing palpable radial arteries in each one of these groups arranged according to age by decades. Recognizing the fact that, above the age of 50, the proportion of cases showing calcification of the media might well be large enough to materially vitiate the results, we have considered the figures for the first five decades only.

Chart 2.—Showing the percentage of cases in which the radial artery was palpable in 2,031 cases in which a history of the more serious infectious diseases was obtained, and 1,111 cases in which there was no such history, arranged according to age, by decades.



Pr. ct.	6.8	24.3	41.8	52.1	62.1	History of infectious diseases.
Cases	44	255	664	619	449	
Pr. ct.	0.8	20.2	32.0	43.9	52.3	History of infectious diseases.
Cases	119	252	350	241	149	

It becomes evident from a glance at this chart that the statistics with regard to syphilis and gonorrhea must be of little value on account of the absurdly small proportion of cases in which a history of venereal disease was acknowledged. The curves fall into three main groups. Those for work, alcohol and syphilis stand materially above the others. Below this group comes a second, consisting of the remaining acute infections, and lastly, toward the base line is the curve of those cases in which the history of no causal factor was present. Rheumatism, typhoid and malarial fevers seem to lead in the second group.

In order to gain a more definite idea of the statistics with regard to infectious diseases in general, the cases were divided into two groups according to the presence

or absence of a history of the above-mentioned acute infections. In each of these groups the percentage of cases in which the radial arteries were palpable was estimated. This resulted in a demonstration (Chart 2) of the fact that the radials were palpable in considerably higher proportion in those cases giving a history of previous infectious disease.

Inasmuch as in the great majority of cases each individual presented a history of multiple causal factors, it seemed to us important to prepare a third chart in which

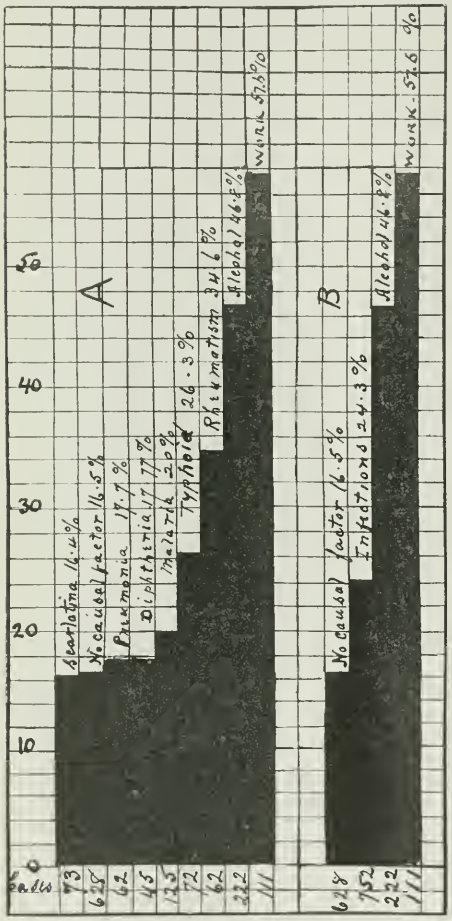


Chart 3.

there were included only those cases where a single one of these factors was present. When considered from this standpoint, the number of cases in each group is so small that a consideration of curves by decades becomes impossible.

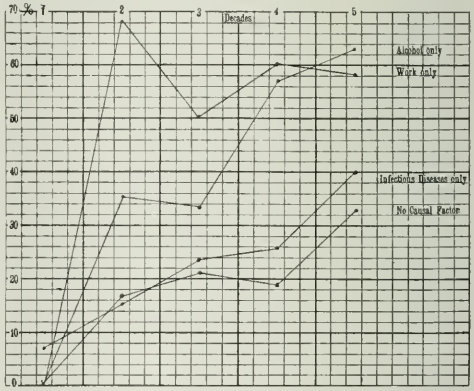
Figure A in Chart 3, therefore, represents the proportion of palpable radials in the first five decades of those cases in which a history of only one of the several causal factors which we have mentioned was present.

An examination of this chart reveals the fact that the figures simply emphasize those brought out by Chart 1. By far the highest percentage of palpable radials was found among the cases with a history of heavy labor (57.6). Next to this come the figures for the patients who gave only a history of alcohol (46.8 per cent.). Among the acute infections, rheumatism, as might be expected, leads (34.6 per cent.), with typhoid fever second (26.3 per cent.), the other infections occupying a subordinate position.

The cases giving a history of syphilis and of gonorrhea alone were so absurdly small in number that they have been omitted from the list. Only 12 cases under 50 years of age gave a history of syphilis alone; among these were 2, 16.6 per cent., who showed palpable radials; 10 cases gave a history of gonorrhea alone; in 40 per cent. of these the radial was palpable.

Chart 4 illustrates the proportion of palpable radial arteries in those cases in which there was a history of

CHART 4.—Illustrating the percentage of cases showing palpable radial arteries in patients giving a history of heavy work, alcohol or infectious diseases alone, as compared with those cases in which the history of a causal factor was obtainable.



Pr.ct.	0 82	16.6	21.4	18 6	32.6	/ No causal
Cases	121	186	167	102	52	\ factors.
Pr.ct.	7 1	15 4	23 9	28	39 8	/ Infection
Cases	42	149	255	188	118	\ alone.
Pr.ct.	.0	35 4	33 7	56 9	63.0	/ Alcohol
Cases	0	31	80	65	46	\ alone.
Pr.ct.	.0	68 0	50 0	60 0	58 3	/ Work
Cases	0	25	42	20	24	\ alone.

acute infections only, along with those presenting a history of alcohol and work alone. The lower line represents the cases in which there was a history of no causal factor.

The relation of the percentages of palpable radials in these several groups is brought out more clearly in Figure B of Chart 3. The small proportion of palpable radials among the cases giving a history of acute infections alone (24.3 per cent.), as compared with those giving a history of heavy work (57.6 per cent.) or alcohol (46.8 per cent.), stands out strikingly.

CONCLUSIONS.

As the result of an analysis of the records of nearly 4,000 patients entering consecutively the medical wards of the hospital, we find that:

1. The percentage of palpable radial arteries is materially higher among those individuals in whom there is a history of heavy physical labor and of the use of alcoholic stimulants than in the remaining cases. This

percentage is appreciably higher in the cases giving a history of heavy work.

2. The percentage of palpable radial arteries is higher among those cases presenting a history of severe infectious diseases than among those in which this history is absent or among those in which a history of no causal factor could be obtained. The proportion is, however, far below that in the case of work or alcohol.

3. Rheumatism appears to be the acute infection after which the percentage of palpable vessels is highest, and next to rheumatism, typhoid fever.

As previously stated, it is well recognized that the results of such an investigation as this justify only rather rough generalizations.

Are we even warranted on a *post hoc propter hoc* principle, in assuming that work, alcohol and, in a subordinate way, the infectious diseases are the main or important causes of the changes which result in palpable radial arteries? Not necessarily. It is, however, not uninteresting that the results should, so far as they go, support the generally accepted views.

It seems to us there can be small doubt that the main etiologic factor in the development of the hyperplastic thickening of the intima, which constitutes so important an element of arteriosclerosis, is overstrain of the vascular walls, continued or intermittent high tension, whatever its ultimate cause may be. Heavy physical labor is assuredly one of the most important of these causes. It is not inconceivable that the rôle of the acute infections may be rather in the production of those focal degenerations with secondary regenerative changes which constitute the other important element in arteriosclerosis.

ARTERIOSCLEROSIS OF SYPHILITIC ORIGIN.*

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Undoubtedly syphilis is quite capable of producing, and does produce, in certain instances, arteriosclerosis, but the existing relationship is somewhat obscure.

There is no disease in the whole category of diseases which brings to view so many and varied symptoms as syphilis, and it would be singular, indeed, if it did not enter as a causative factor in the production of arteriosclerosis when taking into consideration its known tendency to produce sclerosis in various organs.

That syphilitic arteritis and endarteritis do occur not infrequently, and that, too, early during the history of this disease, is recognized as a fact both by clinician and pathologist; furthermore, there is probably no disease which is so amenable to treatment, if such be instituted prior to pathologic changes which are not absolutely beyond repair. It will perhaps ever remain an open question as to just how syphilis attacks the vessels, but enough is known to lead us to presume that it comes about through the lymph spaces supplying the vessels.

I have often wondered if one day we would not come to recognize that vascular changes invariably occurred prior to organic changes in many of our so-called nervous diseases. Nerve-cells must be fed, and any alterations of the vessels themselves necessarily would secondarily bring about a starvation process, provided such alteration became permanent.

That arteriosclerosis is responsible for locomotor ataxia in certain instances and that syphilis enters largely as a factor in bringing about these results is a view regarding which I have rather firm convictions. I have long been persuaded that arteriosclerosis does not depend on any specific irritant for its production, but that in all cases a combination of elements enter as causative factors. Any agent or combination of agents that is continuously left to circulate within the vessels which are foreign to normal cell life will sooner or later be followed by the very changes now under consideration, no matter whether said agent or agents be alcohol, lead, syphilis, auto-intoxication, or otherwise. To me it is passing strange that a drug like mercury, which is more commonly used in the treatment of syphilis than any other, and has been for ages past, has not been considered one of the chief agents in the production of arteriosclerosis. When we come to consider the fact, it would be almost marvelous if at times we did not recognize the possibility, and even the very strong probability, of such being true, when we know so well the method commonly adopted by the profession at large to-day in the administration of mercury for the relief of syphilis.

What has been the custom and teaching of some of our very best writers regarding this subject for the past quarter of a century? Have we not been led to believe that the so-called tonic treatment of syphilis with mercury was the only royal road to success? Has it not been the practice of many physicians to prescribe mercury for a period of two years, practically without interruption?

I maintain that mercury is a metallic poison and altogether foreign to normal cell production, and when it is thrown into vessels, and there left to circulate for many months, and even years, whether done on the advice of a physician or through self-prescribing, we will find an agent that is just as capable of producing arteriosclerosis as syphilis or any other agent.

So many times has it happened that patients have come to my office who have been under continuous syphilitic treatment for many years, and, after having given a complete history of the affair, draw from their pockets a little bottle of mercury pills, or of some other pharmaceutic preparation, and relate with painstaking care just how much of this very much abused drug they have been taking during the past three or five years—daily, as the case may be—practically without interruption. It is common enough, I assure you, to warrant me in the belief that to-day more persons are treating themselves for syphilis than are under treatment by regular physicians. With this reckless, senseless and indiscriminate use of a drug like mercury, need we expect otherwise than to find arteriosclerosis resulting, particularly so when combined with one of man's oldest and most treacherous enemies, syphilis?

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

A Law in Puerperal Pathology?—The *Semana Medica* No. 10, 1903, quotes Corminas to the effect that in his large experience he has never known a fatal case of puerperal infection associated with acute mammitis. Recovery is the invariable rule when the puerperal infection is accompanied by an acute mammary lesion. He suggests that the presence of a lesion with attenuated infection may induce the formation of antibodies which exert a favorable influence on the virulent focus in the uterus. It is possible, he adds, that if fixation turpentine abscesses were made in the breasts instead of elsewhere, they might have a more powerful immunizing action, especially in case of infection involving the genital apparatus.

ARTERIOSCLEROSIS OF NEPHRITIC ORIGIN.*

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ANN ARBOR, MICH.

Perhaps many of you will think of the celebrated chapter on "Snakes in Iceland" in connection with the title assigned to me. Most authors on the subject say little or nothing in line with the view suggested, some dismiss it by saying that arteriosclerosis is a common cause but rarely a result of nephritis, while others say that nephritis and arteriosclerosis are often combined and due to the same cause. A few admit that nephritis may cause arteriosclerosis by the prevention of elimination and the throwing into the circulation of substances that either injure the walls of the arteries directly or increase vascular tension, so causing hypertrophy of the heart, high pressure and later disease of the arteries.

It is doubtless true that in many cases the arterial disease causes the renal disease. It is of great clinical importance that the kidney lesion may be very severe, yet latent, and we often see how, under the influence of an acute intoxication, as in infectious diseases, severe symptoms may suddenly develop, and quickly cause death, when advanced renal degeneration is discovered. In pneumonia, influenza, appendicitis and many other diseases such events often far outweigh the importance of the acute malady. It is generally accepted that a chronic nephritis, either interstitial or parenchymatous, in a person with previously healthy blood vessels, may cause arteriosclerosis by retention of injurious substances, which act either on the walls of the vessels or cause reflex spasm. The arterial spasm in turn is assumed to be either general or largely renal. It is often supposed, also, that in interstitial nephritis the mechanical obstruction to the circulation assists in causing high pressure, and, as every parenchymatous nephritis is associated sooner or later with some interstitial change, it is easy to explain many cases of arteriosclerosis on the grounds just mentioned. But it is well to remember that there is a great deal of assumption and no actual knowledge of such processes.

The recognition of the earliest stages of arteriosclerosis is only beginning to assume a practical character. By the use of instruments for measuring blood pressure, and by the more careful study of symptoms and physical signs, it will be possible to put this subject on a more definite basis than at present.

The relation of acute nephritis to arteriosclerosis is also a promising field for observation. Hitherto comparatively little has been done. If chronic nephritis can injure vessel walls by poisonous substances or spasm, there is good reason for thinking that acute nephritis can do so. In fact, the toxic symptoms in acute nephritis are often more marked than in chronic cases, and if the duration is often short we must believe that sufficient time is not rarely present for serious damage of tissues. Moreover, the edema that occurs early in some cases of acute nephritis is generally, and I think correctly, ascribed to an injurious action of products of disease on the blood vessels, and even if these are smaller vessels the ultimate danger must still exist.

The pathology of such processes has been assigned to abler hands, so that I need not discuss it. I wish to call attention to the value of clinical study. The importance of hypertension in causing vascular disease is now well recognized. The detection of the supposed toxic substances and the explanation of their mode of action on the cells need not detain us now. If there is hypertension in acute nephritis, we must admit that it may lead to disease of the intima, followed by compensatory and, later, by degenerative changes.

There is but little literature on this, but now that methods of investigation are becoming simpler the evidence is certain to increase. In a recent case in my clinic, a previously healthy boy of 15 years had acute nephritis following a sore throat so mild that it was not treated by a physician. In about three weeks there was slight anasarca, the urine solidified on boiling, and contained many casts, but no blood. There were several attacks of uremia of various degrees, and after two months death suddenly occurred in another attack. During the whole course of the disease the blood pressure was high, measuring from 170 to 190 mm. on the Cook's Riva-Rocci instrument. It was interesting to note that with this pressure, and an accentuated aortic second sound, there was no evidence of dilatation of the heart.

Many cases of acute nephritis apparently as severe as this one recover, and I think we must believe that when they occur they may act as causes of vascular sclerosis. Further investigations will show whether the milder affections of the kidney, so common in acute infections, are associated with high blood pressure. It must, of course, be remembered that the other causes of arteriosclerosis, emotional, dietetic, infectious and toxic, are also to be searched for in such cases. What I wish to do now is to assert the possibility of renal diseases of all kinds assisting in the production of arterial disease, and to plead for a more extensive clinical investigation in order to show the extent and, if possible, the explanation.

NOTE.—The rest of the papers in this symposium, together with the discussion, will appear next week.

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

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART II. THE SERVICE AS IT IS TO-DAY.

(*Continued from page 667.*)

(C) THE FUNCTIONS OF THE SERVICE.

The functions of the Public Health and Marine-Hospital Service may be considered two-fold, viz., those of a Marine-Hospital Service and those of a Public Health Service. It must not be supposed, however, that any such division really exists in the service. An assistant surgeon has a tour of duty at each of the various kinds of work, and is early in his career equipped by practical experience to perform any of the varied duties required of an officer of the Public Health and Marine-Hospital Service. These young officers are sent successively to the large marine hospitals, to the quarantine stations, to the immigration inspection stations, and to the hygienic laboratory, in order to round out their professional training.

The two classes of work are inseparably associated. The splendid clinical advantages of hospitals where over 58,000 seamen are treated annually, and of immigration inspection stations, through which hundreds of thousands of immigrants pass each year, give the young officer an educational experience which will be invaluable to him in his future quarantine work, while the training in the hygienic laboratory, and in the prac-

tical disinfection of ships at quarantine stations, increases his efficiency in the work required in a modern marine hospital.

The service operates 22 marine hospitals, maintains 121 relief stations, where hospital and dispensary treatment is furnished, and treats annually over 58,000 sick and disabled seamen of the merchant marine. Its hospitals and relief stations are located at all the important ports of the United States, including Hawaii and Porto Rico.

The class of cases treated in the service hospitals is necessarily varied. The wide distribution of the hospitals in every climate, from Alaska to Florida and from Porto Rico to Hawaii, insures a wide range of diseases, and even to the hospitals on the seaboard of the United States proper, unusual and interesting tropical diseases are brought by deep-water sailors from all parts of the world.

The surgical work of the service covers a very large field, and if we except gynecology, embraces all branches of surgical work. The average number of operations requiring an anesthetic performed during the year at the United States Marine Hospitals exceeds 1,300.

Beneficiaries of the service are as follows: (*a*) All persons employed on board in the care, preservation, or navigation of any registered, enrolled or licensed vessel of the United States, or in the service on board of those engaged in such care, preservation or navigation. (*b*) Officers and crews of the Light-House Establishment. (*c*) Officers and crews of the Revenue-Cutter Service. (*d*) Seamen employed on vessels of the Mississippi River Commission. (*e*) Seamen employed on vessels of the Engineer Corps of the Army. (*f*) Keepers and crews of the U. S. Life-Saving Service. (*g*) Officers and seamen of vessels of the Coast and Geodetic Survey who are not enlisted men of the Navy. (*h*) Seamen employed on U. S. Army transports or on vessels belonging to the Quartermaster's Department of the U. S. Army who are not enlisted men of the Army.

The service also conducts the physical examination of surfmen of the Life-Saving Service and the examination of the claims of these men for benefits under the act of Congress of May 4, 1882.

By law, service officers are also required to serve on boards of retirement for officers of the Revenue-Cutter Service. By regulation, the service conducts the physical examination of candidates for enlistment, and of officers for promotion, in the Revenue-Cutter Service, and on request officers of this service are also detailed for duty aboard vessels of the Revenue-Cutter Service as surgeons. Examinations of applicants for masters' or pilots' licenses, in which particular attention is paid to the color sense of the applicant, are conducted for the Steamboat Inspection Service.

Examinations of applicants for appointment in the Coast and Geodetic Survey and the Light-House Establishment are also made by officers of the service.

The service maintains at Fort Stanton, New Mexico, a sanitary ranch with an area of 38 square miles for the treatment of tuberculous seamen. Consumptives are removed from the various marine hospitals and sent to this sanatorium at Fort Stanton with a view to their improvement or recovery, and also to remove sources of tubercular infection from the general hospitals. The reports from Fort Stanton Sanatorium are very encouraging, quite a large percentage having recovered and a number leaving greatly improved, in spite of the fact that all classes of cases, the advanced as well as the incipient, are sent there.

The site selected for the sanatorium at Fort Stanton is almost ideal for the purpose. It has an elevation of over 6,000 feet, an annual rainfall of from 14 to 17 inches, and a mean average temperature of 55.6 degrees. Fort Stanton, as its name implies, was formerly a United States Army post, but had been abandoned for several years when turned over to the Marine-Hospital Service. The sanatorium is equipped with ice and cold-storage plants, steam laundry, and a modern system of plumbing, sewage and waterworks. It is the intention of the surgeon general to make the station in time self-supporting. By irrigation, large crops of hay, grain and garden truck are grown. A herd of Jersey and Holstein cattle furnishes abundance of fresh milk and a part of the butter used on the reservation. A herd of range cattle is maintained, is growing rapidly, and in time will supply the station with all the beef used.

The work done by the service in beautifying the grounds, repairing and altering the buildings, and installing the latest scientific equipment and apparatus makes Fort Stanton one of the finest sanatoria in the United States.

PUBLIC HEALTH WORK OF THE SERVICE.

The public health work of the service embraces the maintenance of the national quarantine system, including its insular and foreign service; the enforcement of the interstate quarantine laws and regulations; the prevention and suppression of epidemic disease; publication of the weekly *Public Health Reports* and other publications of professional or scientific interest; the maintenance of a hygienic laboratory for the investigation of disease and matters relating to the public health; and the medical inspection of immigrants.

The national quarantine system of the United States, as controlled by the Public Health and Marine-Hospital Service, may be considered under three heads—domestic, insular, and foreign. The domestic quarantine service consists of a chain of quarantine stations extending from Portland, Maine, to Cape Nome, Alaska, and covering every possible entrance through which disease might be introduced. A few of the stations are still operated by state or municipal authorities, but their number is constantly growing less, and within the past few years the states of Florida, Georgia, Maine and New Jersey transferred their quarantine stations to the Public Health and Marine-Hospital Service.

With regard to the few quarantines still operated by state and local authorities, the Secretary of the Treasury is empowered by law to prescribe the minimum quarantine requirements, and state and local authorities are obliged to observe these minimum requirements, but may impose additional ones if they deem fit. The surgeon general is empowered, either personally or by the detail of an officer of the service, to inspect the maritime quarantine of the United States, state and local, as well as national, for the purpose of ascertaining whether the quarantine regulations prescribed by the Secretary of the Treasury are being complied with. If the state or municipal quarantine authorities should fail or refuse to enforce the minimum rules and regulations prescribed, the President may detail officers to execute and enforce the said rules, and adopt such measures as may be necessary to prevent the introduction and spread of epidemic diseases.

The quarantine stations operated by the service number 60, of which 42 are in the United States proper. A few of these are merely inspection stations, but most of them are large establishments, with hospitals, deten-

tion barracks, disinfecting plants located on piers or floats, boarding steamers, and other requisites of a complete quarantine station.

By insular quarantine is meant the quarantine as maintained by the service in Hawaii, Porto Rico and the Philippines. With the military occupation of Cuba, following the Spanish-American war, the national quarantine system was extended to Cuba, and the Public Health and Marine-Hospital Service instituted and maintained during that eventful period in the history of Cuba an efficient quarantine at Havana and all the subports on the island. This rigid quarantine played no small part in the sanitary regeneration of Havana and other Cuban cities by preventing reinfection from without. The stations were turned over to the Cuban authorities in smooth running order when the American military forces evacuated the island, and with the stations the Cubans received many expert quarantine attendants, disinfectors and acting assistant surgeons, who had been trained by the Public Health and Marine-Hospital Service officers during the period of American occupation.

An act of Congress, approved April 12, 1900, provided "that quarantine stations shall be established in Porto Rico at such places as the Supervising Surgeon General of the Marine-Hospital Service shall direct, and the quarantine regulations relating to the importation of disease from other countries shall be under the control of the Government of the United States. Under this act a complete system of quarantine is maintained by the service at San Juan, Ponce and the other seaports on the island.

The service carried national quarantine to the Hawaiian Islands in accordance with act of Congress approved April 30, 1900, and now maintains a complete quarantine system at Honolulu and the various subports.

By executive order dated Jan. 4, 1900, the service took charge of the quarantine work in the Philippine Islands The work there has been very heavy, protecting the islands from infection through the intimate commercial relations existing between Manila and Hongkong, Calcutta, Bombay and other badly infected ports, as well as inspecting, and, when necessary, cleansing ships about to leave Philippine ports for the United States. The transactions of the Manila quarantine probably exceed those of any other maritime quarantine station in the world, and so well has this work been done that, although cholera was epidemic in Manila, no case of the disease has reached the United States, and by excluding fresh infection from other Asiatic ports, it has been possible to suppress the epidemic of cholera in the Philippine Islands.

The domestic quarantine work is facilitated by a system of inspection and application of our quarantine regulations in foreign ports. This system is based on the quarantine law of 1893, which provides that no vessel shall enter a port of the United States from a foreign port without a bill of health from the United States consul or a medical officer of the United States Government, and further provides a penalty of $5,000, to be imposed on any vessel coming into an American port without such bill of health By the same law, the Secretary of the Treasury is directed to frame rules and regulations to be observed by vessels at ports of departure and on the voyage, and the President may detail a medical officer of the government to serve in the office of the consul at any foreign port for the purpose of making the necessary inspection of vessels, to see that the regulations are complied with, to sign bills of health, and to furnish information.

In carrying out these provisions, officers of the Public Health and Marine-Hospital Service have been sent to foreign ports whenever such ports have been considered infected or a menace to the United States. At various times of national danger they have been so stationed in nearly every European and Asiatic seaport of importance, as well as in Mexican, Central American, South American and West Indian ports.

At present, officers of the service are signing bills of health for American-bound vessels in the American consulates, at Naples, Italy; Yokohama, Nagasaki and Kobe, Japan; Calcutta and Bombay, India; Hongkong and Shanghai, China; Tampico, Progresso and Vera Cruz, Mexico; Havana, Santiago, Matanzas and Cienfuegos, Cuba; Bridgeton, Barbadoes; La Guayra, Venezuela; Belize, Livingston, Ceiba, Bluefields, Bocas del Toro, Puerto Cortez and Port Limon, Central America; Guayaquil, Ecuador; Callao, Peru; and Rio Janeiro, Brazil.

The quarantine duties of the Public Health and Marine-Hospital Service are not restricted to maritime quarantine, but, under the interstate quarantine law of 1890 and the quarantine law of 1893, the government has the right to prevent the spread of contagious disease from one state to another.

Section 3 of the act of Congress approved Feb. 15, 1893, requires that if, in the opinion of the Secretary of the Treasury, the rules and regulations of the several states and municipalities are not sufficient to prevent the spread of contagious or infectious diseases from one state to another, additional rules and regulations shall be made by him, which shall be enforced by the state or municipal health authorities, if they will undertake to execute and enforce them; but if they fail or refuse, the President shall execute and enforce the same, and adopt such measures as in his judgment shall be necessary to prevent the spread of such diseases, and may detail or appoint officers for that purpose.

Practically the same provisions exist in the act of March 27, 1890; but it is further provided in Sections 2 and 3 of that act that any officer or agent of the United States at a quarantine station, or other person employed to aid in preventing the spread of disease, who shall willfully violate the laws of the United States or the regulations of the Secretary of the Treasury shall be deemed guilty of a misdemeanor, and be subject to a fine of $300 or imprisonment for not more than one year, or both, in the discretion of the court; and that any common carrier, who shall willfully violate such rules and regulations shall be subject to a fine of not more than $500 or imprisonment for not more than two years, or both, in the discretion of the court.

Under this law, regulations have been prepared by the surgeon general under the direction of the Secretary of the Treasury, the enforcement of which is one of the duties of the Public Health and Marine-Hospital Service.

Epidemics of yellow fever and other contagious diseases are always intimately associated with the sea-faring community, and necessarily the medical officers engaged in taking care of sick sailors became familiar with these diseases, which many physicians seldom or never have opportunity of observing. Their stations at seaports placed them at the gateways through which infection must come, and made them pioneers in quarantine ideas and methods. They manifested interest and rendered assistance during epidemics to local phy-

sicians at an early date, and in the Supervising Surgeon's annual report for 1873 exhaustive reports were made by the surgeons in charge at New York, New Orleans, Pensacola, Memphis, Shreveport, Mobile and other ports where yellow fever had appeared. These reports were made in response to an order issued by the Supervising Surgeon and, together with the Public Health Reports, contain the only complete record of yellow fever epidemics in the United States, as well as valuable information concerning modes of introduction, mortality, relation of yellow fever to dengue, and methods of preventing its spread.

The service as reorganized controlled wholly or in part epidemics of yellow fever in the United States in 1873, 1876, 1877, 1878, 1882, 1887, 1888, 1893, 1897, 1898, 1899 and 1903.

During these epidemics the service contended for the abolition of "shotgun" quarantines and unnecessary restrictions on commerce; and while hampered in the earlier outbreaks by state's rights theorists and lack of authority, the service usually succeeded in preventing the spread of the disease and stagnation of commerce. Instead of the absolute non-intercourse with infected towns which was insisted on as soon as yellow fever was discovered, the service substituted the detention camp in which refugees from infected places could be held under observation for the requisite number of days corresponding to the period of incubation of the disease, and then released.

The service has controlled, or assisted in controlling, epidemics of smallpox in Alabama, Arkansas, Florida, Georgia, Texas, West Virginia and other states. When cholera had gained admission to Jersey City in 1893, service officers took charge of the situation, and there was no spread of the disease The work accomplished by the enforcement of the quarantine regulations of the service in preventing the entrance of cholera into the United States can be illustrated by the following example:

After cholera had been declared epidemic in Naples, three vessels left for the United States—the *Masilia, Weser* and *Cashmere*—and all were made to conform to the regulations. They all arrived at the port of New York, with no cholera en route or at time of arrival. During the same period four vessels, with the same class of passengers and their places of origin similar, in many cases identical, the water and food supply being the same as on the vessels of the United States, left for South America, and all were turned back by the South American authorities and returned to Naples. One, the *Vincenzia Floria,* had about 50 deaths; the *Andrea Gloria,* 90 on the way out; total not ascertained. Another, 84 deaths, and the fourth, 230 deaths from cholera.

The work done by the service in suppressing bubonic plague in San Francisco and yellow fever in Texas is a matter of recent history. Under the direction of service officers, the destruction of rats and the cleansing of Chinatown have been so vigorously prosecuted that no case of plague has been reported since February, 1904.

When the medical officers of the Public Health and Marine-Hospital Service took charge of the yellow fever situation in Texas late in September, 1903, the disease had existed for weeks. Cases were reported rapidly from widely separated points, showing that the disease was disseminated over a comparatively large area, and had obtained a firm foothold in Texas. There was an abundance of *Stegomyiæ*, thousands of unscreened water-tanks, and other ideal breeding places for mosquitoes. There was an entire lack of police or other authority to enforce sanitary measures, and an epidemic of mammoth proportions was raging in the Mexican town of Nuevo Laredo, immediately opposite, as well as in other towns of northern Mexico.

In the Texas town of Laredo, the Federal officers, after October 1, screened all cases of fever, oiled water-tanks, and other possible breeding places, and disinfected infected premises and surrounding abodes to kill mosquitoes. As a result of these operations, although the population was almost entirely non-immune, less than 10 per cent. contracted the disease, while 50 per cent of the population of the Mexican town of Nuevo Laredo were stricken with yellow fever.

The vigor of the crusade was not relaxed with the disappearance of the epidemic in the late fall, but the same prophylactic measures were maintained throughout the winter and spring up to the present. Daily inspection of all the houses in Laredo was made during the period of greatest danger, and cases of fever of whatever origin were promptly screened. As a result, there has been no recrudescence of the epidemic, and it is reported that for the first time in many years the people of Laredo are enabled to sleep with comfort without having recourse to mosquito bars.

(To be continued.)

TRAVEL NOTES.

VIII.*

MEDICAL AFFAIRS IN THE HAWAIIAN ISLANDS.

NICHOLAS SENN, M.D.

CHICAGO.

PANGO PANGO, SAMOA, July 21.

The recent annexation of the Hawaiian Islands as a territory of the United States has awakened among us a new interest in their agricultural, commercial, professional and educational status. The wisdom of the consummation of such an act can not be questioned, as the United States has thereby gained a firm foothold in the Pacific Ocean at a point of great strategic importance and the islands have secured for themselves a permanent form of government and the most advantageous commercial relations with the outside world. The inhabitants will be made to feel that

> "In no other state except that in which the power of the people is supreme has liberty any abode, than which nothing assuredly can be more delightful."—Cicero.

The islands have natural resources that must be made available to the natives. The rapid transitions from barbarism to a kingdom and from a kingdom to a republic, and from a republic to a territory of the great republic have left the agricultural and commercial interests of the islands in an unsettled state, which, however, under the new administration will soon be remedied. Since the foreigners have taken the reins of government in their hands prosperity and depression have followed each other at variable intervals of time, and the gains have found their way largely into the pockets of a favored few. It is to be hoped that under the new rule booms and depressions will give way to a steady and more healthful development of the undeveloped resources in which the natives will reap their legitimate share.

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*The previous articles in this series have been as follows: "Travel as a Means of Post Graduate Medical Education," by Dr. Nicholas Senn, July 23; "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30; "Spain and Ramon y Cajal," by Dr. Barker, Aug. 6; "Leprosy in the Hawaiian Islands," by Dr. Senn, Aug. 13; "Italy and the Great Antimalarial Campaign," by Dr. Barker, Aug. 20 and 27; "Father Damien, the Leper Hero," by Dr. Senn, Aug. 27; "A Winter Semester," by Dr. Barker, Sept. 3.

The scenic beauty of the Hawaiian archipelago is exquisite. The islands are of volcanic origin, mountainous, and clad with verdure and intersected by fertile valleys.

HISTORICAL SKETCH OF THE ISLANDS.

It is supposed that these gems of the Pacific Ocean became populated by the Polynesians from the distant Samoa Islands about the year 500 A. D. It is claimed that they were first seen by Juan Gaetano, a Spanish mariner, in 1555, but as he left no record, either at home or on the islands, of his visit their discovery must be credited to Captain Cook, who sighted them in January, 1778, and named them Sandwich Islands, in honor of Lord Sandwich. On landing, the discoverer found them densely populated, the people peacable, hospitable and extremely modest and courteous as they prostrated themselves on his approach and remained in this humble position until he and his escort had passed, a courtesy they always extended to their chiefs. He found no indications of cannibalism, but human sacrifices, as in all the South Sea islands, were frequently

Fig. 1.—Natives and native house.

offered. On his return from a voyage to the west coast of America the next year he was killed by the natives soon after landing at the island of Hawaii, at a place now indicated by a monument to the memory of the intrepid explorer. The killing of Captain Cook was provoked by a drunken brawl of his sailors, which incensed the natives, and their wrath centered on the leader of the expedition. His body was interred, and not eaten, as is so often claimed. The political condition of the islands under the rule of different chiefs was a stormy one, wars between the different islands and tribes being frequent, until the Napoleon of the islands, Kamehameha I.—born 1737, died on the island of Hawaii, 1819—after many bitter wars gained supremacy over all of the islands and ruled them in the capacity of a king. His reign was humane and wise. He abolished human sacrifice and introduced many other reforms most creditable to savage rule. With the death of Kamehameha V the reigning family became extinct, and Kalakaua was elected king. He died at the Palace Hotel, San Francisco, January 20, 1891. His sister, Liliuokalani, succeeded to the throne. By a bloodless revolution she was deposed, and the kingdom became a republic, January 19, 1893. After a number of futile previous attempts annexation was effected by an act of Congress, July 14, 1900. The present administration has already made many radical changes in the government of the islands which can not fail in bringing about a more prosperous future.

CLIMATE.

The Hawaiian Islands enjoy an equable and salubrious climate. It is the land of sunshine and breezes. The northeast trade winds fan the islands 225 to 301 days out of the year, and their cooling and invigorating effects are enhanced by the daily land breezes. Anyone who visits Honolulu for the first time and walks or rides along its well-paved and clean streets any time of the year from 8 a. m. to 5 p. m. may feel the effects of heat and be thrown into a perspiration, when suddenly a land breeze descends from the mountains, cool and refreshing, making the visitor forget that he is in a subtropical region. It is only when the atmosphere sleeps during midday that the stranger feels at all uncomfortable and seeks relief in the shade. The average temperature throughout the year is from 69 to 78 F., extremes, 50 to 90 F.

NATIVE POPULATION.

The Hawaiians are Polynesians, resembling in habits and appearance the South Sea Islanders, who by migration east-

Fig. 2.—Luau feast.

ward from the Malay peninsula progressed from island to island, undergoing certain changes under climatic and other influences, but retaining to a great extent their originality. In intelligence they are far superior to the negro race, to which they have absolutely no resemblance (Fig. 1). Their greatest fault is the inborn indolence. The average native makes no unnecessary effort, mental or physical. They are as indifferent as children. They abhor agricultural pursuits and prefer to live on the waterfronts, where they can secure their fish supply without much effort and amuse themselves with their national sports, swimming and canoe or surf riding. They do not take kindly to the professions, and will only work under the pressure of necessity. Civilization has rather increased than diminished their repugnance to labor.

The natives are generous to a fault, honest, easy going, with a happy disposition, but have an inordinate fondness for flattery. They are very fond of flowers and music, but have little, if any, sense of art. The leis (flower wreath) is found on all festival occasions, and is especially conspicuous at the luau feasts (Fig. 2).

The mortality among the natives since the whites came to the islands has been frightful. When Captain Cook discovered the islands all of them were densely populated, not less than 200,000. In 1836 their number was reduced to 108,579, and at present it does not exceed 39,000. In 1848 one-fourth of the

population was carried off by an epidemic of measles; shortly after another 3,000 died of smallpox. The rapid decrease in the native population and their unwillingness to work creates a field for foreign laborers. In 1898 there were in the islands 30,000 Japanese, 24,000 Chinese and 16,000 Portuguese, and since that time the number of foreign laborers must have certainly rather increased than otherwise, as there has been a considerable influx from Porto Rico since the Spanish-American war.

The effects of civilization on the natives has been harmful as well as beneficial. The first missionaries came to Honolulu in 1820, when it was a village of huts, with 3,000 inhabitants. For a long time they labored in vain, but in 1837 a strong religious movement swept over the islands, and in a very few years paganism had entirely disappeared, at least on the surface. Religion, however, did not change the habits of the people to any extent, for

"Nothing is stronger than custom."—Ovid.

The missionaries have brought these people the inestimable blessings of religion and education, but

"No sooner is a temple built to God, but the Devil builds a chapel near by."—Herbert.

Education in Hawaii is now compulsory, and within the reach of every child. There is no need for any young man or woman to leave the islands for a good general education, as Honolulu has most excellent schools, including a college and high school.

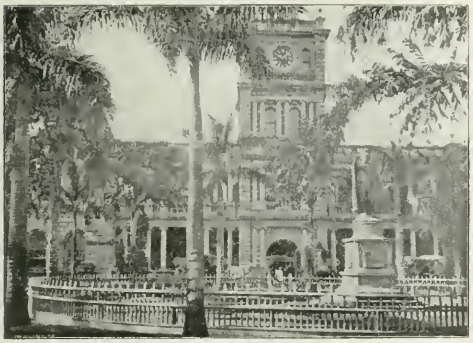

Fig. 3.—The government house, Honolulu.

Churches are numerous, both Catholic and Protestant. The churches are better attended than in the states, and the people pay closer attention to the worship than our own. They are emotional and easily influenced for right and wrong. On the whole, the moral status of the Hawaiian would compare well with that of any of our communities. On the other hand, the whites brought to the islands the devastating infectious diseases which have already destroyed nine-tenths of the population, and which threaten complete extinction. The rum shops and gambling are likewise the fruit of the white man's invasion. Syphilis was unknown until the sailor and the adventurer disgraced the soil of Hawaii. It must not be forgotten that the mind of the aborigines is more susceptible to the reception of vice than virtue, and the Hawaiians are no exception to this rule, so that many of their original natural virtues are on the wane. On the whole the natives have paid dearly for what they received from the white man, as the very soil which belonged to them has largely passed out of their hands, and is now owned by foreigners.

PREVAILING DISEASES.

Since the government of the islands has fallen into the hands of the white population every possible effort has been made to protect the natives against the spread of infectious diseases. The board of health has been watchful and active in their efforts to improve the sanitary condition of the islands, more especially that of the capital city, Honolulu. Like all primitive peoples the Hawaiians have absolutely no appreciation of the importance of hygiene and sanitation, and consequently the surveillance of sanitary matters requires constant watchfulness on the part of the board of health.

The efficiency of the Hawaiian Board of Health will compare well with any of our state boards. It is made up of energetic men, who do their duty fearlessly and without regard to consequences. The present board, recently appointed and organized, is made up of Dr. C. B. Cooper, president, Dr. W. H. Mays, S. K. Kane, Esq., M. P. Robinson, Esq., F. C. Smith, Esq., E. C. Winston, Esq., and Lorrin Andrews, Esq.

The last report, for the six months ending June 30, 1903, contains much valuable material concerning the present prevailing diseases. It is a source of gratification to know from this publication that the reports of the government physicians from nearly every district are unanimous in stating that pulmonary tuberculosis, that has gained such a firm hold on the natives, is not increasing. This report shows that during

Fig. 4.—Queen Emma, consort of King Kamehameha III.

that time occurred 13 deaths from bubonic plague, from typhoid fever, 11; diarrhea and dysentery, 32; pulmonary tuberculosis, 64; beri beri, 6; pneumonia, 39. The great mortality from tuberculosis shows to what extent the disease is still prevailing. Honolulu, being one of the stations on the ocean highway to the Orient, is constantly menaced with the plague; and notwithstanding the great vigilance of the quarantine physician, isolated cases will occur from time to time. The stringent measures resorted to by the board of health the moment a case is discovered have so far protected the islands against an epidemic of this much-dreaded disease. The most severe outbreak of the plague occurred in 1890. The disease was imported from Hongkong, and broke out among the Chinese and Japanese with great virulence, and soon attacked 80, of which number only 14 recovered. A group of suspects of 500 to 700 was quarantined, and in this way the further spread of the disease was checked. After all danger from infection had been passed the barracks were burned. During the entire epidemic only 3 whites were

attacked, and one of them died. The same can be said of cholera. In 1895 cholera, also imported from the Orient, broke out, but thanks to a stringent quarantine of the 80 or 90 cases, 70 per cent. being natives, the disease was promptly stamped out, never extending beyond the limits of Honolulu. In 1880 a severe epidemic of smallpox broke out and proved very virulent in the natives, as more than 10 per cent. of those attacked died.

Compulsory vaccination, as now enforced by the board of health, will prevent all possibility of a similar occurrence in the future. Scarlet fever has never been epidemic, and diphtheria has always been observed, and that very seldom in isolated cases. Syphilis is not so common as formerly, but the hereditary effects are widespread and severe, and present and future generations will be made painfully aware of the truth of

"Posterity pays for the sins of their fathers."—
Quintus Curtius Rufus.

Measles has always been the great curse of the primitive races, and it has claimed thousands of the Hawaiian population. The fearful mortality attending this disease is usually attributed to the recklessness of the patients, as they will not keep their bed, but will persist in bathing to find relief from the fever heat. I believe, however, that such imprudenee on the part of the whites would not result so disastrously and that the frightful death rate is more attributable to the slight

Fig. 5.—Queen's Hospital, Honolulu, established by King Kamehameha III and Queen Emma in 1860.

resistance to the disease on the part of the natives. There ought to be very little, if any, typhoid fever in Honolulu under the present perfect system of water supply and sewerage. The disease occasionally affects small communities where the sanitary conditions are not so completely under the supervision of the government physicians stationed in the 23 different districts. Maui is the island that records the largest number of cases of malaria, 121 cases of dengue and malaria in six months, as stated in the last health report, while Kauai and Molokai report none, and only 3 cases are credited to Oahu and 3 cases of typho-malaria and one case of typhoid. The islands continue to supply the leper settlement with new inhabitants to take the pla e of the dead. According to the report referred to above the number of lepers at the settlement at present is 888. In six months the population of lepers was increased by 62; at this rate the annual addition to the number of lepers would still be 124. The report also refers to a large number of suspects that remain under observation, and from which a large number will be recruited for the settlement as soon as an absolute diagnosis can be made.

Dr. W. J. Goodhue, a recent graduate of Rush Medical College, has taken up the cause of the Molokai lepers, and is the present resident medical superintendent. He has already introduced many reforms, and is earnestly seeking for a remedy that will cure his patients. He continues the Goto treatment, but has no faith in it. At the suggestion of the board of health he is also experimenting with the "Violet Ray." At present he is encouraged by the results of sodium cacodylate. In his report he says: "In sodium cacodylate, an arsenical derivative of relatively slight toxicity containing over 50 per cent. of arsenic, I believe I have found a remedy of great promise in the treatment of leprosy. My attention was first attracted to the remedy by clinical reports of the success attained with it in the treatment of psoriasis, and in diseases in which the wasting and disassimilation are marked features, although I can not find any account of its ever having been employed in leprosy. It is administered hypodermically, per os, or by rectal enema, and it appears to be entirely free from any appreciable irritative effects on the intestinal or rectal mucosa. I have a limited number of patients on this treatment who, so far, after being on the treatment for from two to three months show very decided improvement, and I am only awaiting a large supply of the drug before materially increasing the number of patients, when I hope to submit a detailed and favorable account to the board of health of the results obtained."

Before disposing of the subject of leprosy and in reference to a former communication on the same, I will add that during my short visit at Honolulu *en route* I met a number of the most influential physicians, and they were all unanimously opposed to making the whole Molokai Island a leper home. They base their opposition on business principles. They, as well as the business men in the islands, fear that if this were done the outside world would be prejudiced against the islands, and in consequence the value of property would be depreciated and business injured. There is considerable weight to this argument for the present, but as in the course of time, when it becomes generally known that the colonization of the lepers would be limited to the Molokai Island, such objection would no longer apply. Still, this is a matter, as I have stated before, for the territorial and general government to consider and decide.

THE MEDICAL PROFESSION.

The medical profession of the island territory is one of the most desirable things that we have inherited by the annexation, a worthy addition to the large body of practitioners of the United States. It is made up largely of young, energetic men who came here well prepared for their lifework. The door of entrance to the practice of medicine is well guarded. Every candidate must pass a satisfactory examination before a board of examiners appointed by the governor. This board consists of four members, who, to judge from the character of the men who have been licensed, make no farce of the examination, as is only too often done in the states. The question of school is not considered, all must pass the same critical test, and if found qualified they can practice any system they please. There are now about 100 licensed physicians in the islands, about 60 in Honolulu, and the rest scattered in the 23 districts.

Every district has what is called a government physician, who looks after the poor and sanitary matters, and is paid on an average about $1,000 a month for his services. These doctors make a semi-annual report of their work to the board of health. Through these channels the board of health reaches the most distant parts of the islands, and thus insures prompt and efficient sanitation. Among the older practitioners in Honolulu belong Drs. McGrew and McKibbin, and Dr. W. E. Taylor, a retired naval surgeon. Dr. C. B. Cooper is president of the territorial State Board of Health. Dr. F. R. Day, a graduate of Rush Medical College, Dr. C. B. Wood, ex-interne at Cook County Hospital, and Dr. Walter Hoffmann, a graduate of Germany, are the leading practitioners. The sick of the yellow races are cared for by 12 Japanese and 2 Chinese physicians. For the benefit of recent graduates I would say that Hawaii has all the physicians it can well support at present; it is no Paradise or Eldorado for a new beginner. The field is well occupied, as most of the men would be hard to discount, and the present depressed condition of the sugar interests is felt throughout the islands. There are only three or four men in Honolulu who have been there for years and who are very popular, that can put down their annual income in five figures.

Some of the physicians with a smaller income add to it by conducting at the same time some business enterprise.

QUEEN'S HOSPITAL.

Queen's Hospital is the only hospital in Honolulu. It was erected and endowed by the late Queen Emma (Fig. 4) who took a deep interest in charity work (Fig. 5). It is a handsome structure, located in the center of a park ornamented with flowers and tropical trees and shrubs. The palm avenue leading from the street to the entrance of the hospital, is one of the finest I have ever seen. The hospital is managed by a board of trustees, composed of forty members, and represents the most influential men of the city. The hospital has a capacity for ninety patients and the new wing which is nearing completion will accommodate an additional fifty. Four physicians appointed by the board of trustees constitute the staff. Formerly these physicians were salaried, but I presume in consequence of the additional expenditure incident to the building of the new wing, and the depression in the value of the real estate in which the endowment largely consists, the salaries have been withdrawn. The equipments of the hospital are adequate, and the new operating room will fill a long-felt want. The nursing is in the hands of eight trained nurses, who receive a monthly salary of from $40 to $50. Experiments have been made to train native young women, but they failed, so that the hospital is put to the large expense of hiring trained nurses. The indigent native sick are amply provided for, and others pay according to their means.

MEDICAL SOCIETY OF THE HAWAIIAN TERRITORY.

The first attempt to organize the medical profession in Hawaii was made through the instigation of Dr. H. W. Howard, in 1893, when the physicians of Honolulu met from time to time in each other's houses, thus combining social with professional interests. Under the above title a permanent organization has been effected with monthly meetings, at which physicians from the different islands attend, so far as transportation facilities will permit. It is a source of regret that the transactions, so far, have not been published, and, in view of the importance of the subjects that are discussed from time to time, more particularly everything pertaining to tropical diseases and island sanitation, the reports of many of these meetings would make interesting and profitable reading for the medical world.

(To be continued.)

Clinical Reports.

A PROCEDURE FOR FACILITATING THE EXPERIMENTAL TESTING OF RABIES.

A. P. OHLMACHER, M.D.

(From the Pathological Laboratory of the Ohio Hospital for Epileptics.)

GALLIPOLIS, OHIO.

In the course of a considerable number of cases in which our laboratory has been called on to make a diagnosis of rabies in dogs or cattle, I have found it possible to expedite the examination and minimize the danger to the operator by a simple method which is not described, and which is original if not novel. As is well known to those interested in the experimental study of hydrophobia, the material for examination which usually finds its way to a laboratory consists either of the carcass or the head and neck of a dog or other suspected animal. To prosecute the requisite tests one must obtain certain ganglia for making the rapid histologic examination (the Van Gehuchten-Nelis test), and a portion of the brain or cord, preferably of the medulla, for experimental inoculation. Ordinarily the brain of the suspected animal is exposed by piecemeal clipping off the dome of the skull and the arches of the vertebra by means of bone forceps. This process is laborious and dangerous, inasmuch as the operator may injure his hands on projecting spiculæ of bone or be struck by flying osseous fragments. The substitute which I have adopted and successfully practiced consists in transecting the skull, by sawing, after dissecting away the soft parts. For this purpose we are accustomed to employ the modified butcher's saw recently described and illustrated by my associate, Dr. W. H. Buhlig,[1] although any large saw will answer the purpose. The line of saw cut is midway between the orbits and the auditory meatuses at right angles to the cranio-vertebral axis. By means of heavy gloves the hands of the assistant who steadies the head and those of the operator are protected. The sawing is continued until all resistance by bone beneath the skull is overcome; then the bisected portions may readily be pressed apart and the divided brain becomes fully exposed.

With a sterilized spatula the posterior portion of the cerebrum is removed. Then the tentorium is chipped away with sterilized heavy scissors, or bone forceps, though it is possible to dig out the cerebellum and expose the fourth ventricle without doing this. With the dorsal surface of the medulla thus laid bare, it becomes a simple matter to cut out with sterile scissors or scalpel, and forceps, one or more small cubes which constitute the material from which the emulsion for experimental inoculation is prepared. It is our practice to make such an emulsion for immediate use from one portion of the medulla, and to preserve another portion in sterile glycerin for future use. Furthermore, we practice two methods of inoculation in rabbits—the intra-cerebral injection of Læclainche-Morel[2] and the intranasal method of Galtier.[3]

It now remains to obtain ganglia for the Van Gehuchten-Nelis histologic test. I have found the gasserian ganglia to present very excellent and characteristic histologic pictures in dogs affected with street rabies, and have accordingly made it a routine procedure to obtain both these ganglia, each of which, because of its large size, may be split on the flat, one slice being fixed in absolute alcohol or Carnoy's acetic acid-chloroform-alcohol mixture for the rapid preparation of sections, after paraffin imbedding; the other portions being fixed in formaldehyd solution to prepare for immediate frozen sections or for permanent preservation. With the skull bisected as described above, and the brain removed, it becomes a simple matter to dissect out the gasserian ganglia.

Ordinarily it is also desirable to secure one or more intervertebral ganglia to control the histologic test. These are to be obtained by opening the cervical vertebral canal by clipping away the arches of the vertebra in the usual manner, fully exposing the spinal cord and its nerves with their ganglia.

METRORRHAGIA IN TYPHOID FEVER

WILLIAM HIMMELSBACH, M.D.

SAN FRANCISCO.

Woman, aged 35, unmarried, presented herself at my office with a temperature of 102.5 F. and a history of bronchitis, vomiting and general malaise. She was at once sent to Lane Hospital. In a few days the case was diagnosed typhoid fever. Enlarged spleen, "pea soup" diarrhea and abdominal spots manifested themselves, Widal reaction being negative; finally, with interval of several days, a positive Widal was obtained, thus clinching diagnosis. On January 20 there was a pronounced uterine hemorrhage; prior to this the temperature was 103.5, shortly followed by a drop to 100, with subsequent rising. A careful bimanual pelvic examination excluded any lesion, and close questioning and absence of characteristic odor eliminated the menstrual flow. All efforts to check the hemorrhage were futile. After two days it ceased spontaneously. About the twentieth day the temperature declined to 100.2 F., and suddenly, preceded by a pronounced chill, shot up to 104 F. An examination of the chest demonstrated a pneumonia involving the lower lobe of the right lung.

It took the usual course, and the patient was eventually discharged some six weeks later.

1. General and Special Methods in the Postmortem Examination of the Brain and Spinal Cord, Cleveland Medical Journal, January, 1901.

2. L'Inoculation Intracérébrale du Virus Rabique, Annal. de L'Institut Pasteur, No. 6, 1899.

3. Vera Solomon: Experimentelle Untersuchungen über Rabies, Cent. f. Bakter., Erste Abteilung, No. 3, 1900, p. 76.

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BACTERIAL INVASION OF THE BLOOD.

Examination of the blood of patients for bacteria during life is altogether too infrequently practiced in view of its extremely great diagnostic value, and until the last few years it has been almost entirely neglected. In consequence of this our knowledge of the bacteriology of the specific infectious diseases has been largely derived from findings made through cultures obtained at postmortem examinations, and the value of such findings as an index of the conditions that existed during the life of the patient has been open to question. It is known that during the last hours of life the resistance of the blood to infection may be so lowered that an "agonal invasion" by pathogenic bacteria may occur. Again, putrefactive bacteria are liable to spread from the intestines and make their way through the body, causing "postmortem invasion." Hence the actual value of cultures made at autopsy from the heart's blood and the different viscera has been somewhat uncertain. Since so much of our information rests on such results as postmortem examination can yield, the publication of results obtained in 1,200 autopsies under carefully supervised conditions is of no little importance. Dr. M. Simmonds publishes the complete report of the bacteriologic examination of the heart's blood of cadavers made by himself and his assistants in the general hospital at Hamburg from 1900 to 1903, and analyzes them critically in a recent number of Virchow's *Archiv*.[1]

From their results it would seem that such postmortem examinations, if made within forty hours after death, and on a body kept in a cool, dry place, give a much better index of the antemortem condition of the blood than has generally been believed. In such cases as had been examined during life for bacterial invasion of the blood, the findings at autopsy were regularly the same. In the rest of the cases the blood was found sterile or infected with whatever organism would be expected to be present in the disease that caused death. Postmortem invasion of the heart's blood seems to occur very seldom within forty hours after death if the body is kept cold, and the importance of agonal invasion seems to have been exaggerated.

About half of all the bodies examined (48 per cent.), death having resulted from all sorts of causes, were found to contain bacteria in the blood of the heart. As this blood cools down slowly after death, because of its central location, the number of bacteria is quite different from the number in the circulating blood, for they may multiply greatly after death, but otherwise the findings afford accurate information concerning the blood during the patient's last hours. A number of striking facts are developed from these results. First may be mentioned the infrequence of mixed infection, for of 575 positive findings in but 26 were two kinds of bacteria demonstrated, and but once three kinds; in 95 per cent. a single variety of organism was present in pure culture. Of the different forms present, the streptococcus is by far the most important, for it was found 363 times in this series, which represents the ordinary causes of death as seen in a large general hospital, while the pneumococcus appeared but 101 times, colon bacillus 97 times, and staphylococcus 34 times.

In other words, in almost one-third of all fatal diseases as they occur in the population at large, streptococci have entered the blood before death, and presumably played a greater or less part in bringing about the fatal termination. The overwhelming importance of this organism is made very apparent by this study. It appears in the blood in all sorts of conditions, and in many diseases is probably the chief cause of death. Its relation to scarlet fever, which we have discussed in these columns before, is clearly shown, for it was present in 88 of 129 fatal cases, the blood being sterile only in the cases where death occurred in the first three or four days, before pharyngitis had set in, or when death was due to nephritis or other complications after the acute stage of the disease was over. Simmonds agrees with von Decker that in most cases the malignancy of scarlet fever is due to this organism, but that it has nothing to do with the cause of the disease. Streptococci are but little less often invaders in diphtheria, and here also enter the blood when there are serious lesions in the pharynx and upper air passages. The diphtheria bacilli themselves were not found in the blood once in 68 fatal cases. In measles streptococci were found but four times in ten cases.

Bacillus coli has generally been looked on as a source of error because of its supposed frequent entrance into the blood and tissues shortly before or shortly after death. Simmonds, however, found it in the heart's blood chiefly in diseases in or near to the alimentary canal, and does not consider it likely to be present in the blood after death unless it has entered during the course of the disease. Chronic heart disease, nervous diseases, poisoning and acute tuberculosis cases gave almost invariably no growths from the blood, showing that our ideas of "terminal infection," "agonal" and "postmortem" invasion have probably been exaggerated.

An important observation is that bacteria may enter the blood in large numbers within a very short time after operations and injuries, and later again disappear entirely. Also in peritonitis from appendicitis, etc., the blood was frequently sterile, whereas if the perito-

1 1904, vol. clxxv, No. 1

nitis followed an operation the blood was almost always infected, apparently indicating that the wound favors the entrance of bacteria into the blood; this must have much effect on the outcome of the peritonitis.

Many fatal cases occur in which, without the bacteriologic examination of the blood, it would be impossible to determine the cause of death, as in acute septicemias, and many others are easily capable of wrong interpretation. It is not going too far to say that any autopsy made without a bacteriologic study of the blood and the organs is but half made. No matter how clear the anatomic findings may be, there is always a large possibility that the bacterial findings may alter considerably the final conclusions concerning the case.

THE IMPORTANCE OF DROPLET INFECTION IN PULMONARY TUBERCULOSIS.

Some three or four years after the discovery of the tubercle bacillus by Koch, the researches of Cornet demonstrated the great part played by dried sputum in the spread of the disease, particularly the pulmonary form. In fact, the idea that the inhalation of dried sputum was almost the only, or at any rate by far the most common, method of transmission of pulmonary tuberculosis, gained a strong footing in the medical profession. The idea that the tuberculous individual could exhale from the mouth infective material seemed at first an improbability on account of the well-recognized bacteriologic law that bacteria are not detached from moist surfaces. Still, it was known to bacteriologists that bacteria could be detached from moist surfaces in the form of a spray, and it remained for Flügge and his pupils to show, in 1897, that in tuberculous individuals during coughing and even during speaking, a fine spray actually is given off, the watery droplets of which contain tubercle bacilli. As a result of this discovery, Flügge formulated his theory that the inhalation of these droplets, which are found floating in the air for some distance around the patient, is one of the important sources of infection in pulmonary tuberculosis. There can be no doubt that from a purely experimental point of view the researches of Flügge and his pupils uphold the possibility of this mode of infection. Heymann, for example, exposed cover-slips in the near neighborhood of thirty-five tuberculous patients while they were coughing, and was able to demonstrate tubercle bacilli in the cover-slips from fourteen of them. The same observer was able to produce tuberculosis in guinea-pigs by exposing plates in the neighborhood of tuberculous patients and inoculating the animals with washings from the plates. He was also able to produce tuberculosis in six out of twenty-five guinea-pigs by merely leaving them in the near proximity to coughing tuberculous patients.

In a recent study, Saugman[1] thoroughly reviews the literature of this subject, and gives his own conclusions based on an extensive study. He points out very properly that theories like that of Flügge, while they are based on sufficient experimental evidence, are often accepted before they are thoroughly tested under natural conditions. In the case of droplet infection he points out that we have one class of individuals in whom it should certainly occur if there is anything in the theory, namely, physicians in sanatoria for tuberculous patients, and physicians in nose and throat clinics. There is evidence to show that in the latter there is plenty of opportunity for infection. Tubercle bacilli have been isolated in such clinics from head mirrors, from spectacles worn by physicians, and even from the cheeks of the physician. It is apparent, too, that physicians who are daily examining the lungs of tuberculous patients must similarly be exposed to droplet infection. As a basis for his study, Saugman collected statistics from a large number of sanatoria and nose and throat clinics as to the history of the physicians who had been employed in those institutions. So far as the sanatoria were concerned, it was found that many of the physicians were suffering from tuberculosis when they entered as assistants, but of 174 physicians who entered the sanatoria in perfect health, and lived there three or more years, none had died of tuberculosis, and only two had contracted it. The returns from physicians who worked in throat clinics were even more striking, though here a smaller number of returns were obtained. Of 64 physicians working in throat clinics who entered on their work in perfect health, not one had contracted tuberculosis.

Saugman discusses in a general way the reason for this immunity. He naturally finds it difficult to do this on account of our lack of accurate knowledge as to the exact factors which predispose to tuberculosis. On the grounds that some local defect in the lungs must be present (local predisposition) he suggests the possibility of its absence in these cases, but excludes this, as it would be extremely improbable that such a lack of local predisposition would occur in so many individuals. On the same grounds he excludes an immunization due to old healed foci. He thinks it possible that physicians of the class mentioned may become gradually immunized against tuberculosis by daily infection with very small doses of the bacilli, and in this connection he points out that the average droplet given off by coughing only contains from one to twenty bacilli, and that the dose needed to infect is probably thousands of bacilli. His conclusions appear conservative; he merely states that his study shows that the droplet infection probably plays but little part in the infection of adults in health. He fully realizes that the same may not be true of children or those weakened by disease, and he also recognizes the fact that physicians, particularly those living in sanatoria, are under exceptionally favorable hygienic conditions. We need hardly point out that among the poor and uncleanly, in crowded tenement districts, droplet infection may play a much more im-

1 Zeitschrift für Tuberculose, vol. vi, No. 2

portant rôle. In any event, the results of Saugman's studies, as he himself insists, should not cause us to abate one jot our precautionary measures.

ACID INTOXICATION.

It is said that acetone in small quantity appears normally in the urine, but the amount becomes pathologic at times in connection especially with certain disorders of metabolism, of which diabetes is the most familiar example. Of itself it gives rise to no symptoms, but its presence is often associated with that of other substances, especially diacetic acid and beta-oxybutyric acid, and when abnormal phenomena make their appearance they are probably due to the latter. All of these are probably the results of some derangement in fat-metabolism. The development of stupor, followed by coma and death, after operations on patients, particularly diabetics presenting acetonuria, has been observed rather frequently, while the occurrence of acid intoxication under various conditions had been earlier recognized.

Drs. E. G Brackett, J. S. Stone and H. C. Low[1] report a group of cases presenting the following symptom-complex: Vomiting, associated with collapse; weak and rapid pulse; absence of fever until just before death; cyanosis in the fatal cases, with extreme dyspnea; apathy and stupor alternating with periods of restlessness at first, but in fatal cases gradually deepening into coma and death; and the presence of acetone on the breath and in the urine. In six cases the symptoms developed in the sequence of operation, while in seven they set in independently of any operative procedure. Of the former three and of the latter one died. The children in whom the symptoms were severe exhibited a high-strung, nervous temperament. The symptoms were in general more severe in those operated on than in those not submitted to operation.

The first symptom to attract attention was the vomiting. The vomitus was always bile-stained, becoming dark but never bloody. Restlessness was at first associated with the vomiting, but occasionally there was a certain amount of apathy either preceding or alternating with periods of restlessness. The milder cases presented a varying degree of restlessness, while in the severer cases collapse was marked. In some of the severe cases cyanosis became pronounced in a short time. Recovery occurred in no case in which cyanosis was marked. As the color changed restlessness was followed in some instances by delirium, but in all of the fatal cases stupor gradually supervened, becoming more profound and gradually passing into coma. In the fatal cases death resulted in from twelve to thirty-six hours after the onset of the symptoms, generally after about thirty hours. Death seemed to be due in some cases to lack of oxygen. Postmortem examination in several cases disclosed fatty degeneration of the liver and of the muscles. Acetone and diacetic acid were found in the urine in practically all of the cases in which they were looked for. In a number of cases muscular atrophy was present.

In the line of treatment the administration of sodium bicarbonate by mouth or in enemata and infusion of large amounts of saline solution proved most serviceable. The etiology and pathology of the condition are obscure, the only satisfactory explanation attributing the symptoms to some derangement of metabolism giving rise to acid intoxication.

1. Boston Medical and Surgical Journal, July 7, 1904, p. 2.

MORAL INSANITY.

The line of demarcation between sanity and insanity, like that between health and disease, is sometimes so nebulous that it becomes exceedingly difficult to decide where the one ends and the other begins. It is not a matter of wonder, therefore, that differences of opinion should arise in this connection, particularly when the question of responsibility is raised. There has been not a little discussion as to the existence of so-called moral insanity as an entity, but despite the objections to its recognition, the disorder has retained its place in mental nosology. Perhaps the term moral imbecility would be preferable. The affection must be looked on as a degenerative one of congenital origin. The general intellectual functions may be unimpaired, while the moral sense is lost in greater or lesser degree.

What must be considered one of the most remarkable instances of moral or criminal responsibility on record has been reported by Dr. H. R. Stedman[1] in the case of an unmarried professional nurse, 45 years old, who, there was sufficient ground for believing, had fatally poisoned twenty persons, and on several occasions had made attempts at incendiarism. She also twice took poison with suicidal intent, assigning jealousy as the reason for her act. Her favorite method of administering the poisons employed was in Hunyadi water or by enema, combining the drugs in kind and proportion so that the resulting effect was an unusual and perplexing set of symptoms. There were no delusions of enmity or persecution. The patient was examined by a commission of three physicians, appointed by the court as the result of an arrangement between the prosecution and defense, and the conclusion was reached that she was insane and irresponsible at the time of the homicides, without hope of recovery. The patient was accordingly declared not guilty by reason of her insanity, and she was thereon committed to a state hospital for the insane for the remainder of her life. During the trial the attitude of the woman is described as more that of an interested spectator than that of a prisoner on trial for her life

For a year or more the patient did well, but subsequently developed delusions of persecution and poisoning, with hallucinations of hearing, and her nutrition became greatly impaired. Her father had been an eccentric man, who had placed her and her sister in a foundling asylum. One of her sisters was a chronic dement;

1. Boston Medical and Surgical Journal, July 21, 1904, p. 57

another led a dissolute life. As a girl the patient exhibited incorrigible propensities for deceit, falsehood and trouble-making. She began her career as a nurse at the age of 28, attending successively two training schools, but being dismissed from both before graduation. She was recognized to be queer and peculiar. In some instances she secured the removal of patients not agreeable to her by making false charges against them, and in other instances she kept favorite patients in the hospital by reporting the presence of fictitious symptoms

ARTERIOSCLEROSIS.

The subject of arteriosclerosis is one of perennial interest, and one concerning which, in spite of the immense amount of study which has been devoted to it, much yet remains to be cleared up. It has recently been discussed in Germany before the Congress for Internal Medicine,[1] and in this country before the Pathological Society of Philadelphia[2] and the American Medical Association.

The paper of Marchand before the German congress, which discusses the subject in its wider pathologic aspects, considers under the term arteriosclerosis all those changes in the arteries which lead to a diffuse or nodular thickening of the wall, especially of the intima, in the development of which degenerative, sclerotic and calcareous changes occur. This conception necessarily excludes pure hypertrophy of the media, and syphilitic processes occurring in the medium sized and small arteries. The essential factor which is at the bottom of all cases of arteriosclerosis according to this author is a mechanical one, viz., an over filling, or temporary or permanent increase of the arterial pressure, which may be due to local injuries, or to general processes in the form of intoxications, general nutritional disturbances, or similar factors. The primary change in the vessel walls in all of these cases is in the elastic coat, and consists of a weakening of this. The later changes of a degenerative and sclerotic nature are essentially secondary and compensatory in character. Coplin's study, which covers essentially the same ground as Marchand's, leads him to practically the same conclusions; he also lays great stress on the fact that the disease is primarily a disease of the elastica.

The importance of increased arterial tension as a causative factor in arteriosclerosis is forcibly brought out by the experimental studies of the younger Erb, which completely confirm the similar studies published by Josué.[3] Erb was able to produce experimentally lesions which essentially resembled those of human arteriosclerosis by frequently injecting into the circulation of animals small doses of adrenalin. Coplin has been able in a number of cases of human arteriosclerosis to find lesions in the adrenals, and this fact, together with the occasional observation of increased arterial pressure in certain adrenal lesions, such as adenomata, should lead to a much more extended study of these glands in arteriosclerosis. Even at the present time certain writers have suggested that arteriosclerosis is always of adrenal origin, and that toxic substances which were supposed to produce vascular lesions directly do so rather by their indirect action on the adrenals which they stimulate and cause to hypertrophy.

Inasmuch as adrenalin is being advocated in an increasing number of conditions, and particularly in various forms of hemorrhage, these observations should lead to a care in the selection of cases in which it is used. While its temporary use in acute illnesses like typhoid fever seems perfectly justified, it would seem inadvisable to use it for any length of time, particularly as the liability to arterial change which follows this disease is now well recognized. It can be imagined that where the hemorrhage is due to, or accompanied by some subacute or chronic vascular lesion, the use of adrenalin might be contraindicated. Our knowledge of the action of this substance at present covers almost entirely its action on normal vessels, and only clinical experience will certainly define its dangers. In any event caution in the use of this remedy seems indicated.

1. Münchener med. Woch., Nos. 17 and 18, 1904.
2. Proceedings of the Pathological Society of Philadelphia, May, 1904.
3. Presse Médicale, Nov. 18, 1903, No. 36.

THE ABOLITION OF THE BREAD TAG.

It is reported in the daily press that the United Master Bakers, in their recent convention at St. Louis, have decided to discontinue the practice of pasting labels on loaves of bread. This is an eminently rational decision. It is apparently a small matter at first sight, but the unhygienic possibilities of the practice readily suggest themselves. It is not a pleasant thought that the union label, pasted on an important article of food, has been stuck there by the spittle of the workman, but it is a probability that can not very well be ignored. We all of us have to eat dirt more or less throughout our lives, but this does not imply we should be compelled to do so needlessly. The bakers' decision is a commendable one, and shows that they are properly awake to hygienic demands.

THE PRESENCE OF BACTERIA IN THE VISCERA OF HEALTHY ANIMALS.

There has been not a little discussion as to whether the solid viscera of healthy animals contain bacteria or not, and the evidence bearing on this question has been most contradictory. There are, however, so many opportunities for contamination and loopholes for error in investigations along this line that the reported results can not all be accepted without reservation. A valuable contribution to the data on this subject has recently been published by Dr. H. deR. Morgan,[1] who made a careful study of the viscera of rabbits, cats and dogs with the strictest precautions, and found micro-organisms in 26 per cent. of the examinations. The bacteria however, were those ubiquitous in the atmosphere, and

1 Lancet, July 2, 1904, p. 21.

there is reason to believe that their presence was accidental, the germs or their spores probably adhering to the moist surface of the viscera during their exposure in the course of the postmortem examination. The correctness of this latter suspicion was demonstrated by exposing sterilized viscera under like conditions, and obtaining the same micro-organisms on culture. Accordingly, the conclusion is definitely reached that normal organs do not contain pathogenic bacteria, while the presence of non-pathogenic bacteria in cultures is probably due to accidental contamination.

TUBERCULIN IN TREATMENT OF NON-TUBERCULOUS AFFECTIONS.

A recent communication[1] from Maragliano's clinic at Genoa calls attention to the constancy of a great increase in the number of red corpuscles in case of a small, rather torpid tuberculous focus somewhere in the body. These findings suggested the possibility that the minute amounts of antibodies, generated in the course of such an inactive process, might be the cause of the hyperglobulia observed. This assumption was sustained by the constantly positive findings when guinea-pigs were injected with small, repeated doses of tuberculin, the result invariably being a pronounced hyperglobulia. These findings further suggested in turn the possible application of the measure in treatment of all kinds of anemia and chlorosis, not necessarily of a tuberculous character. Tuberculin in the minute, "refractory" doses employed is harmless, and is being given a thorough trial now in the clinic; the results seem to be promising, although it is too early for a definite conclusion to be reached. The subjects are patients with blood impoverished from any cause. Hyperglobulia may co-exist with pallor, which is probably the reason why so little attention has been paid to the hyperglobulia of incipient tuberculosis, or it may be due to the fact that by the time the patient reaches the physician this early stage of hyperglobulia may be past. The induced hyperglobulia may be one of the factors co-operating in the benefit that has followed tuberculin treatment of tuberculosis. Swan's article on the "Blood in Tuberculosis," in THE JOURNAL, March 12, 1904, is cited in the communication, but Swan's patients had passed beyond the phase of a merely torpid focus.

CONTRACT PRACTICE.

From time to time THE JOURNAL has editorially called the attention of its readers to the evils of contract practice and the need of eternal vigilance on the part of the profession to prevent the installation of a condition of affairs in this country similar to those existing in other lands, like Great Britain, Germany and Australia. It has seemed to us at times that the medical press in this country was not sufficiently alive to these evils which have already appeared in some sections. In a recent issue of the *New York Medical Journal*, Dr. Burnside Foster of St. Paul calls attention to the need of action on the part of the profession, and points out the dangers from already existing contract practice in certain parts of the country. Dr. Foster shows that the remedy for the condition rests with the profession itself, and that only by its united action can its own further exploitation be stayed. We need not here repeat the arguments against this form of practice; they should suggest themselves to every thinking physician. We have the advantage of the experience of our brethren in other countries, and it would be a pity if we should have to learn in the same hard school. Inaction on our part, however, will inevitably lead to this result. Every form of contract practice proposed or already existing should have the most rigid scrutiny of the profession. When cabinet ministers, as is alleged is the case in Australia, take advantage of membership in so-called benevolent societies to sweat the medical profession, we can see how far the evil may progress. There is need of some addition to the published ethical principles as regards this point, and it is a good sign that in Minnesota and in a few other states they are already alive to the situation.

OPTIMISTIC PROPHESYING.

We are somewhat accustomed to optimistic statements in medical literature. The advances in medicine have been so marked in late years that it seems rational to some people to anticipate in the near future results that a few years since would have seemed impossible, if not miraculous. Thus we hear the extermination of tuberculosis confidently foretold, and some are even ready to prophesy that all disease and physical afflictions, excepting surgical accidents, will be abolished by the triumphant advance of medical science. One of the latest of these prophets, in Great Britain, is reported to have claimed that all infection will be done away with, all noxious bacteria exterminated, and men in a hundred years from now will live a century, death being a sudden collapse from a painless exhaustion of the organs. Even "a general flavor of mild decay," which would be due to the continued action of hostile bacteria, is apparently not included in his consideration of the subject. We can admit that a great deal has been done toward conquering disease, and that some of the most formidable scourges of mankind have been robbed of their terrors, and that the advance of medicine along this line still continues. We must remember, however, that death and decay are as natural laws as birth and growth, and that with all our knowledge of the causes of disease and its prevention, there yet remain many lacunæ. Some diseases are conquered, others seem likely to conquer us. It is not long since that a leading surgeon pointed out that at the present rate of increase of cancer mortality it would soon be the prevalent cause of death, at least in certain sections of the country. This is not a pleasant prospect, and there are other disorders of which similar things may be said. Our discovery of the microbe of a disease does not necessarily insure our ability to prevent or conquer it. Pfeiffer's bacillus is hardly, if at all, less malignant at the present time than it was when grip first became epidemic. Diseases of the heart and nervous system show few or no signs of decrease, and new disorders appear from time to time. We would not discourage a rational optimism, but a reasoned ap-

1 Gazzetta degli Ospedali, vol. xxv, No. 70, June 12, 1904.

prehension of possible evils is safer than rainbow chasing in medicine, at least as a guide to conduct. Certainly it is far better than any reliance on presumptious prophesyings, no matter by what high authority. Our profession will not be out of business for some time yet.

Medical News.

CONNECTICUT.

Medical Examiner.—Dr. D. Chester Brown, Danbury, has been appointed medical examiner of Sherman, vice Dr. John N. Woodruff, Sherman, deceased.

Home and Abroad. Dr. Thomas H. Welden, first selectman of South Manchester, returned from Europe, August 22.—Dr. Anthony J. Hill, Torrington, sailed for Queenstown, August 25.—Drs. Edward M. McCabe and Stephen J. Maher, New Haven, sailed for Germany, September 1.

Infectious Morbidity.—During July the State Board of Health received reports of 103 cases of measles in 26 localities; 65 of scarlet fever, in 22 localities; 5 of cerebrospinal fever, in 3 localities; 63 of diphtheria, in 25 localities; 31 of whooping cough in 9 localities; 61 of typhoid fever, in 26 localities, and 27 of consumption in 17 localities.

July Mortality. The total reported mortality for July was 1,405; 276 more than for the previous month, 9 less than for July, 1903, and 6 less than the July average for the five preceding years. The mortality was at the annual rate of 17.6 per 1,000, and 32 per cent., or 450 deaths were due to infectious diseases. Nervous diseases caused 133 deaths; violence, 102; consumption, 100; heart disease, 99, and pneumonia, 38.

ILLINOIS.

Peru Man Not a Leper.—A conclave of Peru and La Salle physicians, aided by an expert from Chicago, has decided that Mathew Nubraski, supposed to be suffering from leprosy, was suffering from a skin disease of an entirely different nature.

Fined, But Escapes.—Father Anselme, the so-called "Quaker doctor," who has been vending patent medicine in Moline, and was charged with practicing medicine without a state license, was found guilty and sentenced to pay a fine of $100 and costs. The defendant took the precaution to cross into Iowa before the verdict was announced.

Milk Sickness Reappears. The State Board of Health, on account of the reappearance, after a lapse of many years, of what used to be known as "milk sickness," and was supposed to be contracted by drinking the milk or eating the flesh of cows that had the "staggers," is continuing a study of the disease, and is accumulating information regarding it from the four counties in which it has appeared. Four of the cases have proved fatal.

Personal.—Drs. James L. Taylor and B. Barret Griffith, have been appointed members of the Springfield Board of Health.—Dr. Frank R. Wheeler, Auburn, is seriously ill from overwork, and has gone to Denver.—Dr. Charles N. Palmer, Clyde, was robbed of $180, while leaving an excursion steamer in Chicago.—Dr. John N. Nelms, Taylorsville, was thrown from a bicycle, August 27, fracturing his right malar bone, and bruising his head and shoulders.

Chicago.

Money for St. Luke's.—By the will of Mrs. J. H. McVicker $10,000 is devised to St. Luke's Hospital.

Deaths of the Week.—During the week ended September 3, 491 deaths were reported, 19 more than in the previous week, an annual mortality rate of 13.27 per 1,000. Violence caused 69 deaths; acute intestinal diseases, 86; consumption, 61, and heart diseases, 32.

Hospital Dedicated.—The Washington Park Hospital, at 6010 Vincennes Avenue, was formally dedicated, September 5. Dr. Carl O. Young is chief of staff, and the staff includes Drs. John B. Murphy, Frank Billings, Archibald Church, William A. Evans and Alfred Hakanson.

August Mortality.—The annual death rate for August was 12.93 per 1,000, 18.6 per cent. lower than the average rate of the past decade. The most important decreases were in deaths of children under 5, and especially in the contagious diseases of childhood, and in impure water diseases. The principal cause of death was acute intestinal disease, with 467 deaths; consumption caused 256 deaths; Bright's disease, 125 and pneumonia, 116.

Statistics of the Summer Quarter. There were 5,820 deaths in June, July and August, equivalent to an annual mortality of 11.95 per 1,000. This is a reduction of 15.6 per cent., as compared with the summer quarter of 1903. The greatest reduction, 502, was among those under 5 years of age—a decrease of nearly 22 per cent. Among the important causes of death showing an increase were: Apoplexy, 5; Bright's disease, 21; consumption, 32; suicide, 13, and other forms of violence, 33. Among those showing a decrease were—the acute intestinal diseases, 168; bronchitis, 69; cancer, 11; convulsions, 24; diphtheria, 59; heart diseases, 13; measles, 52; nervous diseases, 167; pneumonia, 150; typhoid fever, 29; scarlet fever, 48; smallpox, 6; sunstroke, 20, and whooping cough, 9.

INDIANA.

Kokomo Hospital Gets Farm.—Mrs. Anna Cage, Kokomo, who died recently, bequeathed a farm valued at several thousand dollars to the Kokomo Hospital Association.

Smallpox. Ten additional cases, with two deaths, are reported from Goshen. The spread is charged to the negligence of physicians who diagnosed the disease as varicella.

Fined for Illegal Practice.—At the instance of the State Board of Medical Registration, Le Roy Rogers, Kewana, who held a license prior to the passage of the present law, but failed to have it renewed, was prosecuted, found guilty, and fined.

Personal.—Dr. John W. Younge, Fort Wayne, has returned from the Holy Land.—Dr. John N. Hurty, Indianapolis, has been appointed a member of the committee of awards in the Medical and Hygienic Department of the Louisiana Purchase Exposition.—Dr. Warren R. King, Greenfield, has been elected surgeon-general of the Grand Army of the Republic.—Dr. Andrew J. Chittick, Burlington, is seriously ill from septicemia.

IOWA.

Waverly Hospital Dedicated. The new hospital presented to Waverly by Abraham Slimmer, was formally dedicated, August 28.

Culture Stations To Be Established.—Culture stations for the investigation of contagious infections and transmissible diseases were expected to be ready for work September 1. The appropriation of $5,000 makes it possible at first to undertake only the diagnosis of diphtheria, typhoid fever, tuberculosis and rabies. Examinations are made at the state university, free of charge.

Must Furnish Statistics.—The new law regulating the gathering of vital statistics which will be in effect as soon as the blanks are available, provides that all births and deaths shall be reported to the local health officers. The law does not provide for payment for such reports, and there is a strong undercurrent of opposition among the profession, which thinks that the state should pay for work done.

Faculty Changes.—Dr. Thomas J. Maxwell, Keokuk, has resigned the chair of surgery in the Keokuk Medical College, College of Physicians and Surgeons, and Dr. Charles E. Ruth has been elected to fill the chair. Dr. John R. Maxwell succeeds Dr. Ruth as professor of anatomy.—Drs. Paul Shewkana, London, and Aufin Egdahl of Johns Hopkins, have been named as instructors in bacteriology and pathology in the University of Iowa.

Medical Staff Assigned.—The following assignments of medical officers have been made: For duty with Fifty-fifth Infantry—Major J. Fred Clarke, Fairfield, surgeon; Capt. Wilbur S. Conkling, Des Moines, and Capt. Elliot R. King, Arion, assistant surgeons. For duty with Fifty-sixth Infantry—Major Donald Macrae, Jr., Council Bluffs, surgeon; Lieut. Pierre McDermid, Fontanelle, assistant surgeon. For duty with Fifty-third Infantry—Major Charles S. Grant, Riverside, surgeon; Capt. E. L. Martindale, Clinton, and Lieut. John C. Hancock, Dubuque, assistant surgeons. For duty with Fifty-fourth Infantry—Major D. S. Fairchild, Jr., Clinton, surgeon; Capt. David A. Jay, Eldon, and Lieut. Albert B. Deering, Boone, assistant surgeons.

KANSAS.

Kills Assailant. Dr. E. P. Chace, Shawnee, shot and killed John Cahill, who attacked him, after threats to kill.

School Buildings Fumigated.—The sanitary officer of Leavenworth has fumigated all the school buildings in the city in

order that they may be in the best possible sanitary condition when school opens on September 9.

Smallpox and Scarlet Fever.—During the last quarter there were 299 cases of scarlet fever and 226 cases of smallpox in the state. Saline County led in smallpox cases, with 35 cases, Labette and Cherokee counties having each 31. Barton County had 59 cases of scarlet fever, and Jefferson County 40 cases.

New State Board. The governor, on August 29, announced the following appointments to the State Board of Health: Dr. G. E. Locke, Holton, reappointed; Dr. Herbert M. Bentley, Sterling, vice Dr. John M. Minick, Wichita, deceased; Dr. Charles Lowry, Topeka, vice Dr. Abraham S. Gish, Abilene; Dr. B. J. Alexander, Hiawatha, reappointed, and Dr. Joseph B. Carver, Fort Scott, reappointed.

MARYLAND.

Faculty Meets.—The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland will be held at Ocean City, September 9 and 10.

Supplies Hospital Corps for Maneuvers.—As the First Maryland Regiment has no hospital corps a detail will be sent to Manassas for it from the Fifth Maryland, under Capt. S. Griffith Davis, assistant surgeon of the latter regiment.

New Building for Asylum.—A new building will be added to the group at Spring Grove Asylum for the Insane, near Catonsville, the work on which will begin October 1. It will contain administration rooms, apartments for nurses and patients, operating rooms and hydrotherapeutic plant. A training school will be established for men and women nurses.

Baltimore.

Typhoid in August.—There were 29 deaths from typhoid fever in August, and 207 new cases were reported, against 146 in August, 1903.

Bequest to Hospital for Nurses.—By the will of Mrs. Anna M. Gill of Paradise, Baltimore County, $4,000 was devised to the trustees of the Johns Hopkins Hospital, to be used for the benefit of the nurses of that institution.

Insane Removed.—On August 31 forty patients were removed from the insane department of Bayview Asylum—the city almshouse—to Springfield Asylum for the Insane, Sykesville, to relieve the congestion in the former institution.

Crim Bequest Valid.—The Crim bequest has been declared valid in the courts. By the will of the wife of the late Dr. William H. Crim the University of Maryland School of Medicine was bequeathed about $40,000 to found a William H. Crim professorship.

Personal.—Dr. Delano S. Fitzgerald is at Manhattan Beach, N. Y.——Dr. Harry T. Marshall has been elected pathologist at the Baltimore Medical College, vice Dr. T. Robert W. Wilson, resigned, to devote himself to private practice.——Dr. Stewart Paton will spend the winter abroad.——Dr. Augustus G. Pohlman has resigned his instructorship in anatomy at Johns Hopkins University to accept an appointment as assistant professor of anatomy in the University of Indiana, Bloomington.

New House Staff.—The following graduates of last June entered on their duties on the house staff of the Johns Hopkins Hospital August 31: John Herbert Carr, Josephine Hemenway, Julius A. Caldwell, Jr., Jewett Villewy Reed, Ernest Sachs, Walter V. Brem, Jr., Wilfred H. Mainwaring, Herbert Ziegler Griffin, Orville Hickok Schell, Harry S. Greenbaum, Robert G. Washburn, Herman W. Marshall, Benjamin T. Terry, Robert Bennett Bean, G. Lane Taneyhill, Jr., William J. Ricker, Charles M. Remsen, Maurice Buford Bonta, De Witt B. Casler, and James F. Morrison.

New Surgical Building Dedicated.—The new surgical building at the Johns Hopkins Hospital will be dedicated October 5. The program will consist of addresses by several prominent American and foreign physicians, and a large number of eminent medical men, including those gathered at St. Louis this month, will be invited to attend. After dedication it will be inspected and a luncheon will be served. In the afternoon a bronze tablet erected to the memory of Dr. Jesse W. Lazear, who lost his life from yellow fever in Cuba while investigating that disease there in 1900, will be dedicated in one of the amphitheaters. The building cost about $150,000, is of brick, and four stories high. Sanitation and ventilation are important features. All the floors are of tiles, every room and hallway used by patients being also wainscoted with glazed white tiles. The stairways are of marble and iron, and there are toilet rooms and baths on each floor. A surgical amphitheater, 40 feet high, also has extensive tiling, marble work, and a hall with wide lights composed entirely of wired glass. There are a number of consultation rooms. On the first floor will be emergency rooms for accident cases, minor operation rooms, and the orthopedic department. Two large vaults of brick and cement are provided for surgical records.

NEW JERSEY.

Bequest to New York Academy.—The late Dr. Albert W. Warden of Union Hill, West Hoboken, in his will, bequeathed $1,000 to the New York Academy of Medicine.

Personal.—Dr. Theodore G. Davis, Bridgeton, left, September 6, for California, where he will spend the winter.——Dr. William H. Westcott, Berlin, was painfully injured by a collision with an automobile, September 2.

Staff for Sister's Hospital.—The hospital committee of the new Sister's Hospital, Elizabeth, has appointed the following staff: Drs. John P. Reilly, Victor Mravlag, Stephen T. Quinn, Thomas E. Dolan, and James S. Green.

Fighting Glanders.—The State Board of Health and the Jersey City Board of Health are endeavoring to stop the importation into the state of glandered horses. Last week five horses suffering from this disease were discovered in Hudson County.

New Hospital for Orange.—Buildings and grounds have been purchased for the establishment of a new hospital in Orange. The hospital will be equipped as soon as possible, and will be opened about November 1. It will have about thirty beds, besides a maternity ward and children's wards. The institution is to be known as Mount Carmel Hospital, and will be non sectarian.

NEW YORK.

Buffalo.

Parmenter Resigns.—Dr. John Parmenter has resigned the chair of anatomy and the secretaryship of the faculty of the medical department of the University of Buffalo, retaining, however, the professorship of clinical surgery. Dr. Herbert U. Williams has been promoted from the associate to the governing faculty, and retains the title of professor of pathology and bacteriology. Dr. Herbert M. Hill has been appointed secretary of the faculty.

Personal.—Dr. Grover Wende has sailed on the *Deutschland* to attend the International Dermatological Congress in Berlin.——Dr. Frank W. Hinckel has returned from Europe, where he went as delegate to the International Otological congress at Bordeaux.——Dr. W. Scott Renner is soon expected home from his trip abroad.——Dr. Marshall Clinton has returned from the Adirondacks.——Dr. David Wheeler has gone to the Adirondacks.——Dr. Irving W. Potter and Dr. George A. Himmelsback have returned from Europe.——Dr. Edward Clark, assistant health commissioner, is convalescing from his recent attack of multiple neuritis.

New York City.

Department of Health Needs More.—The health department has sent to the board of estimate a request for $2,123,500 for its 1905 allowance, an increase of $577,656.52 over the 1904 allowance.

Smallpox on Liner.—On account of a case of smallpox on the *Campania*, she was detained over night at quarantine, the patient was transferred to the Kingston Avenue Hospital, Brooklyn, and 26 passengers were sent to Hoffman Island for observation.

Personal.—Dr. L. Duncan Bulkley sailed for Bremen August 30.——Dr. McGeary, ambulance surgeon at St. Vincent's Hospital, had a narrow escape from serious injury while riding on the ambulance when it collided with a trolley car.——In a collision between a trolley car and his carriage, Dr. Martin W. Anspitz fractured an arm and a leg, and his carriage was demolished.

Contagious Diseases.—In the week ended August 27 there were reported to the sanitary bureau 371 cases of tuberculosis, with 147 deaths; 244 cases of diphtheria, with 25 deaths; 140 cases of typhoid fever, with 27 deaths; 70 cases of measles, with 4 deaths; 48 cases of scarlet fever, with 2 deaths; 3 cases of varicella and 17 deaths from cerebrospinal meningitis.

Hospital Notes.—William H. Crawford bequeathed $10,000 to the New Amsterdam Eye and Ear Hospital.——Efforts are being made to raise funds for the reopening of the pavilion for contagious eye diseases of the Eye and Ear Infirmary, which

has been closed since March 1.——The new Beth Israel Hospital is to be enlarged by the remodeling of a six-story tenement house near by, to which it will be connected by bridges.——All the city hospitals are so crowded that the authorities view the approach of winter with much apprehension. The public hospital accommodations of this city are totally inadequate.

More Typhoid.—According to the recent canvass made among private physicians there are now more than two hundred cases of typhoid fever in the Bronx. Such a large number is causing Bellevue and the allied hospitals great trouble because of the present crowded condition of these institutions. Dr. Gregory has ordered the erection of a temporary hospital on the grounds of the Fordam Hospital, which will provide for about a dozen typhoid patients. The cases are scattered and due to local contaminations, and, therefore, the health department is not alarmed and does not fear a general epidemic.

PENNSYLVANIA.

Good Results.—Oliver B. Simmons, in charge of the South Mountain Camp Sanatorium for the care of consumptives on the state forestry reservation at Mont Alto, reports that since the opening of the sanatorium in June, 1903, 65 patients have been received, and that of this number 50 per cent. have returned to their homes apparently totally cured; and 33 patients are still under observation in the sanatorium. These statistics are practically in accord with those reported from the White Haven Sanatorium.

Philadelphia.

Personal.—Dr. and Mrs. Peter N. K. Schwenk have returned from a trip in Europe.

Bequest to Episcopal Hospital.—By the will of the late J. Lower Welsh, the Hospital of the Protestant Episcopal Church receives $50,000.

One Year's Work in the Municipal Hospital.—During 1903, 3,399 patients were treated in the institution, and 3,204 were admitted; 2,464 were discharged, and 512 died. The number remaining at the end of the year was 423. The general death rate for the entire hospital was 17.20 per 1,000.

Maragliano Serum at Phipps Institute.—A thorough test of the Maragliano serum in the prevention and cure of tuberculosis is to be given at the Phipps Institute. Patients have been selected on whom the serum will be faithfully employed. In connection with the use of the serum, it is advised that the patients eat, as part of their food, meat from cattle rendered immune by the administration of the serum.

Malaria-Breeding Mosquitoes at Navy Yard.—The malaria-breeding mosquito has recently been discovered at League Island, and its presence has led the authorities to seek its breeding place and stamp it out. During the past year the men at the island have been remarkably free from malaria, only two or three cases having occurred. This is said to be due to the efforts of the authorities to exterminate the mosquito by the free use of kerosene on the stagnant pools which surround the yard. It is asserted that the dangerous species of mosquito is a new arrival, and that its breeding place lies in the marshes outside the navy yard grounds.

Health Report.—Typhoid fever shows a steady increase since August 1, and only seven wards in the city are free from the disease. During last week 104 new cases were reported, with 10 deaths, as compared with 87 new cases and 8 deaths for the preceding seven days. In all there were 178 cases of contagious disease, with 14 deaths. During the preceding week there were 157 cases, with 12 deaths. The general death rate is below normal, and the deaths from all causes numbered 371, a decrease of 51 from those of last week, and an increase of 17 over the corresponding period of last year.

TENNESSEE.

Will Build Hospital.—Tennessee Medical College, Knoxville, will erect a hospital to cost $25,000, and to accommodate 55 patients.

Smallpox.—Russellville, Hamblen County, reports 7 cases. Between Lyles and Bear Creek, Hickman County, there are from 50 to 75 cases, and compulsory vaccination has been ordered.——Seven cases are reported from Jasper, Marion County.——A new case has developed in Spring Creek, Perry County, and the schools have been closed.

Personal.—Dr. William Litterer has been made professor of histology, pathology and bacteriology in the medical department of Vanderbilt University, Nashville, vice Dr. Louis Leroy, resigned.——Dr. Reuben S. Stanley, Memphis, was thrown from his buggy in a runaway accident, August 24, sprained his wrist and sustained serious internal injuries.

GENERAL.

Society for the Study of Alcohol.—The American Medical Society for the Study of Alcohol and Other Narcotics was organized, June 8, 1904, by the union of the American Association for the Study of Inebriety and the American Medical Temperance Association. The alcoholic problem and the diseases which spring from it are becoming more prominent and its medical hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel. All physicians are asked to assist in making this society the medium and authority for the scientific study of the subject, and the secretary, Dr. T. D. Crothers, Hartford, Conn., will be pleased to give any further information.

Testimonial to Dr. Chapin.—It is proposed to give a dinner in November next, to Dr. Chapin, superintendent and physician of the Pennsylvania Hospital for the Insane, who has just completed a half century's work in behalf of the insane. He was appointed assistant physician at the State Lunatic Asylum, Utica, New York, in 1854. Afterward he became connected with the late Dr. George Cook in the conduct of Brigham Hall, Canandaigua, New York, and then, first as one of the building commissioners, and subsequently as physician and superintendent, with the Willard Asylum for the Chronic Insane, an institution made famous under his organization and work. Since 1884 he has been the medical chief of the Pennsylvania Hospital for the Insane. His friends have also arranged to have his portrait painted for presentation to him and to his family in honor of the event. Contributions from his friends may be sent to Dr. E. N. Brush, the Sheppard and Enoch Pratt Hospital, Towson, Md.

FOREIGN.

Relief Work at Harbin.—The receiving committee at Harbin had 7,901 sick and wounded arrive by train from the seat of war during the first month. All but 437 were distributed in the hospitals of the Amur and neighboring regions, the rest being sent home to Russia.

Red Cross Relief for Psychoses Among the Soldiers.—As mentioned recently, page 680, the number of psychoses in the Russian active forces is very large, especially among the officers of the troops at the front. The Russian Red Cross has established a central station for such patients at Harbin.

Traffic in Sales of Medical Practice.—A certain Dr. Lawson of England was sued for misrepresentation of the facts in the sale of a medical practice. The courts condemned him to damages and costs. The remarkable feature of the case was the discovery that this was the twenty-ninth or thirtieth transaction for the sale of a medical practice in which he had engaged.

Etiology of Malaria.—A few Greek writers are dubious in regard to the mosquito origin of malarial infection. They claim that the disease is liable to appear for the first time during the months of the year when there are no mosquitoes. They think that emanations from the soil, stagnant water, etc., are possible factors in its origin, Cardamatis asking: "If the infection of man necessarily precedes that of the mosquito, whence did man derive his primary infection in the first place?"

Cholera in Russia.—Our Russian exchanges have been commenting on the threatening epidemic of cholera in Persia, and a large medical force was dispatched to the frontier to prevent the importation of the disease into Russia. The latest advices by mail are that the epidemic is declining, and that only a single suspicious case was noted in Southern Russia. The cable now brings word that several cases of cholera have been discovered in St. Petersburg and that there is great alarm.

Thermometer That Can Be Boiled.—Bardy's clinical thermometer is made with a bulb above, which allows the mercury to expand without injury to the thermometer when it is boiled. The mercury can be readily restored to its place by a simple maneuver. Professor Raymond recently presented it with a high eulogy to the Paris Académie de Médicine, stating that its use puts an end to the fear of transmission of infection by means of the thermometer. Kantorowicz of Berlin has invented a similar thermometer, mentioned on page 1112 of the last volume.

Sale of a Medical Practice.—The widow of a French physician sold her late husband's practice, office, books, instruments, etc., to another physician, who signed the contract in due form. He afterward found another more promising chance and declined to fulfill the contract, claiming that the sale of a medical practice

is not legal. The local court sustained him in this view, but the court of appeals awarded the widow the damages claimed, on the ground that the articles mentioned in the contract, the location, books, and agreement to introduce the newcomer, represented negotiable property on which a contract was binding.

The School in the Woods for Sickly City Children.—A new departure in school hygiene has been inaugurated at Charlottenburg, Germany. A day school has been established in a pine forest outside the city limits, and the children and teachers go there in the early morning and return home in the evening. About 120 anemic and weakly children were selected from the various day schools and transferred to this new establishment. Arrangements are made to feed the children and to give them medical oversight. Only two and a half hours are devoted to school tasks; the rest of the time the children play in the woods or pavillion. Dr. Bernhard Bendix is the physician in charge of the institution, the official name of which is the Waldschule für kränkliche Kinder.

The Approaching International Medical Congress.—The committee of organization of the Lisbon congress is issuing a bulletin from time to time which displays such businesslike methods and devotion to science that it augurs well for the success of the congress. Nos. 2 and 3 have been recently received. They contain the list of the subjects of the official reports, with the names and addresses of the authors. A list of subjects recommended as themes for further communications in each section are given. The national committees and names of enrolled members are also published. A colonial exposition is to be one of the features of the meeting, as also the conclusions from a collective inquiry on pellagra. The Americans have not sent in their names promptly, only one being found as yet on the list of official addresses—Dr. W. J. Morton of New York, who will speak on the "Ultra-Microscope." Among the "recommended subjects" in the section of medicine, we note "Colibacillosis"; "Dyspnea in Acute Febrile Diseases"; "Meningeal Hemorrhages"; "Paralysis in General, Etiology and Treatment," and "Headaches." Twenty-eight themes are recommended in the section of neurology and psychiatry and thirteen in obstetrics and gynecology. Among the addresses in the latter will be one by Pinard on "Gravidal Autointoxications." Sixteen themes are suggested for the section of hygiene, among them being "Means to Combat Grippe," "Street Sprinkling," and "Epidemiology of Cerebrospinal Meningitis." The list of participants already reads like a roster of the chief luminaries of European science. The secretary asks that articles be forwarded to him before Sept. 30, 1905, typewritten if possible, to facilitate prompt printing. All correspondence should be addressed to Prof. Miguel Bombarda, Hopital de Rilhafolles, Lisbon. See page 141.

LONDON LETTER.

Vital Statistics in 1902.

The sixty-fifth annual report of the registrar-general dealing with the births, deaths and marriages in England and Wales in 1902 has just been published. The estimated population in the middle of 1902 amounted to 32,997,626, of whom 15,952,154 were males and 17,045,742 females. The marriage rate was 15.9 per 1,000 of the estimated population of all ages, which showed a slight increase; in the 3-year periods of 1880-1882, 1890-1892 and 1900-1902 it being 15.2, 15.5 and 15.9 respectively. But as a large majority of the population are either already married or are below the age at which marriage takes place, the total population is not a satisfactory standard by which to measure the rate of marriage. If it be calculated on the unmarried and widowed portion of the population above the age of 15, the apparent increase is turned into a decrease, for the rates for the same periods on this basis are 51.5, 49.8 and 48.7. The birth rate during the year was 28.5 per 1,000, which was identical with that of 1901, but was 1.1 per 1,000 below that of the decade 1892-1901. The death rate was only 16.2, the lowest on record since civil registration was established in 1837.

Statistics of Infectious Diseases in London in 1903.

The annual report of the Metropolitan Asylums Board, in whose hospitals most of the cases of fever occurrying in London are treated, show in 1903 a death rate for scarlet fever of 3.1 per cent.; for diphtheria, 9.6 per cent.; for typhoid fever, 15.3 per cent.; for typhus fever, 21 per cent., and for smallpox, 3.3 per cent. The number of cases of infectious disease admissible to the board's hospitals and classified as such was, in 1901, 35,311; in 1902, 40,046; in 1903, 23,087. For this falling off the abatement of the recent smallpox epidemic was largely responsible, the number of cases of the disease being, in 1901, 1,700; in 1902, 7,796; in 1903, 416. Other diseases also show a considerable decline. Thus, the number of cases of scarlet fever in the 3 years was 18,381, 18,252 and 12,531 respectively; of diphtheria, 11,968, 10,538 and 7,582; of typhoid fever, 3,194, 3,407 and 2,339. In typhus fever alone was there an increase to 22, the highest number since 1893. With regard to diphtheria, an encouraging feature of more importance than the small number of cases is the continued decrease in the rate of mortality since the introduction of the antitoxin treatment. Before this the mortality varied from between 30 and 40 per cent. In 1895, the year in which the antitoxin treatment was introduced, it fell to 22.8. In 1903 it was only 9.69 per cent., though many cases are brought to the hospital too late for treatment. The figures showing the day of the disease on which the treatment was first used are even more striking. At the Brook Hospital, between 1897 and 1903, 187 cases were treated with antitoxin on the first day of the disease without a single death; 1,186 on the second day, with 5.4 and 5 per cent. deaths in the first 2 years of the series respectively, since which the rate has been about 4 per cent. In cases treated after the second day the mortality is much higher, ranging up to and sometimes exceeding 20 per cent. An adverse report is made on Finsen's treatment of smallpox by excluding all but red light. He claims that suppuration of the vesicles and pitting are prevented, that suppurative fever is abolished, and that the mortality is lowered. No such effects were observed in a small ward in which the treatment was carried out, and, moreover, the gloom was believed to have a deleterious influence on the general condition of the patients.

Physical Degeneration.

For some time the public has been gravely concerned by the alleged physical degeneration of the population, which is a standing topic of discussion both in the lay and medical press. Like a good many other topics which furnish "copy" for the press, the subject has sprung into prominence simply because of the sensationalism aroused, and not because it rested on any real basis of fact. The question became so burning that the government took it up and appointed a committee "to make a preliminary inquiry into the allegations concerning the deterioration of certain classes of the population as shown by the large percentage of rejections for physical reasons of recruits for the army and by other evidence, and to consider by what manner the medical profession can best be consulted on the subject with view to the appointment of a royal commission." The committee has now issued a report. They are unable to discover any trustworthy evidence of the general or extensive physical degeneration which has been supposed by some to exist. They recommend that, 1, an anthropometric survey be made with a view to the collection of definite data bearing on the physical condition of the population; in the first instance, periodic measurements of children in schools might be taken. 2. That a register of sickness not confined to infectious diseases should be established. 3. That an advisory council containing members appointed by the medical corporations be formed to receive the reports and advise the government. Such a council might be modelled to some extent on *Le Comité Consultatif d'hygiène publique* in France. 4. That the problem of overcrowding be drastically dealt with by fixing a standard beyond which crowding will not be allowed. 5. The provision of labor colonies and public nurseries. Further recommendations are made which involve almost every department of hygiene, such as smoke pollution, medical inspection of factories, alcoholism, food and cookery, employment of women, milk supply, feeding of infants, exercises for children, open spaces.

Correspondence.

Evidently.

CHARLESTON, ILL., Sept. 3, 1904.

To the Editor:—I notice in THE JOURNAL for August 27 that Dr. W. W. Keen, in a letter apropos of the educational exhibit at St. Louis, has this to say: "Next to Germany Japan has done the most. What she is doing in war she is doing in medicine." Permit me to remark that, if Japan is doing in medicine what she is doing in war, she must, indeed, be playing hades with her sick. Yours sincerely,

T. H. SHASTID.

A Loose Standard of Measurement.

TOLEDO, OHIO, Sept. 3, 1904

To the Editor:—In THE JOURNAL for September 4 a writer says that a tumor was "about the size of the distal phalanx of an adult finger," and in the next paragraph he says a gland was "about the size of a marrowfat pea." I presume in the first instance that he refers to the finger as you see it, and not to the bone, because in somewhat awkward English he seems to say that the tumor was 5 cm. in length and $3\frac{1}{2}$ cm. in breadth. It is quite likely that when boys the most of us helped to grow peas, but it is just as likely that the physician who now refers you to a marrowfat pea does so from boyhood memory, and for the last twenty years has not been able to tell one variety of pea from another. "Two feet—the length of the hammer-handle—and so much," is an old-time expression for the happy-go-lucky measurements as made by the journeyman carpenter, and "bean-sized," "pea-sized," "nut-sized," "fingernail-sized" skin eruptions, tumors, etc., convey about the same ideas of exactness. It is quite as easy to think of fractional parts of an inch or of a centimeter as of the average size of adult fingers. J. L. TRACY.

Queries and Minor Notes.

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

URINARY EXAMINATION IN LIFE INSURANCE WORK

DR. WILLIAM D. BYRNE, Chicago, writes: In the routine work of urinary analysis connected with examinations for life insurance it is customary to scrutinize the specific gravity and the reaction, and to make the heat and nitric acid tests; then, if these show abnormalities, a microscopic examination for casts follows. Now, in the early stages of interstitial nephritis, do we not find heart and arterial changes, as also alterations in the percentage of urea, of greater value in determining a correct diagnosis? The text-books do not elucidate this satisfactorily, and I should like to hear from you, if you can give the time to answering me.

ANSWER.—Ordinarily, the early stage of chronic interstitial nephritis is marked by an increase of the 24-hour amount of urine, of which the urine of the night is notably greater than that of the day. The specific gravity of the total 24-hour urine is relatively low; the percentage and total urea is also less than normal. The blood pressure is increased and may be noted by instruments, but may not be perceptible to the fingers. In the early stage the cardiovascular changes, which are so easily recogoized later, may not be perceptible. Even in the early stage the microscope may enable one to detect hyaline and even finely granular casts, and especially if a centrifuge be used to sediment the urine. Therefore, the important points in the recognition of chronic interstitial nephritis in the early stage are the increase of urine for 24 hours, of which the night excretion exceeds that of the day; relatively low specific gravity; relative and total decrease of urea; increase of blood pressure; the presence of hyaline and often of granular casts, and the presence often in the urine of a trace of albumin.

SAN FRANCISCO, Aug. 29, 1904.

To the Editor:—Will you kindly inform me what states have no medical law. R. F. T.

ANSWER.—None of the states and territories in the Union is without a medical law at the present time, except Alaska.

Book Notices.

PHYSIOLOGY AND PATHOLOGY OF THE URINE, with Methods for Its Examination. By J. Dixon Mann, M.D., F.R.C.P., Physician to the Salford Royal Hospital. With Illustrations. Cloth. Pp. 272. Price, $3.00. London: Charles Griffith & Co., Ltd. Philadelphia: J. B. Lippincott Co. 1904.

Dr. Mann takes up the subject of the physiologic and pathologic constituents of the urine and the usual chemical and microscopic tests, with a brief consideration of certain diseases in which the urine plays an important part. The subject is well handled, but the author does not depart materially from the methods of writers on this subject who have preceded him.

CLEFT PALATE AND HARELIP: The Earlier Operation on the Palate. By Edmund Owen, M.B., F.R.C.S., Surgeon-in-Chief to the French Hospital. Cloth. Pp. 111. Price, $1.00 net. Chicago: W. T. Keener & Co. 1904.

This little monograph is devoted almost entirely to a description of the operative treatment of cleft palate after the method of Dr. Truman W. Brophy of Chicago. Mr. Owen is convinced, after practical experience, that this method marks a great advance in the surgery of the defect.

INFECTIOUS DISEASES. Their Etiology, Diagnosis and Treatment. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris, etc., Translated by M. S. Gabriel, M.D., New York. With 43 Illustrations. Pp. 864. Cloth. Price, $5.75 net. Philadelphia and New York: Lea Brothers & Co. 1903.

One can not peruse this work without recognizing at once that it has been written by a master mind. The subject has been comprehensively covered in all its phases, historical, theoretical and practical, experimental and clinical. The work of the laboratory is weighed and measured by the facts as presented at the bedside, the results of the one thus controlling and supplementing those of the other in a manner which could only be done by one not only perfectly familiar with laboratory and experimental methods, but also having at his command unlimited clinical facilities. The work is an excellent one and of great value, not only to the general practitioner, but also to the surgeon and specialist, for there is no branch of medicine which does not have to reckon with this class of diseases.

Marriages.

JUDSON A. HULSE, M.D., to Miss Hilda Inman, both of Akron, Ohio.

GEORGE L. BOND, M.D., Alto, Mich., to Miss Georgianna Baker of Ridgeway, Mich.

JOSEPH H. DOYLE, M.D., to Miss Lena Jansen, both of Little Chute, Wis., August 17.

ROBERT WIENER, M.D., to Miss Tillie Polowe, both of New York City, September 4.

JOHN C. COCHRAN, M.D., Big Run, Pa., to Miss Ruth Derr of Lancaster, Pa., July 20.

DANIEL HOPKINSON, M.D., to Miss Manette Meinecke, both of Milwaukee, August 24.

C. T. JONES, M.D., Stafford, Kan., to Miss Anna Harrison of Wichita, Kan., August 15.

R. M. BOLMAN, M.D., Fort Wayne, Ind., to Miss Catherine Geiger of Bloomville, Ohio.

ALBERT C. MCCLANAHAN, M.D., Chicago, to Miss Locky Fox of Portland, Ore., August 24.

JAMES W. GAGE, M.D., Garrett, Ind., to Miss Mary Kruenpelbeck of Cincinnati, August 30.

JAMES GORMLY, M.D., Meadowlands, Pa., to Miss Elsie V. Read of Vineland, N. J., August 24.

W. E. SHALLENBERGER, M.D., Canton, Ill., to Miss Kathryn Elsenfast, at Peoria, Ill., August 17.

J. M. LANNING, M.D., Corinth, Miss., to Mrs. Lydia B. Van Anda of Manchester, Iowa, August 27.

CHARLES P. DOYLE, M.D., Frankfort, Mich., to Miss Clara Kenney of Manistee, Mich., August 17.

LEVI F. DUCKETT, M.D., Cloverdale, Ala., to Mrs. Elizabeth Asheraft Jones of Florence, Ala., August 11.

JAMES A. WRIGHT, M.D., to Miss Nellie Thompson, both of Fair Haven, Ill., at Clinton, Iowa, August 24.

JOHN C. SUNDBERG, M.D., Santa Cruz, Cal., to Miss Hermance Idalie Bundesen of San Francisco, August 18.

WALTER CLARENCE BLEY, M.D., Beardstown, Ill., to Miss Pearl McDonald Barclay of Virginia, Ill., August 27.

FREDERICK BARRETT, M.D., Eveleth, Minn., to Miss Edith Susan Smith of Beaver Dam, Wis., August 25.

HENRI HARCOURT SUTCLIFFE, M.D., to Miss Marion Elizabeth Thompson, both of San Francisco, Cal., August 20.

WILLIAM HUBERT AARON, M.D., Pawhuska, Okla., to Miss May Roxy Todd of Gray Horse, Okla., August 11.

EDWARD MATTHIAS ZEH HAWKES, M.D., Newark, N. J., to Miss Mary Everett of Minneapolis, Minn., August 29.

CHARLES PARKS, M.D., Atwood, W. Va., to Miss Mona Langfitt of Morgansville, W. Va., at Parkersburg, W. Va., August 24.

HENRY SHACKELFORD KELLER, M.D., South McAlester, I. T., to Miss Helen Houston Beach of Louisville, Ky., at South McAlester, August 13.

Deaths.

John Forney Zacharias, M.D. Jefferson Medical College, Philadelphia, 1860, dropped dead in his drug store at Cumberland, Md., August 16, aged 63. He served as assistant surgeon in the Confederate Army from 1862 to 1865, and settled at Cumberland in 1871. During the war he employed maggots in the treatment of hospital gangrene to remove decayed tissue, and claimed that hereby he "saved many lives, escaped septicemia, and had rapid recoveries."

Henry Marshall Fenno, M.D. Harvard University Medical School, Boston, 1876, a member of the American Medical Association, New York State Medical Association, Monroe County Medical Society and Rochester Pathological Society; city physician of Rochester, N. Y., from 1879 to 1881, died at his home in Rochester, August 17, from malignant disease, for which he underwent operation a year ago, aged 53.

Joseph Wiener, M.D. College of Physicians and Surgeons in the City of New York, 1874, a member of the Academy of Medicine, the German Medical Society, and the Physicians' Mutual Aid Association, for many years associate to the chair of military surgery in that institution, died at his home in New York City, August 11, from heart disease, after a prolonged illness, aged 76.

David C. Murphy, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874, a member of the Kansas Medical Society, died at his home in Edwardsville, Kan., August 22, aged 57. The Wyandotte County Medical Society, at a special meeting, August 23, adopted resolutions regarding the death of Dr. Murphy.

Benjamin D. Watkins, M.D. Tulane University of Louisiana, New Orleans, 1887, surgeon of the Y. & M. V. and N. O. & N. W. railways, and once president of the State Board of Health, who was thrown from his buggy and injured, died at his home in Natchez., Miss., as a result of the injuries, August 12.

William J. Lodge, M.D. University of Maryland School of Medicine, Baltimore, 1859, some-time surgeon U. S. Navy, but since his retirement from practice on account of ill health noted for his genealogic researches, died at his home in Baltimore, August 21, from Bright's disease, aged 72.

James M. Poyntz, M.D. University of Louisville, 1873, of Richmond, Ky., county referee of Madison County, surgeon in the Confederate service during the Civil War, died at Mount Sterling, Ky., August 16, from consumption, after an illness of three years, aged 67.

Oscar Wiley, M.D. Medical Department of Randolph Macon College, Prince Edward Court House, Va., 1851, surgeon of the Fifty-fourth Virginia Infantry, C. S. A., during the Civil War, died at his home in Salem, Va., August 25, from angina pectoris, aged 73.

Henry Tuck, M.D. Harvard University Medical School, Boston, 1867, of New York City, vice-president and medical director of the New York Life Insurance Company, died, after a long illness, at his summer home in Seabright, N. J., September 2, aged 62.

Henry J. Warmuth, M.D. Rush Medical College, Chicago, 1868, of Smyrna, Tenn., died in Philadelphia from disease of the stomach, August 12, after an illness of two years, aged 70. He served as surgeon in the Confederate army during the Civil War.

Isaac N. Dalbey, M.D. Medical Department of Wooster University, Cleveland, 1868, who gave up practice ten years later to enter the pulpit, died at his home in Rochester, N. Y., August 15, from malignant disease, after a prolonged illness, aged 58.

James Herbert Hogue, M.D. College of Physicians and Surgeons of Baltimore, 1885, a member of the American Medical Association, the head of the Gynecean Hospital, Altoona, died at his home in that city, August 30, from paralysis, aged 44.

Charles Frederick Herman Willgohs, M.D. Rostock University, a veteran of the war of Polish Independence, died from pneumonia at the home of his daughter in Akron, Ohio, August 26, after a short illness, aged 100 years and 9 months.

Charles L. P. Smith, M.D. Yale University Medical Department, New Haven, Conn., 1898, died at his home in Cornwall Bridge, Conn., August 18, from injuries received in being struck by a railway train three days before, aged 28.

William D. Spore, M.D. McDowell Medical College, St. Louis, 1861, of St. Louis, died at the Mullanphy Hospital in that city, August 10, from kidney disease of long standing, for which an operation was performed, aged 63.

Orlanda Chester Robinson, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, died at his home in Huntingdon Valley, Pa., August 4, from consumption, after a lingering illness, aged 42.

John S. Hileman, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1889, died at his home in Pittston, Pa., August 6, three days after an operation for appendicitis, aged 40.

Henry C. Barnard, M.D. Medical Department of the University of Iowa at Keokuk, 1866, surgeon during the Civil War, died at his home in Charleston, Ill., August 10, after a prolonged illness, aged 68.

William O. Griggs, M.D. University of Maryland School of Medicine, Baltimore, 1893, of New York City, died at the home of his sister in Baltimore, August 26, from consumption, aged 35.

F. Le Baron Monroe, M.D. Harvard University Medical School, Boston, 1860, surgeon U. S. Army, retired, of Meriden, N. H., died suddenly in Woburn, Mass., from apoplexy, August 14 aged 69.

Claude R. Wellington, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1898, died at his home in Mansfield, Mass., August 18, from the effects of an overdose of chloral, aged 34.

Siva Carman, M.D. New York University, New York City, 1881, of Seattle, Wash., died at the Stellacoom Asylum, to which he had been committed in 1901, August 12, aged about 50

William E. Boteler, M.D. University of Maryland School of Medicine, Baltimore, died suddenly at his home in Middletown Md., from fatty degeneration of the heart, August 14, aged 83

Myron D. Blaine, M.D. Detroit Medical College, 1883, of Auburn, N. Y., died at the Clifton Springs Sanitarium, Dansville, N. Y., from rheumatism, after a long illness, aged 45.

Edward A. H. Purdon, M.D. Chattanooga (Tenn.) Medical College, 1891, of Corinne, Utah, died at the Ogden General Hospital, August 3, after an operation for abscess of the liver.

Eldridge G. Simons, M.D. Bellevue Hospital Medical College, New York City, 1875, of Ripley, N. Y., was struck by a train in Cleveland, Ohio, September 1, and instantly killed.

Arthur J. Tessier, M.D. Baltimore (Md.) Medical College, 1901, died at his home in Somersworth, N. H., August 19, from typhoid fever, after an illness of one week, aged 25.

William M. Tobey, M.D., for 30 years a practitioner of New London, Conn., died at his home in that city, August 14, from paralysis after an invalidism of 12 years, aged 83.

J. Lewis Woodville, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1844, died at his home near Sweet Springs, W. Va., August 14, aged 87.

Charles T. Quinn, M.D. Southern Medical College, Atlanta, Ga., 1887, died at his home in Naylor, Ga., August 27, from typhoid fever, after an illness of ten days, aged 43.

Hugh C. McCord, M.D. College of Physicians and Surgeons in the city of New York, 1883, of New Haven, Conn., died at the New Haven Hospital, August 27, from apoplexy.

Samuel H. Guilbert, M.D. Ohio, 1857, of Dubuque, Iowa, died August 28, in Roosevelt Hospital, New York City, where he underwent operation, two weeks before, aged 69.

John W. Tiffany, M.D. Iowa, 1883, of Hiawatha, Kan., died at the home of his son in Cedar Rapids, Iowa, August 25, from disease of the liver, after a long illness, aged 62.

William Ussery, M.D. University of Nashville, Tenn., 1894, died at his home near Lonevak, Montgomery County, Tenn., August 29, after an illness of six weeks, aged 32.

David McClean Crawford, M.D. New York University, New York City, 1851, state senator in 1870 and 1876, died at his home in Mifflintown, Pa., August 25, aged 78.

Millard Fillmore Cyphers, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1887, died at his home in Philadelphia, August 29, aged 45.

John Hector Mackay, M.D. College of Physicians and Surgeons in the City of New York, 1868, died at his home in Truro, N. S., August 3, from acute nephritis.

Daniel H. Cole, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1852, died at his home in Memphis, Mich., August 10, aged 81.

George Henry Fales, M.D. Harvard University Medical School, Boston, 1868, died at his home in East Boston, Mass., August 8, from cerebral hemorrhage, aged 62.

Charles B. Weida, M.D. Jefferson Medical College, Philadelphia, 1887, died at his home in Braddock, Pa., August 29, from morphin poisoning, aged 37.

John P. James, M.D. University of Nashville (Tenn.) Medical Department, 1861, died at his home near Gibson, Tenn., August 14, after a long illness, aged 73.

George Henry Dayton, M.D. New York University, New York City, 1846, died recently, and was buried at his old home in Lima, Ind., August 14, aged 80.

Gideon D. Harris, M.D. Tulane University of Louisiana, New Orleans, 1899, of Indianola, Miss., committed suicide, August 30, by severing the femoral artery.

Anderson G. Cross, M.D. Jefferson Medical College, Philadelphia, 1857, died at his home in Waynesburg, Pa., August 23, after a long illness, aged 83.

William Thompson, M.D. University of Edinburgh, Scotland, 1855, of Pittsburg, Pa., died in Weehawken, N. J., August 21, after a short illness, aged 75.

Russell C. Barrett, M.D. Toledo (Ohio) Medical College, 1886, died at his home in Toledo recently, and was buried at Wauseon, Ohio, August 26, aged 70.

Jacob S. Whitman, M.D. Jefferson Medical College, Philadelphia, died at his home in Lyndon, Kan., August 12, after an illness of several months.

Carl Bergk, M.D. University of Göttingen, Germany, 1867, died at his home in Bloomingdale, Fort Wayne, Ind., August 27, from diabetes, aged 60.

Robert J. Jackson, M.D. Missouri Medical College, St. Louis, 1870, died at his home in Bloomfield, Mo., August 29, after an illness of six months.

George S. Balsbaugh, M.D. Jefferson Medical College, Philadelphia, 1861, died at his home in Forreston, Ill., August 26, after a long illness, aged 75.

J. F. Shackleford, M.D. Medical College of Georgia, Augusta, 1850, died at his home in Trenton, Tenn., September 1, from chronic bronchitis, aged 77.

James D. Kratzer, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1886, died at his home in Lancaster, Mo., August 16, aged 49.

George T. De Verter, M.D. Miami Medical College, Cincinnati, 1872, died from paralysis at his home in Waterman, Ind., August 11, aged 65.

Lewis Melton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, died at his home in Wheatland, Cal., August 8, aged 68.

Tilghman Seems, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1872, of Mitchellville, Iowa, died in Jamesboro, Ont., August 11.

John D. Karr, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1892, died at his home in Alva, Okla., August 9, from apoplexy.

Josiah H. Helmer, M.D. Albany (N. Y.) Medical College, 1847, of Lockport, N. Y., died suddenly at Theresa, N. Y., August 19, aged 83.

George W. Thompson, M.D. Ohio, 1878, died at his home in Union City, Ind., August 13, after an illness of five years, aged 73.

George R. Harris, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901, died at his home in Rayne, La., July 30, aged 28.

James C. Smith, M.D. Vanderbilt University, Nashville, Tenn., 1885, of Birmingham, Ala., died in Memphis, Tenn., August 23, aged 37.

Walter P. Ellis, M.D. University of Louisville, 1881, died at his home in Livermore, Ky., August 13, from paralysis, aged 49.

John H. Lueke, M.D. University of Munich, Germany, 1867, of Cleveland, Ohio, died recently in Bremen, Germany, aged 65.

W. B. J. Hardman, M.D. Jefferson Medical College, Philadelphia, died at his home in Commerce, Ga., August 21, aged 82.

John Walker Gill, M.D. New York, 1887, died at his home in Flushing, N. Y., August 22, from Bright's disease, aged 61.

J. J. Hunt, M.D. Royal College of Physicians, Dublin, Ireland, 1868, died at the county farm, Burlington, Iowa, August 30, aged 56.

James Dodd, M.D. Medical College of Ohio, Cincinnati, 1859, died at his home in Bloomington, Ind., August 21, aged 72.

T. Charles Bower, M.D. Pennsylvania, died at his home in Superior, Mont., from pneumonia, July 6, aged about 45.

Albert B. Harris, M.D. Jefferson Medical College, Philadelphia, 1888, died at his home in Wilmington, Del., August 18.

William S. Fraleigh, M.D. McGill University, Montreal, 1869, died at his home in Toronto, Ont., August 19, aged 58.

William E. Parker, M.D. University of Vermont, Burlington, 1883, died suddenly at his home in Boston, August 16.

William Davis, M.D., died at his home in Ripley, W. Va., August 18, from disease of the bladder, aged 78.

Josiah S. Devore, M.D. Ohio, 1882, died at Dunsmuir, Cal., August 4, after an illness of one month.

Esther Woodman Taylor, M.D. Illinois, 1872, of Boston, died recently at Wells, Maine, aged about 70.

Joseph A. Crabtree, M.D. Ohio, 1875, died at his home in Akersville, Ky., July 28, aged 61.

Sim Hopkins, M.D., 1852, died at his home in Leona, Texas, August 25, aged 76.

T. N. Horner, M.D., died at his home in Whitesburg, Tenn., July 18, aged 84.

Deaths Abroad.

Karl Weigert, M.D., professor of pathologic anatomy since 1884, and director of the Pathologic Institute at Frankfurt a M., died there from a stroke of apoplexy, August 5, aged 59. He is known the world around for his pioneer research in bacteriology and pathologic anatomy. His research on the anatomy of smallpox and on the relations between the anilin dyes and the animal tissues laid the foundations, thirty years ago, for much of our present knowledge of pathologic anatomy and bacteriology. His neuroglia staining is considered his greatest triumph, opening the way for study of the structure of the brain from new standpoints. Among his other fruitful works are those on tuberculosis of the veins, staining of bacteria, proliferation of cells under external stimuli, "coagulation necrosis," encapsulation of tuberculous foci, etc. He has trained a number of pupils who do him honor, among them Prof. Paul Ehrlich. Weigert died without having been distinguished by the authorities in any way commensurate to his services to science.

Anton Drasche, M.D., professor of epidemiology at Vienna, member of the Austrian sanitary council, and privy councilor, died at Vienna, August 28, aged 78. He was celebrated for his investigations on cholera and other epidemic diseases and their prophylaxis, and was one of the founders and editors of the *Bibl. der gesamt. med. Wiss.*

Erich Bennecke, M.D., professor of surgery and director of the surgical policlinic at Berlin, died there, August 1, aged 39. He succumbed to septic infection from a scratch during an operation. His death followed close on the retirement of the chief of the policlinic, Professor König.

Association News.

New Members.

List of new members for the month of August, 1904:

ALABAMA.

Love, Wm. J., Opelika.

ARKANSAS.

Ogilvie, R. K., Paragould.
Lynn, J. R., Hazen.
Smith, W. F., Hartford.
Thornton, Edwin W., Piggott.

CALIFORNIA.

Buckley, Emma, San Francisco.
Nagel, G., San Francisco.
Dresel, G., San Francisco.
Holden, E. M., San Francisco.
Wood, J. B., Oakland.
Fay, G. H., Forest Hill.
McNair, Wm. R., Glendora.

COLORADO.

Elder, C. S., Denver.
Hughes, J. G., Greeley.
Eldridge, E. F., Grand Junction.

CONNECTICUT.

Herlzberg, G. R., Stamford

DISTRICT OF COLUMBIA

Beall, C. M., Washington.
Carrico, A. J., Washington

GEORGIA.

Sanchez, S. E., Barwick
Earle, C. E., Elberton.

ILLINOIS.

Van Dyke, G. H., Chicago
Hamilton, Alice, Chicago
Reynolds, G. W., Chicago
Butler, J. H., Hartsburg.
Hilgard, G. E., Belleville.
Roberts, Wm. R., Cissna Park
Matheny, Ralph C., Galesburg
Reasoner, M. A., Morrisonville.
Joesting, F. C., Alton

Whitmer, C. F., East St. Louis.
Shawgo, Kirk, Piper City.
Hill, Harry C., Streator.
Beavers, C. E., Barry.

INDIANA.

Moore, H. A., Indianapolis.
Row, G. S., Indianapolis.
Van Cleaver, M. B., Terre Haute.
Shoemaker, S. A., Poneto.
Harrold, E. O., Marion.
Mills, Wm. H., Boonville.
Kime, J. T., Petersburg.
Spear, Robt., East Chicago.
Hendricks, W. E., Martinsville.
Ross, A. A., East Chicago.
McMillen, W. W. P., Decatur.
Scudder, C. P., Washington.
Kresler, A. R., Rensselaer.
Jaquith, O. S., Laurenceburg.
Sauer, F. W., Indiana Harbor.
Emmert, E. J., Laurenceburg.
Roark, B. H., Jamestown.
Washburn, S. S., Lafayette.
Walker, J. H., Henryville.

IOWA.

Homer, H. C., Oskaloosa.
Scheuer, M. M., Valley Junction.
Spence, R. H., Wyoming.
Bundy, A. D., Osage.
Parker, W. W., Floris.
Whitehill, N. M., Garwin.
Crowley, J. M., Webster City.
Murray, F. G., Cedar Rapids.

KANSAS.

Hinden, Jacob, Strong City.
Conlan, P. T., St. Mary's.
Milligan, J. A., Garnett.
O'Donnell, A. E., Kansas City.

LOUISIANA.

Cushman, W. S., Baker.
Dugote, R. G., Bordelonville.
Meyer, A. J., Thibodaux.
Meyer, L. E., Thibodaux.
Gates, A. F., Hammond.

MAINE.

Lincoln, C. J., Augusta.
Bassford, S. J., Portland.
Haskell, A. W., Portland.
Shaw, A. O., Portland.
Gehring, N. J., Portland.
Driscoll, Daniel, Portland.
Searle, F. W., Portland.
Hilton, G. L., Bangor.
Nealey, E. T., Bangor.
Barker, B. F., Bath.
Snipe, L. T., Bath.
Marston, E. J., Bath.
Palmer, H. B., Farmington.
Bartlett, H. L., Norway.
Sylvester, C. E., Harrison.
Hayden, L. B., Livermore Falls.
Tustin, Ruth, Eastport.
Stockwell, H. K., Yarmouth.
Makepeace, B. F., Farmington.
Ferguson, M. H., Biddeford.
Randall, Jesse A., Old Orchard.
Stanwood, A. L., Rumford Falls.
McCarty, E. M., Rumford Falls.
Woodman, G. M., Westbrook.
Milliken, Howard A., Hallowell.
Landry, G. E., Oldtown.

MASSACHUSETTS.

Young, L. J., Haverhill.
Lawrence, J. W., Malden.
Curtis, W. G., Wollaston.
Chute, A. L., Boston.
Farrell, G. L., Malden.
Atwood, A. W., Mt. Hermon.
Downing, C. H., Boston.

MICHIGAN.

Runyan, E. A., Harbor Springs.
McCandless, F., Ithaca.
Edelman, F. W., Saginaw.
Freeman, F. W., Saginaw.
Klingman, T., Ann Arbor.
Bradley, N. R., Saginaw.
Smith, F. S., Saginaw.
Broun, J. B., Levering.
Cooper, J. M., Grass Lake.
Sisung, Victor, Monroe.
Potts, A. J., West Branch.
McClinton, N. F., Alma.
Bagley, E. A., Alma.
Browning, G. S., Alma.

MINNESOTA.

Eberlin, E. A., Glenwood

MISSISSIPPI.

Aikman, W. H., Natchez.
Chamberlain, C. T., Natchez.
Dee Craft, E., McNeill.

MISSOURI.

Pfeffenberger, J. M., St. Louis.
Le Grand Suggett, O., St. Louis.
O'Donnell, Alfred, Kansas City.
Deffenbaugh, W. B., St. Joseph.
Anderson, John, Warrensburg.

MONTANA.

Houston, H. E., Kalispell.

NEBRASKA.

Reid, John D., Pilger.

NEVADA.

Piper, Harry E., Tonopah.

NEW HAMPSHIRE.

Eastman, E. E., Portsmouth.
Hannaford, C. W., Portsmouth.
Luce, T. W., Portsmouth.

NEW MEXICO.

Steed, P. M., Deming.

NEW YORK.

Collier, G. K., Sonyea.

OHIO.

Hyde, J. M., Nelsonville.
Richeson, Carrie, Bellefontaine.

OKLAHOMA.

Westfall, G. R., Darlington.
Border, G. F., Mangum.

OREGON.

Thornton, E. H., Portland.
Cable, E. E., Portland.
Keeney, H. L., Portland.
Saunders, C. E., Union.

PENNSYLVANIA.

Hendrick, A. W., Allentown.
Peters, R. C., Allentown.
Guth, N. C. E., Allentown.
Kline, W. D., Allentown.
McCarrell, J. R., Allegheny City.
Bubb, W. M., Allegheny City.
Schatzman, E. P., Allegheny City.
Elmer, W. G., Philadelphia.
Carey, H. K., Philadelphia.
Wishart, C. A., Pittsburg.
Hays, G. S., Pittsburg.
Turney, G. G., Pittsburg.
Marshall, C. S., Pittsburg.
Clark, W. A., Pittsburg.
Hughes, W. P., Pittsburg.
McAdams, R. J., Pittsburg.
Eicher, C. G., Pittsburg.
Hapgood, L. P., Pittsburg.
Heck, F. H., Pittsburg.
Cochran, T. P., Pittsburg.
Shallcross, W. G., Pittsburg.
Sturm, S. A., Pittsburg.
Weisser, E. A., Pittsburg.
Bennett, W. F., Scranton.
Kearney, P. H., Scranton.
Binkley, W. G., Washingtonboro.
Davis, D. W., Six Mile Run.
De Wolf, W. L., Butler.
Dinger, R. E., New Bethlehem.
Earhart, E. B., Saltsburg.
Eshard, E. L., Glassport.
Harsha, C. L., Canonsburg.
James, U. A., Wilkesbarre.
Kern, R. A., Erie.
McQuaid, J. R., Leetsdale.
Patterson, J. A., Washington.
Rowan, Chas., Etna.
Trevaskis, A. L., Turtle Creek.
Underwood, S. L., Pittston.

RHODE ISLAND.

Skelton, C. W., Providence.
Anderson, A. J., Newport.
Burke, F. E., Wakefield.

SOUTH DAKOTA.

Green, B. T., Brookings

TEXAS.

Lynch, W. W., Midland.
Pope, Irvin, Tyler.

VIRGINIA.

Slyll, R. T., Newport News.
Brady, E. T., Abingdon.

WASHINGTON

Fleischer, H. J., Seattle
Gardner, F. P., Seattle.

WEST VIRGINIA

Ranson, B. R., Harpers Ferry.
Simpson, J. N., Morgantown.

WISCONSIN.

Teschan, R. F., Milwaukee.
Kleise, L. A., Milwaukee.
Elchelberg, P. A., Reeseville.
Von Schallern, Ottmar, Rhon.
Elfers, J. C., Sheboygan.
Ryan, Edw. S., Sheboygan.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Sept. 3, 1904:

Appel, A. H., surgeon, ordered to report in person to Col. Charles Morris, Artillery Corps, president of the Army Retiring Board, San Francisco, for examination by the board.

Patton, J. W., asst.-surgeon, resignation accepted, to take effect Aug. 25, 1904, as first lieutenant and asst.-surgeon.

Ashburn, P. M., asst.-surgeon, granted thirty days' leave about Oct. 1, 1904, with permission to apply for thirty days' extension.

Edwards, Jas. F., asst.-surgeon, assignment to duty at Army maneuvers, Manassas, Va., revoked.

Raymond, Thos. U., surgeon, granted twenty days' leave of absence.

Davis, Wm. R., asst.-surgeon, ordered to accompany detachment of recruits from Angel Island, Cal., to Vancouver Barracks, Wash., and return to station as surgeon on transport *Sheridan*, San Francisco.

Havard, Valery, asst.-surgeon general, left Governor's Island, N. Y., en route to Gainesville, Va., to report to department commander.

Bailey, Edward B., contract surgeon, ordered to his home, Demopolis Ala., to report to the Surgeon General, U. S. Army, for annulment of contract.

Church, Griswold W., contract surgeon, ordered to his home, Albany, N. Y., to report to the Surgeon General for annulment of contract.

Griffiths, Louis T., contract surgeon, will proceed to Manassas, Va., and report to Major-General Corbin, U. S. Army, for assignment to duty during maneuvers to be held in the vicinity of that place.

Porter, Elias H., contract surgeon, ordered to report in person to the commanding general, Department of the Missouri, for assignment to temporary duty.

Gunckel, Geo. L., contract dental surgeon, left San Francisco en route to Manila, P. I., for assignment to duty.

McCall, James H., contract surgeon, ordered to proceed to Manassas, Va., on official business, and on completion of this duty, return to proper station.

Purnell, Julius M., and Wells, Francis M., contract surgeons, left San Francisco on the transport *Thomas* en route to Manila, P. I., for duty.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Sept. 3, 1904.

Page, J., P. A. surgeon, detached from the *Montgomery* and ordered to the *Puritan*, then home and granted leave for one month.

Nelson, H. T., Jr., A. A. surgeon, ordered to duty at the Naval Hospital, Washington, D. C.

Snyder, J. J., P. A. surgeon, detached from the *Maine* and ordered to the *Kearsarge*.

Breck, F. W., pharmacist, appointed a pharmacist from May 20, 1904.

Flint, J., asst.-surgeon, detached from the Naval Hospital, Boston, Mass., and ordered home, and resignation as an asst.-surgeon in the Navy accepted, to take effect Sept. 6, 1904.

McLean, N. T., asst.-surgeon, detached from the Naval Recruiting Station, Buffalo, N. Y., and ordered to the Naval Hospital, New York.

Marine-Hospital Service.

Official list of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the six days ended Aug. 31, 1904:

Williams, L. L., asst.-surgeon general, leave of absence granted by Department letter of Aug. 15, 1904, for fifteen days from August 18 on account of sickness, amended to read "leave of absence."

Pettus, W. J., asst.-surgeon general, granted leave of absence for twenty days from Sept. 12, 1904.

Greene, Joseph H., P. A. surgeon, to report to Surgeon P. M. Carrington, Fort Stanton, N. M., for duty and assignment to quarters.

Cofer, L. E., P. A. surgeon, directed to proceed to Hilo, T. H., for special temporary duty.

Clark, Taliaferro, P. A. surgeon, bureau letter of August 5, granting leave of absence for one month from Sept. 15, 1904, amended to read, "one month from Aug. 23, 1904."

McMullen, John, P. A. surgeon, granted extension of leave of absence for fifteen days from Sept. 5, 1904.

von Ezdorf, R. B., P. A. surgeon, relieved from duty in the Hygienic Laboratory, Washington, D. C., and directed to proceed to St. Louis and assume charge of service exhibit at the Louisiana Purchase Exposition.

Anderson, J. F., P. A. surgeon, directed to proceed to Philadelphia, Marietta, Conewago and Swiftwater, Pa., for the purpose of inspecting certain manufacturing vaccine virus and diphtheria antitoxin establishments.

Richardson, T. F., P. A. surgeon, directed to proceed to Brownsville, Tex., for special temporary duty.

Roberts, Norman, asst.-surgeon, on return of P. A. Surgeon B. W. Brown, relieved from temporary duty at Evansville, Ind., and directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Cook, B. J., A. A. surgeon, department letter of Aug. 6, 1904, granting A. A. Surgeon Cook leave of absence for ten days from Aug. 3, 1904, amended so that said leave shall be for seven days only.

Hunter, S. B., A. A. surgeon, granted leave of absence for seven days from Aug. 29, 1904.

Marr, Harrington, A. A. surgeon, granted leave of absence for fourteen days from Aug. 22, 1904.

O'Reilly, W. J., A. A. surgeon, granted leave of absence for four days from Aug. 23, 1904.

Owen, H., A. A. surgeon, granted leave of absence for twenty-one days from Aug. 16, 1904.

Rodman, J. C., A. A. surgeon, granted extension of leave of absence on account of sickness for seven days from Aug. 8, 1904.

Spohn, A. E., A. A. surgeon, granted leave of absence for thirty days from Aug. 20, 1904.

Walkley, W. S., A. A. surgeon, granted leave of absence for one day.

Gibson, R. H., pharmacist, granted leave of absence for thirty days from Sept. 7, 1904.

Miller, Charles, pharmacist, granted leave of absence for three days.

Richardson, S. W., pharmacist, on arrival of P. A. Surgeon R. H. von Ezdorf at St. Louis, Mo., relieved from further charge of the service exhibit at the Louisiana Purchase Exposition and directed to report to P. A. Surgeon von Ezdorf for duty in connection with service exhibit.

Herty, F. J., pharmacist, relieved from duty at Boston, Mass., and directed to proceed to Washington, D. C., for duty in the Hygienic Laboratory.

Southard, E. A., pharmacist, bureau order of Aug. 17, 1904, amended so as to relieve Pharmacist Southard from duty in the Hygienic Laboratory on arrival of Pharmacist F. J. Herty.

Neves, George, pharmacist, relieved from duty at Chicago, Ill., and directed to proceed to Ellis Island, N. Y., and report to Surgeon G. W. Stoner for duty and assignment to quarters.

Thomas, A. M., pharmacist, directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters.

Keen, W. H., pharmacist, directed to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.

BOARD CONVENED.

Board convened to meet at Boston, Mass., for the physical examination of First Lieutenant P. H. Brereton, R.C.S. Detail for the board: Assistant Surgeon W. C. Rucker, chairman; A. A. Surgeon F. H. Cleaves, recorder.

APPOINTMENTS.

Samuel D. W. Light appointed A. A. surgeon for duty at Key West Quarantine Station.

Arthur M. Thomas appointed pharmacist of the third class.

Walter H. Keen appointed pharmacist of the third class.

RESIGNATION.

Pharmacist George O. Ferdinand resigned Aug. 15, 1904.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Sept. 2, 1904:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Aug. 20-27, 1 case.
Illinois: Chicago, Aug. 20-27, 6 cases.
Louisiana: New Orleans, Aug. 20-27, 12 cases.
Massachusetts: North Adams, Aug. 20-27, 10 cases.
Missouri: St. Louis, Aug. 20-27, 3 cases.
Ohio: Cincinnati, Aug. 19-26, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, July 9-16, 1 case, 1 death.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, July 17-24, 196 cases, 100 deaths.
France: Paris, Aug. 6-13, 7 cases, 1 death.
Great Britain: Dublin, Aug. 11-18, 3 cases; Glasgow, Aug. 12-19, 6 cases; Liverpool, Aug. 6-13, 1 case; London, 1 death; Nottingham, July 31-Aug. 6, 2 cases.
India: Bombay, July 25-Aug. 2, 8 deaths.
Italy: Palermo, Aug. 6-13, 8 cases, 3 deaths.
Japan: Nagasaki, July 21-31, 1 case.
Mexico: City of Mexico, Aug. 7-14, 1 death.
Russia: Moscow, July 31-Aug. 6, 18 cases, 6 deaths; Odessa, Aug. 6-13, 2 cases, 1 death; St. Petersburg, July 31-Aug. 6, 12 cases, 4 deaths.
Turkey: Alexandretta, July 31-Aug. 6, 6 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 17-24, 3 cases, 1 death.
Ecuador: Guayaquil, July 13-20, 2 deaths.
Mexico: Merida, Aug. 14-20, 2 cases; Tehuantepec, 1 case.

CHOLERA.

China: Hongkong, July 16-23, 2 cases, 2 deaths.
India: Bombay, July 25-Aug. 2, 23 deaths; Calcutta, July 16-30, 15 deaths.
Persia: Teheran, July 16-23, 600 deaths daily.
Turkey: Bagdad and vicinity, July 7, 320 deaths; Muttra, July 12, present; Oman, present.

PLAGUE—INSULAR.

Hawaii: Honolulu, Aug. 22, 1 death on S. S. *Coptic*; Honolulu, Aug. 23, 1 death.

PLAGUE—FOREIGN.

Brazil: Bahia, June 16-Aug. 5, 30 cases, 11 deaths; Rio de Janeiro, July 7-24, 1 case, 1 death.
China: Amoy, June 25-July 16, 45 deaths, estimated; Hongkong, July 16-23, 25 cases, 25 deaths.
Egypt: July 23-30, 17 cases, 8 deaths.
India: Bombay, July 25-Aug. 2, 55 deaths; Calcutta, July 16-30, 12 deaths.
Japan: Formosa, July 16-30, 55 deaths.
Peru: Lima, July 9-16, 7 cases, 2 deaths.

Medical Organization.

Indian Territory.

CADDO COUNTY MEDICAL SOCIETY.—At a meeting of physicians of the county at Anadarko, August 12, a medical society was organized on the standard plan, with an initial membership of 40, and the following officers: President, Dr. Charles R. Hume, Anadarko; vice-president, Dr. Blair, Apache; secretary-treasurer, Dr. James A. G. Tonge, Anadarko, and censors, Drs. Sanger, Dutton, and D. B. Boyd, and E. B. Mitchell, Anadarko.

Kentucky.

TRIGG COUNTY MEDICAL SOCIETY.—This society met at Cadiz, August 13, to effect a more complete organization of the profession of the county. Dr. James H. Lackey, Canton, was elected president; and Dr. Homer Blanc, Cadiz, secretary. Dr. J. N. McCormack of Bowling Green was present as a guest. After full discussion and consideration, the standard constitution and by-laws were adopted.

Oklahoma.

PAYNE COUNTY MEDICAL SOCIETY.—Payne County physicians were organized in line with the American Medical Association, August 5, by Dr. A. L. Blesh, Guthrie, councilor of the Second District, with 13 members and the following officers: President, Dr. Ralph W. Holbrook, Perkins; vice-president, Dr. Eli Hughes, Stillwater; treasurer, Dr. J. B. Pickering, Ingalls; secretary, Dr. Harry A. Reese, Stillwater; delegate, Dr. Samuel M. Barnes, Stillwater, and censors, Drs. Edwin R. Thomas, Perkins, Clarence E. Lee, Ripley, and J. T. Gray, Stillwater.

PAWNEE COUNTY MEDICAL SOCIETY.—Dr. A. L. Blesh, Guthrie, councilor for the Second District, reports the organization of three counties in his district, Kingfisher, Noble and Pawnee. The latter county society was organized, August 5, on the standard plan, with 12 members and the following officers: Dr. George H. Phillips, president; Dr. E. L. Bagby, vice-president; Dr. Daniel W. Durrett, secretary-treasurer, and Dr. J. Q. Newell, delegate, all of Pawnee.

Dr. Blesh reports that the Second District is now completely organized, except Logan County, and that will soon be done.

Pennsylvania.

ADAMS COUNTY MEDICAL SOCIETY.—Pursuant to a call issued by Dr. Cyrus L. Stevens, Athens, secretary of the Medical Society of the State of Pennsylvania, the physicians of the county met at Gettysburg, August 25, and effected a county organization on the standard plan, electing the following officers: President, Dr. John W. C. O'Neal, Gettysburg; vice-presidents, Drs. Ebner W. Cushman, York Springs, and J. Lawrence Sheetz, New Oxford; secretary, Dr. Henry Stewart, Gettysburg; treasurer, Dr. Nicholas C. Trout, Fairfield, and member of executive council, Dr. Robert B. Elderdice, McKnightstown.

BEDFORD COUNTY MEDICAL SOCIETY. This society was reorganized at Bedford, August 5, on the standard plan, and elected the following officers: President, Dr. Samuel G. Statler, Alum Bank; vice-presidents, Drs. John A. Clark, Bedford, and Charles E. Doyle, Cumberland Valley; secretary, Dr. Walter de la M. Hill, Everett; treasurer, Dr. William V. S. Henry, Everett; censors, Drs. Alexander J. Bowser, Bedford, Simon H. Gump, Bedford, D. W. Davis, Coaldale, Benjamin F. Hunt, Clearville, Charles O. Miller, Saxton, and Walter P. Trimbath, Everett, and member of executive council, Dr. Simon H. Gump, Bedford.

Tennessee.

SMITH COUNTY MEDICAL SOCIETY.—The physicians of the county recently met and effected a permanent organization on the standard plan, with Dr. R. W. King, Gordonsville, president; Dr. Joseph C. Bridges, New Middleton, vice-president, and Dr. Marvin Denton, Rome, secretary.

Washington.

KITTITAS COUNTY MEDICAL SOCIETY.—This society was organized in Ellensburg, August 6, on the standard plan, with the following officers: President, Dr. J. C. McCauley, Ellensburg; vice-president, Dr. Emil Mohrmann, Roslyn; secretary, Dr. A. S. Williams, Ellensburg, and treasurer, Dr. Harvey J. Felch, Ellensburg.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Cerebrospinal Meningitis.

Koplik, in the *Med. News*, June 4, 1904, concluded that the disease, very like pneumonia, is a self-limited one, and all we can do is to relieve the sufferings of the patient and treat the complications.

GENERAL TREATMENT.

Fischer, in the *Med. Record*, gives the following general outline of treatment of this condition.

Dietetic.—To sustain life the child must be fed. When there is gastric irritability peptonized milk or peptonized yolk of an egg should be given per rectum. Gavage may be resorted to and light nutritious foods, such as whey, white of egg, soups and broths should be given at regular three or four hour intervals.

Fever.—The temperature of the room should be kept at from 68 to 70 F. If the fever is high, shave the head and apply an ice bag to the head and at the nape of the neck. A mustard footbath will relieve the cerebral symptoms in some cases. Tub baths of tepid water may be tried or the cold pack or ice coil.

Medication.—For the restlessness the author recommends the hypodermic administration of morphin sulphate, gr. 1/30 (2 mg.) repeated three times a day or oftener if required. In some cases five or ten drops of the spirits of chloroform given with the food every three to four hours is beneficial. A ten-grain dose of the bromid of sodium may be given every three to four hours until the cerebral symptoms are modified. Hyoscyamia tablets of 1/100 of a grain are useful when active delirium is present. Suppositories containing the following may be given:

R.	Chloralamid . . . . . gr. x	65
	Ext. belladonnæ . . . . . gr. 1/5	008

M. Ft. suppos. No. i. Sig.: Use to promote quiet or sleep.

If stimulants are required he recommends the tincture of musk or the hypodermic injections of camphorated oil, or black coffee. Of other medication he says: The inunction of silver ointment along the spine at least fifteen minutes at a time, can be tried and repeated several times a day. Large doses of iodid of potassium or sodium iodid 15 to 60 gr. (1 to 4 gms.) or even more daily may be tried. Mercurial ointment rubbed into the scalp and nape of the neck was used in one case that recovered.

LUMBAR PUNCTURE.

Koplik, in the article quoted from above, discusses this subject and his observations from his own experience justify the following conclusions:

1. It is not curative and can not prevent relapses.

2. The temperature is not a guide as to the efficacy of the procedure of lumbar puncture.

3. It certainly relieves symptoms of pressure, therefore, if the irritability is great and headache is severe, as may be judged, even in children by the rational symptoms, lumbar puncture is indicated.

4. It is also indicated if rigors are present; the withdrawal of the purulent fluid will give the same relief as when withdrawn from any other cavity.

5. In cases of rigidity, even opisthotonos (basal meningitis) the lumbar puncture often fails.

6. The procedures of injecting chemicals or antiseptic fluids have not lessened the mortality.

7. It aids in the prognosis; if the fluid is thick and purulent, and flows slowly from the canula, the prognosis is grave. Encouraging are the cases in which the fluid is cloudy or shows a straw color.

8. It is probable that the lumbar puncture aids materially in preventing certain complications, such as hydrocephalus, which is a very serious consequence.

Method.—The method used is that advocated by Quincke. The author has never had an accident of any consequence. If he is unsuccessful and obtains what is known as the dry tap, he repeats the puncture in another place, but has not gone further than this. In cases in which hemorrhage occurred no ill effects followed. Quincke believes that the hemorrhage is due to the puncture of a vein in the subdural space.

Number of Punctures.—There is no set rule. If the temperature remains low, and the irritability and headache are not marked, it is well to wait. If there is a subsequent rise of temperature another puncture may be made, but not oftener than at an interval of four or five days.

Quantity of Fluid Withdrawn.—This varies; in some cases the fluid flows very rapidly from the canula, is clear or very slightly turbid, and in a short space of time 60 to 70 cubic centimeters are withdrawn before there is a relief of tension, which is judged chiefly by the rapidity with which the fluid flows from the canula. If the fluid drops slowly he rarely draws more than 30 c.c.

Summer Diarrheas of Children.

Loweuburg, in the *Therapeutic Gazette*, gives the following general outline of treatment for all forms of diarrheas.

PROPHYLAXIS.

Remove or mitigate the etiologic factors. Of these the summer heat and improper feeding are the most important. Heat favors fermentative changes in milk, which in turn is an active cause in the production of intestinal disturbances in children. The child of the rich can be placed in proper hygienic surroundings either in the city or taken to the country or seashore. The children of the slums require our attention and services most. These children should be kept constantly in the open air, preferably in the parks, should sleep in cool, well-ventilated apartments, and the beds should be covered with mosquito netting. Cool bathing should be indulged in regularly. Care must be taken regarding the dress. Do not overclothe the child. Soft, unstarched materials should be used and the dress loosely and lightly adjusted, light woolen garments being worn next to the skin only. The author discusses at length the importance of the care and preparation of the food, believing with all authorities that proper feeding requires the best attention. First in importance, the physician should insist on maternal nursing. If this is impossible, a healthy wet nurse should be obtained. Weaning should take place in the fall or winter, if possible. Absolute cleanliness should obtain in the care of the nursing bottle, nipples and all utensils with which the milk comes in contact before being taken by the infant. The nipples should be turned inside out and scrubbed, then washed in sterile water, and kept in a boric solution until ready for use. The bottles should be cleansed and boiled. The milk should be secured from a reliable dairy, the sanitary condition of which is known to be good. The author believes that the milk should be sterilized and afterward kept on ice until used. (In this particular other authorities disagree and believe that the best plan to pursue is to obtain a milk which is known to be procured under the most cleanly conditions, so that the milk shall not become contaminated from the time it is taken from the udder of the cow until it is consumed by the infant. The method of producing milk under the most recent hygienic conditions has been so perfected by some dairies that the obtaining of pure milk has become practicable. The author further deprecates the use of any so-called milk preservative.

The milk should be modified after some one of the methods given, remembering that each case is a law unto itself and the milk must be so adjusted to meet the nutritional needs of the child and its state of health, and not be governed entirely by its age.

DIETETICS.

The beginning of an attack of summer complaint is to be met by the withdrawal of all food, be the child breast or bottle fed. The patient is to be starved for from twenty-four to forty-eight hours. This is one of the best means of controlling vomiting and of preventing further fermentative changes in the bowel. Small quantities of sterile water may be allowed at short, fixed periods. After the starvation period, small amounts of cereal water may be allowed, as barley or rice water. Albumin water, if it agrees, is very useful, and when beef juice is added it will furnish nourishment for many days. It is also a good vehicle for the administration of brandy when a stimulant is indicated.

After the vomiting has ceased and the intestinal canal has been cleansed a gradual return to milk is made, and this must be done with the greatest caution. Better go too slow than too fast. Begin with a very weak milk mixture with the proteids, ½ per cent., peptonize and feed in small quantities and at short intervals. Very gradually increasing the quantity, lengthening the interval and omitting the peptonization, and as the digestive organs become stronger the per cent. of the proteids may be increased until the milk equals the strength of the mother's milk.

Many times it is advisable to omit the casein from the cow's milk because of the difficulty of its digestion in the human stomach, and feed the infant with whey instead, which contains the soluble albuminous portions of bovine milk—lactalbumin and lactoglobulin. The author also recommends the use of dextrinized gruel added to the milk when the whey is not used. This substance so changes the casein of the cow's milk as to make it coagulate in finer curds.

METHOD OF PREPARATION OF DEXTRINIZED GRUEL.

The following is the method as advocated by Chapin: One tablespoonful of wheat flour plus one pint and a half of water, boiling the mixture for fifteen minutes. This is followed, after cooling, by the addition of a dram of a solution of diastase, which renders the gruel thin. Water should be administered in small amounts throughout the course of the disease, to allay thirst, reduce fever, diminish toxemia, and supply the tissues with fluid.

MECHANICAL TREATMENT.

Lavage has but one indication in cases of summer diarrhea, viz., uncontrollable vomiting. One washing is usually sufficient. Colonic flushing is indicated in the following conditions: Where there is evidence that undigested food or putrescible material exists in the intestinal canal, a copious colonic irrigation of normal salt solution, combined with a calomel purge and correction of the diet will give quick relief. In ulcerative colitis, when the stools are mixed with blood, an irrigation with a 1 to 8,000 silver nitrate solution serves a useful purpose. High fever is best controlled by cold irrigations of the colon. Colonic flushing will relieve and prevent intestinal putrefaction, allay thirst, cleanse the bowel and prepare it for the absorption of medicines and nutrient enemas. Hypodermoclysis is especially useful in cases of cholera infantum during the stage of collapse following excessive purgation. Its greatest sphere is in those apparently hopeless cases made so by urinary suppression and threatened cardiac and respiratory failure.

MEDICINAL TREATMENT.

In cases of acute intestinal indigestion and the fermentative type of diarrhea the symptoms are speedily controlled by emptying the intestinal canal by the use of castor oil in dram doses, if there is no vomiting; it removes the offending material and has a secondary constipating effect. In diarrhea associated with vomiting, the author recommends the following:

R.	Hydrarg. chlor. mitis ..... gr. i	|06
	Sodii phosphatis ..... gr. xxx	2|
	Pulv. ipecac. ..... gr. ss	|03
	Saccbari lactis ..... gr. xx	1|30

M. Ft. chart. No. x. Sig.: One every half hour.

The so-called intestinal antiseptics are inefficient because of the necessarily small doses. Salol may be given in from 3 to 5 grain doses, zinc sulphocarbolate in doses of from 1/6 to 1/2 grain.

It is useful to administer dilute hydrochloric acid in doses of from 5 to 10 minims in cases associated with high fever.

Of the astringents morphin is best given hypodermically, gr. 1/800, combined with atropin, gr. 1/300, to a child under 2 years of age; morphin must be given cautiously, and only when the intestinal canal is clean.

Bismuth, in the form of the salicylate or the subgallate should be given in large doses gr. v to xv. The salicylate is best given in the fermental type and the subgallate and subnitrate in the inflammatory forms associated with blood, mucus and tenesmus.

Fever is controlled by hydrotherapy. Indications for stimulation are met by the use of brandy, strychnin and digitalis, and must be used in full doses. Atropin in doses of 1/250 grain has a remarkable effect in cases associated with watery stools, pinched features, a high internal temperature, and a cold, clammy surface.

Of the serum treatment it must be said that up to date it is disappointing and too much in the experimental stage to be of practical benefit.

Medicolegal.

Peculiarities and Requirements of Dying Declarations.—The Supreme Court of Kansas says, in State vs. Knoll, that a dying declaration is hearsay evidence, and is taken out of the rule excluding such evidence, because of reasons of necessity, and because it is supposed that a realization on the part of the declarant of the certain and speedy approach of death affords as powerful incentive to tell the truth as does the administration of an oath. In order to render such declarations admissible, it must be first shown that the declarant was not only in articulo mortis (at the point of death), but under the sense of impending death, without hope of recovery, at the time such declarations were made. But the statements made in this case by the declarant that he had to die of the whipping he had received from the defendant, and that any hour, any day, he might die, the court does not consider sufficiently showed his sense of impending death to render his statements competent as dying declarations. At the same time it says that it is quite true that, where the sense of impending death, without expectation or hope of recovery, exists at the time of making of the statement, such statement is not rendered inadmissible by a subsequently entertained belief or hope on the part of the deceased that he may recover.

Liability for Criminal Act of Person with Delusions.—The Supreme Court of Alabama says, in the homicide case of Porter vs. State, that the mind may, in a sense, be said to be unsound where its possessor is suffering from delusions, hallucinations, and illusions, and yet he may be held responsible for a criminal act, where the intent is an essential ingredient of the offense, if these things are not the products of a diseased brain. In this case, it was open for the jury to find, under the evidence, that the species of insanity or mental unsoundness, if it existed at all, with which the defendant (Porter) was afflicted, was a temporary aberration which sometimes accompanies or follows intoxication, and is often accompanied by delusions, hallucinations, and illusions. This is not such insanity as confers legal irresponsibility. Insanity, to relieve from criminal responsibility, must be caused by or result from disease or lesion of the brain. Furthermore, if the defendant was afflicted with a disease of the brain which rendered him insane, he may have known it was wrong to take the life of the deceased, and, under the evidence, it was open to the jury to so find. If he had this knowledge, in order to relieve him of criminal responsibility, two conditions must concur: (1) If by reason of the duress of such mental disease, he had so far lost the power to choose between the right and wrong, and to avoid doing the act in question, as that his free agency was at the time destroyed; (2) and if, at the same time, the alleged crime was so connected with such mental disease, in the relation of cause and effect, as to have been the product of it solely.

Liability for Giving Illegal Prescription for Liquor.—The Court of Criminal Appeals of Texas takes a somewhat new stand on this subject in the appeal of Williams vs. State. It says that the facts showed that the physician gave an illegal prescription, on which the sale charged was made. He was not interested in the saloon, and did nothing more in furtherance of the sale than the mere giving of the prescription which procured it. The state's insistence was that he was guilty of a sale by virtue of having given an illegal prescription. Under some expressions in Stephens' Case (Tex. Cr. App.) 73 S. W. Rep. 1056, and McLain's Case, 43 Tex. Cr. R. 213, 64 S. W. 865, this was a proper way of prosecuting him. But the real point in the Stephens Case was that there must be a sale, before the physician would be guilty for giving the illegal prescription. However, on a more mature consideration of the Stephens and McLain cases, and in view of the variant views on the question of indictment, the court has reviewed the authorities, and now holds that the indictment in this case, charging the physician, in the usual form, with selling intoxicating liquors in Smith County after such sale had been prohibited in said county, was defective, when applied to the facts intended to be covered by this prosecution. Then, in order to eliminate any doubt as to what is a good indictment, under the laws of Texas, against a physician, for giving an illegal prescription, the court lays down what it holds to be a proper form. Continuing, it says that whenever a party is particeps criminis, or aids and abets the sale, he is guilty, if his acts bring him within the statutes of principals, as applicable to misdemeanors, whether he be a physician or other person. But in order to convict a physician for giving an illegal prescription on which a sale is made, such sale must have been accomplished by the physician giving the patient a prescription when he well knew at the time he gave the prescription to the applicant that he was not actually sick, or, if the proof showed that the physician had not made a personal examination of the applicant for the prescription, this would authorize a conviction, provided a sale was obtained in either instance under said prescription. Wherein these views conflict with the McLain and Stephens cases they are overruled. The court understands that this last proposition is also at variance with its views expressed in Stovall vs. State (Tex. Cr. App.) 39 S. W. 934; McQuerry vs. State, 40 Tex. Cr. R. 571, 51 S. W. 247. It, therefore, held that, in order to make a valid prosecution, the state must prove that the physician not only knew that the applicant was not actually sick, but that the state must prove he gave the prescription without a personal examination. It now holds that, if the state proves either—that is, that the physician knew the applicant was not sick, or if he gave a prescription, whether he knew the applicant was sick or not, without a personal examination, and the sale was obtained on said prescription—in either event he would be guilty of a violation of the law. If the proof in this case had shown, as in the McLain Case, that the physician was aiding and abetting in the sale of the whisky, in addition to the giving of the prescription, in such manner as would make him a principal, he would be guilty. As before stated, this would be true, whether he was a physician or not. But the mere fact of giving an illegal prescription, on which the sale is procured, would not authorize the prosecution of the physician giving the same for the sale thereby procured, under an ordinary indictment for selling.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below

American Medicine, Philadelphia.

August 27.

1 Abstract of Paper Reporting 615 Cases with Operations Done at the Albany Hospital from March 1, 1902, to March 1, 1903, with Remarks. Albert Vanderveer.
2 *Injection Treatment of Internal Hemorrhoids. Collier F. Martin.
3 Beneficent Agency of Peritoneal Exudates, Adhesions, Aperistalsis and Meteorism in Peritonitis. H. G. Wetherill.
4 *Retrodeviations of the Uterus. E. J. Mellish.
5 Treatment of Chronic Colitis. Jesse Shoup.
6 Paraphimosis; Its Management and Treatment. Charles S. Hirsch
7 Theory of the Symptom-Reflex. T. H. Evans.

2. **Injection Treatment of Internal Hemorrhoids.**—Martin discusses this question in all its phases and describes his method as follows: The rectal speculum devised by the elder Martin is inserted to its full extent; remove the obturator and by gentle rotary and downward motion examine the mucosa carefully. When the edge of the speculum is withdrawn as far as the upper margin of the internal sphincter, any hemorrhoids present on the side examined will prolapse into the mouth of the aperture. Selecting the largest one for treatment, the patient by coughing renders this more prominent. Carefully swab off the surface with some mild antiseptic solution (such as creolin 1 per cent.) and make the injection directly into the most prominent portion of the pile. Withdraw the speculum before removing the needle, allowing the rectal walls to collapse and preventing the escape of fluid or any bleeding. Ordinarily he inserts a suppository containing 32 milligrams (½ gr.) of cocain to prevent the slight discomfort which may be felt for an hour or so, and also a suppository containing .18 c.c. (3 m.) of ichthyol. The ichthyol suppositories are used during the entire course of the treatment, one to be inserted after each bowel movement and one at bedtime. The syringe employed is an ordinary all-metal hypodermic fitted with a four-inch metal extension. The needles are No. 27 gauge and three-quarters of an inch long. The solution used is composed of equal parts of phenol Bonoeuf and distilled water, freshly prepared and filtered. Should the fluid become opaque it must be discarded. Ordinary cases require an injection of from .42 c.c. to .92 c.c. (7 m. to 15 m.). The injections should be made at intervals of from five days to a week, and only one pile should be treated at a visit. Under no circumstances does Martin inject external hemorrhoids, nor any structures covered by true skin. Internal hemorrhoids and cases in which there is a prolapse of the mucous membrane only are treated by this method. When an internal hemorrhoid, from long-continued irritation and inflammation, has become excessively hypertrophied and fibrous, the wisest course to pursue is to anesthetize the tumor and remove it surgically. The injections should be continued until all the hemorrhoids have been absorbed and the rectal mucosa does not prolapse into the speculum to any extent when the patient coughs hard. If any hemorrhoidal tissue remains, the percentage of recurrences will be materialy increased. If the recurrence does take place and the primary divulsion has been performed thoroughly, a second divulsion rarely is necessary, and the patient usually can be relieved permanently by a few additional injections.

4. **Retrodeviations of the Uterus.**—Mellish summarizes his paper as follows: Retroversion is common in virgins but rarely is congenital. Improper clothing during the period of puberty, together with lack of exercise and development, act as causative factors in fully as many cases of retrodisplacement as subinvolution after parturition. Retrodeviations are present in at least 15 per cent. of all gynecologic patients, and in the majority of cases are a source of discomfort or disease. In a large percentage of the cases the intelligent use of the pessary will effect a cure, but when used unintelligently it is positively dangerous. In many cases surgical treatment is absolutely essential. No method of shortening the round ligaments within the abdomen will effect a cure in all cases, because these methods fail to eliminate the weakest part of the ligament, the portion within the inguinal canal. The Alexander-Adams operation is right in principle, and will, more or less modified, maintain its position as a classic operation for the cure of retrodisplacements. The Gilliam modification is easy of execution and meets all the indications for the successful treatment of the displacement and of intra-abdominal complications which may be present. Ventral suspension and ventral fixation are "unphysiologic" operations. They should not be performed on patients susceptible of child-bearing. Vaginal operations in fruitful women are mentioned only to be condemned.

Medical Record, New York.

August 27.

8 *The Subtle Power of Radium. Robert Abbe.
9 *Concerning Shock. Frank P. Vale.
10 The Climate of Tidewater, Va. W. A. Plecker.
11 *Pyloric Stenosis in Infants. J. G. William Greeff.
12 *The Modern View as to the Etiology and Treatment of Eczema. Zama Feldstein.

8.—See abstract in THE JOURNAL of July 2, p. 70.

9. **Concerning Shock.**—Vale has made a careful study of that peculiar symptom-complex known as shock, and concludes that shock is not due to the exhaustion of any one nerve center, or paralysis of any one system, but that the function of every organ, tissue and cell in the body is depressed as the result of a powerful impression on the nervous system which dominates all the functions of life. Experiments performed suggest that an outpouring of lymph into the tissues, in excess of normal, and consequent inspissation of the blood, is one factor which, added to the lowered vasomotor tone occurring in shock, aids in the lessening of blood pressure so characteristic of that condition. This loss of fluid by the blood in shock, a state of vital depression but little short of death itself, conforms to the fact long well known that after death fluid passes into the tissues from the blood vessels. This loss of fluid by the blood and corresponding gain by the tissues as death occurred was sought for and noted in rabbits—as demonstrated by a gain in the specific gravity of the blood and loss in specific gravity of the tissues. The enfeebled action of the heart is largely secondary to the lowered blood pressure; the temporary rise in blood pressure produced by an intravenous injection of salt solution restores the force of heart contractions. The wan, pinched features are due to the empty peripheral vessels and feeble circulation; undoubtedly, however, most marked where there has been an excessive fluid loss by both the blood and tissues, as in peritoneal injuries. The lessened secretions are due to the lowered blood pressure. The feeble circulation and lessened activity of all the organs and general arrest of metabolic processes explain the fall in body temperature. The shallow, slow respiration is in accord with the phenomenon of aerated venous blood. Impaired consciousness is due to the overwhelming nature of the impression on the nerve centers, the feeble circulation augmenting and prolonging this effect.

11. **Pyloric Stenosis in Infants.**—Greeff reports a case of this kind in which he made the diagnosis *intra vitam*. The child was born after a normal labor. For the first two weeks it did quite well, though the stools were not always satisfactory. The child was bottle-fed from the fourth day on, getting two ounces every two hours, day and night, one part milk and two parts water. When two weeks old it started vomiting, became very restless, had temperature and bad smelling stools. When twenty-three days old it was crying constantly, looked very puny, with the skin in loose folds. Stools and urine scanty. The spleen, lungs and heart were normal; liver slightly enlarged; stomach very much enlarged and distended. The lower curvature could be made out three finger-breadths below the umbilicus. The milk was stopped and thin gruels, barley water first, and later of oatmeal, were substituted. Lavage and colonic flushings were given every day. Stomach washings showed no bile; odor very sour; no free hydrochloric acid. Bowel irrigation showed mucous casts and some thick matter. When the child was one month old a wet nurse was engaged; the child nursed eagerly, but vomiting persisted just the same, coming in great gushes either immediately after each feeding or after every two or three feedings. The child seemed hungry and would take the breast again immediately after vomiting, and then usually keep the food down. This also immediately after the stomach washings. The child lost steadily in weight, although at times it appeared to gain a little. The diagnosis of pyloric stenosis was made and a posterior gastroenterostomy was done. The child died from shock twelve hours after the operation. The autopsy confirmed the diagnosis.

12. **Etiology and Treatment of Eczema.**—Feldstein holds that eczema is a parasitic disease, and the only thing necessary to produce an eczema is the congestion of the skin, which may be caused by constitutional ailment or defect, or by outside influences such as cold or chill. The parasite, having once been called into activity, as it were, the primary cause can be cured, but the effect—the parasite—remains until destroyed by a parasiticide sufficiently penetrating to establish contact, and sufficiently stimulating to restore the skin to its natural activity. Constitutional treatment is only useful as an adjunct to the local treatment. An effective parasiticide is absolutely necessary. He has been using a mixture of Juniperus oxycedrus, staves acre, Pinus silvestris and Eugenia caryophyllata, prepared without any animal fat. This is a parasiticide capable of deep penetration and at the same time harmless to the tissues. It is necessary to commence with weak applications so as to avoid overstimulation. The parts most liable to overstimulation are the genitals and the scalp. As a general rule, the less drugging the better. If internal remedies have to be employed they should be given for a definite purpose and in accordance with definite indications

New York Medical Journal.

August 27.

13 Multiple Sarcomata of the Subcutaneous Tissue Without Evidence of a Preceding Primary Growth. T. Turner Thomas.
14 *Case of Arthritis Deformans of the Spine. Otto Lerch.
15 *What Are the Facts and Arguments for and Against the Infectious Nature of Malignant New Growths? Charles H. Richardson
16 *The Roentgen Rays in the Treatment of Tuberculosis of the Joints. J. Rudis-Jicinsky.
17 *Bacteriuria. Edward L. Keyes, Jr.
18 Pulmonary Tuberculosis; Some General Considerations and Its Treatment. Clarence L. Wheaton.
19 Remarks on the Use of the Nasal Saw. George A. Richards.
20 Case of Poisoning by Illuminating Gas. Samuel E. Earp.
21 Status Lymphaticus and Death Following Chloroform Anesthesia. F. A. Simmons.

14. **Arthritis Deformans of the Spine.**—Lerch describes the case of a man aged 54, who six years ago noticed a slight stiffness in the neck, following a trauma, which slowly progressed downward, finally involving the whole spine, making it stiff and immovable, bending him and forcing him to stoop over considerably. All other joints are free, with the exception of the shoulder joints, which are very slightly involved. The patient denied having had syphilis and shows no traces of lues. There is no inherited tendency to the disease, and the cause seems to be due to a concussion of the spine produced by a fall from a wagon, the patient landing on his hands, face and chest. The first symptoms appeared four months after the fall

15. **Infectious Nature of Malignant New Growths.** Richardson reviews the literature with reference to this subject and concludes that the various mentioned so-called parasites failed to make good in fulfilling the requirements of an infecting agent. The vast majority of competent pathologists are of the belief that the so-called parasites are changed or degenerated cells, not yet thoroughly classified. Contaminations could not be excluded in the cases that showed any growth out of the vast number of cultures taken on every known media. The tumors produced by inoculation of blastomycetes show them to be only granulomata. Blastomycetes can be cultivated from the air, hence contamination is always possible. In fact, no one has yet been able to grow or demonstrate parasites in malignant growths. The facts and arguments are so overwhelmingly on the side of the embryonic cell theory that for the time being, at least, we shall have to believe that the latency is due to an abnormal play of forces within the body of which, as yet, we know but little. A benign tumor is an abnormal deposit or growth of normal tissue, at least for a time; a supernumerary toe is normal tissue growing in an abnormal position. The author believes that time will show a reaction in the present movement of parasitism and many of its strongest advocates will refute their theories and admit that their conclusions were reached without sufficient investigation.

16. **Roentgen Rays in Joint Tuberculosis.**—The author emphasizes the efficiency of the Roentgen ray in the treatment of joint tuberculosis. Two cases are cited and others are referred to that were benefited by the Roentgen ray after all other treatment had proven futile. Not only were the patients very soon relieved, but they feel well and are strong and hearty, some with ankylosis, others without, according to the

individual circumstances of each case. The proper support adapted to each individual chronic case must be supplied so that the joint will become ankylosed in about four months under the influence of the radiation; and in simple tuberculous synovitis of any joint a prompt cure is obtained, with perfect motion and usefulness of the joint, by injecting it once with iodoform emulsion, formalin and glycerin and exposing it immediately to æ-ray treatment. It is well to observe by means of fluoroscopic examination, from time to time, the results of the æ-ray treatment, and to be constantly on the watch for any special susceptibility of the patient, antointoxication, the regulation of the bowels with all the rules of proper hygiene, good nutrition, light and fresh air.

17. Bacteriuria.—According to Keyes, bacteriuria is not a simple urinary infection without parietal lesions. It is but a symptom of catarrh in certain parts of the urinary tract; in fact, it is the chief and only striking feature of certain diseases, notably certain varieties of catarrhal pyelitis, such as typhoid, puerperal and acid-retention pyelitis, any one of which may become suppurative. Cystitis never causes bacteriuria, and prostatitis and spermatocystitis only exceptionally cause bacteriuria.

Boston Medical and Surgical Journal.

August 25.

22 *Present Status of Hydrotherapy and Other Forms of Physical Therapeutics. Joseph H. Pratt.
23 *Practical Application of Hydrotherapeutic Measures. Charles S. Millet.
24 Sacral Spina Bifida, with Reference to the Skin Representation of Sacral Nerve Roots. E. W. Taylor.
25 Operations on the Stomach, with Report of Cases. (Continued.) John C. Munro.

22. Present Status of Physical Therapeutics.—This is a brief sketch by Pratt of the position hydrotherapy and other physical treatments occupy to-day, with a review of the literature showing that the subject is worthy of more attention, and hoping that the large hospitals will soon have facilities for physical therapy that will compare favorably with those of Germany, and that in order to insure the intelligent application of physical agents it is necessary that instruction in physical therapeutics should be given in our schools.

23. Practical Application of Hydrotherapy.—Millet's paper takes up the subject of hydrotherapy in the same manner as the previous paper by Pratt, detailing the author's experience and results, and urging that the remedy receive the confidence which it deserves.

Medical News, New York.

August 27.

26 Delirium from Nervous Shock. Pearce Bailey.
27 A New Portable Sphygmomanometer; Also a Blood-pressure Chart. T. C. Janeway.
28 *Osteoplastic Amputations. A. V. Moschcowitz.
29 *Need of More Accurate Knowledge in the Diagnosis and Treatment of Chronic Suppurative Otitis Media. James F. McCaw.
30 Intestinal Obstruction Following Appendicitis Operations. Report of 86 Cases. Clarence A. McWilliams.
31 *Aseptic Catheterization of the Urinary Passages. M. Krotoszyner and W. P. Willard.
32 Valuable Suggestions from the Inspection of Urine. I. S. Wile.
33 Quantitative Albumin Determination. K. M. Vogel.

28. Osteoplastic Amputations.—The burden of this paper is to prove the superior advantages of amputation stumps formed by osteoplastic methods over those formed by the older methods. A stump is perfect when it is fully able to carry on support and locomotion. The essential factor of a good stump is that in no case must the bone expose on its distal extremity a wounded surface; and in order to obtain this result it is necessary to cover or seal the wounded surface with bone covered by its periosteum or, if this be impossible, it is preferable to exarticulate. It is for this reason that Bier devised osteoplastic amputation, the underlying principle of which is to form either from the bone amputated or from a neighboring bone, a thin osteoperiosteal flap, which obtains its mobility from a hinge of periosteum. This osteoperiosteal flap is brought into correct apposition with the sawn surface of the amputated bone, and its periosteum is sutured to the opposed periosteum and other convenient structures. This operation is indicated in every amputation, except in those cases in which the general condition of the patient demands a hasty termination of the operation, and in cases where the nutrition of the parts is so poor that there is danger of necrosis of the osteoplastic flap.

29. Chronic Suppurative Otitis Media.—McCaw says that the importance of this condition and the early application of appropriate treatment should be appreciated more fully by every physician. He believes that many patients die from intracranial complications in which the chronic suppurative middle ear disease is never recognized as a causal factor. Chronic otorrhea is not given the importance that its gravity demands. The treatment should be based on the pathologic condition present in each case. In addition to proper attention to the nose and nasopharynx, appropriate treatment to the middle ear will yield good results in a large percentage of cases. Where caries is limited to the ossicular chain and there are no contraindications, ossiculectomy should be the operation of selection. Cases presenting symptoms of extension beyond the tympanic cavity should be subjected to the radical operation.

31. Aseptic Catheterization.—The authors consider the sterilization of catheters, the preparation of the urinary canal and the introduction of the instruments in an aseptic manner. They detail a large series of experiments with infected catheters and summarize those methods of sterilization which prove to be safe and simple, as follows: 1. Soft rubber catheters are rendered sterile by being boiled five minutes, preferably in sodium chlorid solution, care being taken that the solution fills the lumen of the catheter. As a matter of precaution the catheter should be washed with soap spirits and running water after use. 2. Hard rubber and silk and cotton woven catheters should be boiled five minutes in a saturated solution of sulphate of ammonia. Each instrument should be wrapped separately in gauze or a towel, or, if several catheters are to be sterilized, in such a manner that their surfaces shall not come in contact with the sides of the vessel or other catheters. 3. Ureter catheters can be folded and wrapped in a towel so that their surfaces are kept apart and boiled for five minutes in a saturated solution of ammonium sulphate. 4. Cystoscopes should be sterilized by first washing them in soap spirits and water, then vigorously rubbing them for two minutes with two different pieces of gauze or cotton wet with soap spirits, and then with alcohol, for one minute. The channel of the catheter can be cleansed by means of a brush, first brushing with soap spirits and then with alcohol. Instruments can be kept aseptic if they are snugly wrapped in a piece of gauze or towel wet with soap spirits.

Cincinnati Lancet-Clinic.

August 27.

34 Pregnancy After Fixation of the Uterus. Byron Stanton
35 Some Experience with Pott's Disease. E. E. Armstrong.
36 Gonorrheal and Gleet Infections in the Female. Earl Harland

American Journal of Obstetrics, New York.

July.

37 *Relation of the Appendix to Pelvic Disease. Reuben Peterson
38 *Clamp and Cautery in Appendectomy. Joseph Rilus Eastman
39 *Study of a Specimen of Ovarian Pregnancy. J. Clarence Webster.
40 *Ureterolithotomy. J. Wesley Bovée.
41 *The Preoperative Treatment of Pelvic Floor Lacerations. J. Clifton Edgar.
42 Transverse Suprapubic Division of the Skin for the Simultaneous Performance of the Intra-abdominal Work and of Inguinal Shortening of the Round Ligaments. Henry J. Krentzmann.
43 Treatment of Post-operative Peritonitis. Egbert H. Grandin.
44 Treatment of Gonorrheal Peritonitis in Females—Young and Older. A. Ernest Gallant.

37. Relation of Appendix to Pelvic Disease.—Peterson removes the appendix in every case where the abdomen is opened for other purposes unless the patient's chances of recovery are jeopardized by the addition of five minutes' time required for the removal. Two hundred appendices thus removed were subjected to careful microscopic examination. Thirty-two and five-tenths per cent. were absolutely negative; 28.5 per cent. showed evidences of active catarrhal inflammation or ulceration of the mucosa, with atrophy of the mucosa and lymphadenoid tissue or muscularis, associated with fibro

blastic proliferation or formation of scar tissue; 20.5 per cent. were of doubtful significance, showing hyperplasia of the lymphadenoid and connective tissue, dilatation or constriction of the lumen, local or general atrophy of the muscular coat, unattended by conclusive evidences of inflammation; 14 per cent. showed every evidence of a former inflammation; 3 per cent. were acutely inflamed; 1.5 per cent. showed evidences of periappendiceal inflammation. Thus, 53 per cent. showed practically no evidence of disease, while the remaining 47 per cent. were diseased. As the result of his clinical observations, Peterson concludes that: The average length of the appendix is between 8 and 9 cm., the maximum length being found between the ages of 20 and 30. After this period the average length of the appendix is less, probably because of normal atrophy or because of inflammatory changes. Menstrual pain may be due or enhanced by the presence of an inflamed appendix. The congestion incident to menstruation increases the inflammation and gives rise to attacks of appendiceal colic. It is exceedingly difficult to differentiate between pain due to pelvic lesions and pain due to chronic appendicitis. The shape of the appendix and the existence of adhesions can not serve as an index of its normality or disease. The appendix is the seat of fecal concretions in at least 8 per cent. of all cases, but this does not signify disease. Nearly 50 per cent. of patients with chronic disease of the appendages show accompanying disease of the appendix. This may be due to direct contact of these structures, or the infection may travel from one to the other through the lymphatics. In 50 per cent. of patients with uterine fibromata there is accompanying disease of the appendix. In 70.9 per cent. of patients with ovarian cystomata the appendix is diseased. The appendix is not infrequently adherent to an ovarian cyst and may even infect the latter. Since it is impossible for the surgeon to determine by gross appearances which appendix is diseased, and since nearly 50 per cent. of appendices where the abdomen is opened for other purposes are found diseased, it is the surgeon's duty, in the absence of contraindications, to remove the appendix in every such case. Systematic examination of a series of removed appendices shows the occasional presence of primary carcinoma in such an early stage that it could not have been detected by inspection at the time of operation. Even were carcinoma of the appendix not commoner than once out of 200 abdominal sections it would still be an argument in favor of the removal of the appendix in every case where the abdomen is opened for other purposes.

38. **Clamp and Cautery in Appendectomy.**—Eastman criticises the usual methods employed for abscision of the appendix and disposition of the stump because in many cases they fail to effect a complete cure and often are responsible for the formation of fecal fistulæ and sepsis. He believes that a light clamp with broad, accurately-fitting protecting shields, applied to the base of the appendix, will effectually preclude the possibility of pus from the cecal wall or appendix contaminating the neighboring serosa or floating into the peritoneal cavity. Very little pus or other fluid contents will escape, though the appendix be quite full, if the separation is made with the hot cautery knife between two clamps; and, moreover, whatever fluid may escape will have been rendered sterile by the heat of the cautery, though this heat need not be intense enough to burn or scar the serosa. If the heat is feared the appendix may be cut off with scissors or knife, while the special clamp with its trough-like shields protects the peritoneal cavity from contamination. The author's method is a modification of the one practiced by his father, the late Dr. Joseph Eastman. It consists in the addition of the removable shields in which the escaping contents of the appendix are caught, and the changing of the grooves in the jaws so that they run not transversely but parallel to the jaws of the forceps. The forceps are applied close to the cecum, the jaws parallel to the ventral longitudinal muscle band. Light artery forceps are applied above the clamp and the appendix is severed between the artery forceps and clamp with a Paquelin cautery. The removable shields catch all escaping fluid from the appendix. The slightest traction releases them. After they have been displaced the base of the appendix is held in a single light clamp. Either pursestring sutures or Lembert sutures can then be introduced. After removal of the forceps the canal is explored and the stump invaginated. The use of the forceps minimizes hemorrhage and in most cases will shorten the time of operation. The cautery used is a light cautery blade and the heat is just sufficient to separate the appendix and destroy bacteria. No difficulty is experienced in making this operation through the small gridiron incision. The forceps should have slender jaws beveled on the under side to avoid cutting the serosa of the cecum where they compress.

39. **Ovarian Pregnancy.**—Webster gives the history of a case of ovarian pregnancy which necessitated the removal of the ovary during the third month of the pregnancy. The macroscopic and microscopic appearances of the specimen are described in detail and numerous illustrations are shown

40.—See abstract in The Journal, xlii, p. 1583.

41.—Ibid., p. 1584.

Medical Herald, St. Joseph, Mo.

August.

45 Errors in Diagnosis of Ureteral Calculus. Byron Robinson
46 *Conservative Surgery. J. W. Cokenower.
47 A New Method in the Management of Irreparably Crushed Extremities. Charles H. Wallace.

46. **Conservative Surgery.**—The subject of ovarian neurosis, says Cokenower, is one of the most difficult, because of the impossibility to fix a standard from which to determine the beginning of surgical treatment; hence, the question is one of diagnosis rather than of surgery, and the thing to do is to decide whether the symptoms arise directly or indirectly from pelvic disease. All diseases are not the result of pelvic disease. The intimate relationship existing between diseased conditions of the reproductive organs of the female and functional disturbance and organic change in other parts of the body should be better understood; also that fermentation and putrefaction within the intestinal canal will produce autoinfection and intoxication, ptomaines and leucomaines, which are the most common cause of nervous disease. Many surgical procedures have failed utterly to relieve the condition for which they were advised. Many operations which a few years ago were very popular for the relief of supposed ovarian nervous troubles have grown in disfavor and are now seldom done. Operations on the ovaries that preserve the menstrual and reproductive function should be employed, when possible, in lieu of complete extirpation. Healthy displaced ovaries may be anchored to the posterior surface of the broad ligament, or by shortening the infundibulo-pelvic ligament. Sterile women and married women who are using means to avoid pregnancy are unfavorable subjects on whom to do conservative operations on the ovaries. Conservative operations should be avoided as a general rule, in all pus cases.

Ophthalmic Record, Chicago.

August.

48 *Traumatic Dislocation of the Lachrymal Gland. Edward Jackson.
49 Partial Fixation of the Globe for the Improvement of Vision in Certain Cases of Nystagmus. J. Elliott Colburn.
50 A Simple Instrument for Removing the Granulations in Trachoma. M. D. Stevenson.
51 Comparative Study of Normal and Subnormal Color Perception in Its Relation to Distant Signal Lights. Mortimer Frank.
52 A New Tube for and Method of Operation on the Lachrymal Duct to Restore Tear Drainage. J. Winter Wamsley
53 Polpys in the Lower Canaliculus. George F. Libby.
54 Case of Aniscoria. Henry D. Steele.
55 Dionin in Ophthalmic Therapeutics. Albert E. Bulson, Jr.

48. **Dislocation of Lachrymal Gland.**—Jackson reports a case of dislocation of the lachrymal gland in a man aged 44, who had been thrown from a wagon, falling on his head, which struck a sharp stone. He received a wound in the upper lid parallel to the orbital margin and about one inch long, from which there was free bleeding. The first physician called closed the wound with several stitches and dressed it. Healing took place by first intention, but the lids remained red and swollen. The eyeball was displaced forward, downward and inward, and was capable of only very slight movement in all

directions. There was no sign of fracture of the orbit. On examination the eye itself was found to be perfectly normal. The gland was removed and the patient made an uneventful recovery. The eye presents no deficiency of lachrymal secretion, and although the movements of the upper lid are very imperfect the palpebral fissure can be opened to the width of six millimeters. Movement of the eyeball is normal in all directions except upward, where it is limited to thirty degrees.

American Journal of the Medical Sciences, Philadelphia.

August.

56 *Two Thousand Operations for Appendicitis. John B. Murphy.
57 Pseudomelanosis of the Hemolymph Glands. Alfred Scott Warthin.
58 *A Study of the Tubercle Bacilli Isolated from Three Cases of Tuberculosis of the Mesenteric Lymph Nodes. Theobald Smith.
*59 A Study of Circumscribed and Diffuse Pulsation of the Wall of the Thorax. Joseph Sailer.
60 Pyopericardium and Commencing Interstitial Pneumonia Complicating Ileocolitis in an Infant aged 4½ Months. D. J. M. Miller and J. C. Gittings.
61 *Treatment of Chronic Internal Hydrocephalus by Autodrainage. Alfred S. Taylor.
62 Case of Splenomegaly with Blood Changes and Symptoms Resembling Those of Banti's Disease, Apparently Due to Malaria. Solomon Solis-Cohen and Randle C. Rosenberger.
63 The Leucocytosis of Pregnancy, of the Puerperium and of Eclampsia. Ralp W. Lobenstine.
64 The Relations of the Islands of Langerhans to Diseases of the Liver, with Special Reference to Carbohydrate Metabolism. Joseph C. Ohlmacher.
65 Orthostatic Albuminuria. Charles Louis Mix.
66 Adiposis Dolorosa. J. N. Hall and C. E. Walbrach
67 Aneurism of the Heart. Philip D. Bourland.
68 Esophageal Neuroses. A. L. Benedict.

56. **Two Thousand Operations for Appendicitis.**—Murphy's article is a retrospective consideration of the subject of appendicitis based on 2,000 operations, with deductions therefrom. After a very thorough description of the surgical anatomy of the appendix the author proceeds with the clinical history of the disease. Foreign bodies were present in a little less than 2 per cent. of the cases. Fecal concretions were found in 38 per cent. The erosion produced by these objects produces an atrium for the admission of bacteria. The bacteria found were, in the order of frequency, bacillus coli communis, staphylococcus, pyogenes aureus and albus, streptococcus, pneumococcus, bacillus tuberculosis and actinomycosis. Appendicitis is neither contagious nor infectious, although it seems to have family predilections. The symptoms in the order of their occurrence are (1) pain in the abdomen, sudden and severe, followed by (2) nausea or vomiting, within a few hours, but most commonly between three and four hours after the onset of pain; (3) general abdominal sensitiveness, most marked in the right side, or more particularly over the appendix; (4) elevation of temperature, beginning from two to twenty-four hours after the onset of pain. When that order varies, Murphy always questions the diagnosis. If nausea and vomiting or temperature precede the pain, he feels certain that the case is not one of appendicitis. When the temperature alone precedes the pain for a day or two, he fears that it is typhoid fever with a typhoid ulcer in the appendix. In not a single case was pain, usually colicky in character, absent as an initial symptom. It usually reached the acme of intensity about four hours after its onset and then subsided gradually in the majority of cases. With the cessation of pain, in cases where the pus was liberated from the appendix, came diminution or cessation of absorption, but not necessarily a diminution or cessation of danger. He has never had a case of appendicitis without elevation of temperature. He does not consider leucocytosis of any value except as an indication of the absorption of septic products. Furthermore, infection may be present without there being any leucocytosis. The character of the pulse is of little value in the differential diagnosis of appendicitis. With reference to the clinical course of appendicitis, Murphy says that the inflammation may subside within a few hours by escape of the infected material along the tract of the appendix into the cecum; that it may subside as a circumscribed inflammation of the appendix; that it may form a circumscribed infection without the production of pus in the free peritoneal cavity; that it may subside as a circumscribed abscess outside the appendix, rupture through the wall of an adjacent coil of intestine and empty itself in that way; that it may subside as circumscribed peritoneal abscess and remain quiescent, to be opened later; that it may terminate in a circumscribed or diffuse general suppurative peritonitis; that thrombophlebitis of the iliac veins and general embolism, portal thrombosis, hepatic abscess, extension of the inflammation into the pelvis, behind the peritoneum, around the kidney, liver and gall bladder, into the subphrenic space, through the diaphragm into the lung, or into some portion of the urinary or genital tracts, are possible methods of termination. The time for operation is divided into four stages: 1, within the first forty-eight hours; 2, from the second to the fifth day; 3, from the fifth or seventh day on; 4, in the intermediate stage—between attacks. He advises operation on every patient who has been through an acute attack of appendicitis. In this class of cases he has had only one death in 1,300 or 1,400 operations, the result of an acute, infective peritonitis traceable to an interne who had, without Murphy's knowledge, made a postmortem on a post-abortion peritonitis the night before the operation. The type of operation and the subsequent management of the cases are described in detail, but Murphy's methods are sufficiently well known so as not to necessitate detailed reference to this portion of the article. The mortality varies considerably when it is studied in groups of 100 cases. The greatest mortality was in the first 100, when it reached 11. The number of deaths in each 100 then gradually decreased until after the meeting of the American Medical Association in Atlanta in 1896, when a great cry was raised against peritoneal operations and particularly against the frequent operations for appendicitis. General practitioners hesitated before advising operation, and consequently the mortality rate increased in the year following this meeting, reaching 7 in 100. Then there was a gradual decline as the error of the position was recognized, until a second epidemic of so-called conservatism (expectant treatment) passed over the country and the mortality reached 6 in 100. For the last four years there has been a steady decline in the number, until in the last 100 operations there was a mortality of only 2 per cent. One of these deaths was due to an ileus of the small intestine high up, bearing no relation to the appendical operation, and the other a death from a double pneumonia six days after the operation for general septic peritonitis of appendical origin. Every death from appendicitis is the result of not calling in a physician sufficiently early after the onset of symptoms, or of dilatoriness on the part of the physician and surgeon in not acting promptly when they are called. There is no plan of medical treatment which will lower the mortality in appendicitis. The physician can make an early and accurate diagnosis and he is not justified in deferring operation, because the final results in appendicitis, as a whole, are very gratifying. The surgeon should conduct a case of appendicitis to a favorable termination with the least hazard or risk to the patient, regardless of his personal or professional feeling. A second operation with a living patient at the end is better than a primary radical operation with a mortality of 2 or 3 in a hundred as the price. The man who is having more than three or four deaths in a hundred operations is either receiving his patronage from incompetent and procrastinating medical men, or he is doing too much manipulating in the peritoneal cavity under unfavorable pathologic conditions.

58. **Study of the Tubercle Bacilli.**—Smith says that no observations have thus far been presented which invalidate the distinction between the bovine and the human variety of tubercle bacilli made by him in 1898. Since then he has made three cultures from the mesenteric lymph glands of human beings, studying them from these points of view best adapted to inform us whether they are of the bovine or of the human variety. The bacilli isolated from these three cases of presumable food infection do not correspond to the bovine type of tubercle bacilli in any one particular. They were cultivated readily from nearly all the guinea-pigs inoculated, and grew luxuriantly from the start on dog serum. Subcultures on glycerin agar and glycerin bouillon grew vigorously after the first transfer from dog's serum. Morphologically, the bacilli were either fairly long, averaging about 2 microns in

length, or they were very variable. The uniformly short, straight forms of the bovine types were absent. In all cases the bacilli were of a very low order of virulence, lower even than that of many of the cultures of human origin studied heretofore. We have, as yet, no satisfactory evidence concerning the degree of change, if any, which tubercle bacilli of bovine type may undergo in the human body. That changes could be as thorough-going as would be the case if we were inclined to attribute these cases to infection by way of the digestive tract through milk is at present quite inconceivable, and we must content ourselves to referring them to infection with bacilli of strictly human origin.

61. **Chronic Internal Hydrocephalus.**—According to Taylor any method of drainage, done with a view to relieving an internal hydrocephalus, in order to be successful must be internal, slow, prolonged or permanent. It would seem as if a small permanent fistula between the ventricles and the subdural space would most closely resemble normal conditions, and in the hope of attaining that end six cases were operated on as follows, under general anesthesia: An osteoplastic flap about two inches in diameter is turned down, with its hinge over the base of the mastoid and just above the level of the horizontal lateral sinus. In the lower part of the dura mater thus exposed a semicircular flap base downward and about one inch in diameter is made. Care must be taken not to injure any distended veins, as their walls are so pliable that neither clamp nor ligature is of much use, and the bleeding is annoying. A slender aspirating needle is passed through the second temporo-sphenoidal convolution, which usually protrudes, inward and slightly upward until it enters the ventricle, when the clear fluid spurts out and is collected in a sterile tube for bacteriologic examination. Only a very small amount should be allowed to escape in this way. The drain is now made of No. 2, forty-day chromic catgut. Three loops (six strands) about an inch and three-quarters longer than the thickness of the brain, are bound together by a loose spiral of catgut, starting at one end and stopping so as to leave an inch and a quarter of the loops free. Around the shaft of the drain, but not covering its tip, are rolled three layers of cargile membrane. With a long, narrow-bladed thumb forceps the tip of the drain is seized and carried into the ventricle along the tract made by the aspirating needle. The tip projects about one-half inch into the ventricle. The free loops of gut are slipped under the dura, between it and the brain surface in different directions, but chiefly downward toward the great lymph spaces at the base of the brain. A sheet of cargile membrane is slipped between the dura and the catgut loops to prevent adhesions. The dura is sutured with catgut, the bone flap is held in place by three or four chromic catgut sutures, the deeper soft tissues by catgut, and finally the skin, with silk. A good-sized sterile dressing is applied with some pressure. After the first twenty-four hours there is no further external escape of ventricular fluid. Two of the cases so operated on are still living, twenty and eleven months respectively. Although there is little improvement in their physical condition, the betterment of the mental condition is quite marked. One case lived two months and died of acute gastrointestinal disturbance. Another died about sixty hours after operation and unquestionably as the result of it. Another case developed an otitis media on the fourth day, then anuria and died on the eighth day. The last case died suddenly on the sixth day, when it had apparently been recovering slowly from the sharp reaction of the first three days. That prolonged drainage can be obtained by this method seems demonstrated by the first two cases. It is interesting to note that in both cases the drainage became most active about two and one-half to three months after operation. The operation, to attain its best results, must be performed early, before irreparable damage has been done to the brain. It must be brief, to avoid shock; inflict the least necessary traumatism to the brain; permit of the escape of only a little ventricular fluid so as to avoid any sudden change in the hydrostatic condition of the brain. The after-treatment of these cases resolves itself into a problem of medico-pedagogical training.

Annals of Gynecology and Pediatry, Boston.

July.

69 *The Boston Floating Hospital. Robert W. Hastings.
70 The Immediate Repair of Injuries of the Perineum Received in Childbirth. Ernest W. Cushing.

69. **The Boston Floating Hospital.**—Hastings describes this unique hospital, which has been in existence since 1894. The vessel used, a barge, has three decks. The lower deck and the main deck, except the cabin in the stern, are used for the machinery, tanks, crew's quarters and the navigating appliances. The stern cabin is used as a ward and contains 13 cribs. The open space on this deck serves as a dining-room. The kitchen, storeroom, babies' food department, refrigerators, a small operating room, linen-room and one or two offices are also located on this deck. A small open space is used by guests twice a day for a kindergarten. The largest ward on the boat has beds for 21 children. Another ward, intended for chronic, generally tubercular cases, has 4 beds. Another ward has 15 beds, a total of 53 beds. The upper deck is used almost entirely by day-patients, who come at 9 in the morning and leave at 4 in the afternoon. Over 30 nurses and from 10 to 15 doctors and medical assistants take care of the patients. The medical staff consists of a visiting and a consulting staff, a resident physician, two assistant resident physicians and an externe. Six medical assistants are assigned—two to each of the medical services and two to the out-patient services. The nurses are all graduates and work for a merely nominal wage because of the experience they can get, and the course of lectures which is given each year by the staff. Satisfactory practical work and the passing a written examination based on these lectures entitles them to a diploma. Two hundred and ten patients were treated in 1903 in the permaanent wards, each one staying an average of 17 2/3 days. The death rate was about 23 per cent., while 46 per cent. were discharged well. Of the 50 patients who died 16 were moribund at entrance and survived less than 48 hours. Four hundred and ninety-eight patients remained for the day only, many of them making ten or twelve trips day after day. Of these 272 left well, while 110 others were greatly relieved. An abundance of pure fresh air is the essential element in the treatment of the cases, although this is supplemented by food, care and a little medicine. The milk used comes directly from the Walker-Gordon farm and is delivered within four hours after the time it is milked. A so-called "atmospheric plant" supplies fresh air on days when the humidity is very high. Air is taken from the upper deck, carried over coils of brine, kept at zero temperature, and the moisture contained in it is frozen out. This dried air is then warmed by a steam coil and blown into the wards. By this means an even temperature of about 68 F. and a humidity of about 50 per cent. is maintained. The vessel is towed out into the harbor at 9:30 a. m. and remains there until 4:30 p. m.

American Practitioner and News, Louisville, Ky.

August 15.

71 General Suppurative Peritonitis of Streptococcus Origin, with Recovery. E. S. Allen.
72 Mouth Breathing. M. F. Coomes.

Columbus Medical Journal.

August.

73 Placenta Previa, with Report of Some Cases. D. S. Hanson.
74 History of the Surgery of the Biliary Ducts. Byron Robinson.
75 Differential Diagnosis of the Chronic Specific Diseases of the Skin. Herbert O. Collins.
76 The Relation of the Medical Practitioner to Preventive Measures Against Tuberculosis. Arthur Newsholme.
77 Sanitary Organization. J. W. Clemmer.

Detroit Medical Journal.

August.

78 Diabetic Gangrene. Stuart E. Galbraith.
79 Diseases of the Rectum and Anus. Modern Methods of Treatment and Diagnosis. Louis J. Hirschman.
80 Therapeutics of the X-ray. Henry H. Cook.
81 Foreign Body in the Meatus Acusticus Externus, Aggravating an Acute Tympano-mastoiditis. Emil Amberg.

Northwestern Lancet, Minneapolis.

August 15.

82 Some of the Difficulties to be Overcome in the Radical Mastoid Operation for the Cure of Chronic Purulent Otorrhea. Frank Allport.
83 Etiologic Relationship Between Cancer and Ulcer of the Stomach. Geo. Douglas Head.
84 Degenerative Diseases of the Heart and Arteries. J. C. Adams.

Chicago Medical Recorder.

August 15.

85 Report of a Case of Leukemia Treated by X-rays and Symptomatically Cured. Paul Chester.
86 Clinical Aspects of Catharsis. Dr. Walsh.
87 Home Sanatoria. Ethan A. Gray.
88 Primary Perichondritic Abscess of the Thyroid Cartilage Due to Typhoid Fever (with Report of One Case). Henry Herbert.
89 Enuresis Nocturna. William F. Waugh.
90 The Nerve Hygiene of School Children. Walter M. Fitch.
91 Nervous Diseases and Eyestrain. Aria L. Derdiger.

Kentucky Medical Journal, Louisville.

August.

92 Prostatic Enlargement and Prostatectomy. August Schachner.
93 Diagnosis, Prognosis and Treatment of Chronic Non-suppurative Middle-ear Disease. J. Morrison Ray.
94 Self-dispensing by Physicians, from the Pharmacist's Standpoint. Addison Dimmitt.
95 Some Phases of Hysteria as We See It in the Study of Diseases of the Eye, Ear, Nose and Throat. Adolph O. Pfingst.
96 Relations of the Trained Nurse to the Physician. Arch Dixon.

Vermont Medical Monthly, Burlington.

June 25.

97 "Tubal" Gestation with Vaginal Enucleation. C. W. Strobell.
98 Old and New Treatment of Summer Complaint. Robert M. Sterrett.
99 Co-ordinate Functions of Funeral Directors and Health Officers. J. Warren Roberts.

Medical Examiner and Practitioner, New York.

August.

100 Gonorrhea: Its Influence on Life Expectancy. Ferd. C. Valentine and Terry Townsend.
101 In What Particular Can an Ophthalmic Examination Be of Any Aid to a Life Insurance Examiner? George F. Suker.
102 Abstract Diagnosis vs. Applied Diagnosis. Charles W. Eaton.
103 Significance of a Discharge from the Ear. Edward B. Dench.
104 Relation of Modern Medicine to Life Expectancy. Allison Maxwell.
105 The Significance of Indigestion. Fenton B. Turck.

Bulletin of the Johns Hopkins Hospital, Baltimore.

July-August.

106 Sensory Distribution of the Fifth Cranial Nerve. Harvey Cushing.
107 Stephen Hales, the Physiologist. Percy M. Dawson.
108 The Chemical Origin of Leucocytes. E. Schmoll.
109 Mental Phenomena and Visceral Disease. Carey B. Gamble, Jr.

Woman's Medical Journal, Toledo.

July.

110 Address, State Society, Iowa Medical Women. Jennie McCowen.
111 Status of Medical Women in Iowa. Anne Burnet.
112 Hepatoptosis or Displaced Liver. Kate A. Mason-Hogle.
113 Case of Puerperal Peritonitis Treated with Formalin Solution. Jennie G. Ghrist.
114 Ptomaine Poisoning—A Case. Martha Anderson.

Physician and Surgeon, Detroit and Ann Arbor.

July.

115 The Relation of the Catholic Church to Medicine. Frank A. O'Brien.
116 Prognosis; Its Theory and Practice. George Dock.

University of Pennsylvania Medical Bulletin, Philadelphia.

July-August.

117 Immunization Against Rattlesnake Venom. Hideyo Noguchi.
118 Tuberculous Pericarditis. Based on a Study of 7,219 Autopsies in Philadelphia Hospitals. George W. Norris.
119 Studies on Immunity Against Streptococci. D. H. Bergey.
120 Study of Formaldehyd in Milk: Its Germicidal Action and the Gradual Disappearance of It from Milk. D. Rivas.
121 Cellular and Bacterial Content of Cow's Milk at Different Periods of Lactation. D. H. Bergey.
22 Study of the Properties of the Serum of Rabbits Treated with the Adrenal Glands and Erythrocytes of Guinea-pigs. Nathaniel Gildersleeve.
123 Sanitary Supervision of the Collection and Marketing of Milk. D. H. Bergey.
124 Chronic Poisoning from Bisulphide of Carbon. Henry D. Jump and John M. Cruice.
125 A Student's Desk for the Physiologic Laboratory. Colin C. Stewart.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 20.

1 The Fallacy of Finalities. (President's Address.) Alexander Crombie.
2 *Trypanosomiasis. David Bruce.
3 Human Trypanosomiasis and Its Relation to Congo Sleeping Sickness. J. E. Dutton, John L. Todd and C. Christy.
4 *Cerebrospinal Fluid in Sleeping Sickness (Trypanosomiasis). C. Christy.
5 "First Aid" in Civil Life in the Tropics. T. H. Hendley.
6 Treatment of Dental Diseases in the Navy. N. G. Bennett.
7 Volunteer Brigade Medical Unit. P. B. Giles.

2. **Trypanosomiasis.** Bruce lays down certain propositions, the result of his observations. 1. That the trypanosoma found in the blood of natives on the west coast of Africa and in Uganda, and those found in cases of sleeping sickness, are identical. 2. That the so-called "trypanosoma fever" is nothing but the first stage of sleeping sickness. 3. That neither the native nor the European is immune to this disease. 4. That as regards prognosis, instead of being favorable, the mortality is 100 per cent. in both the colored and the uncolored races; at the same time a percentage of the natives who have trypanosomes in their blood may kill off these trypanosomes before the disease has given rise to the pathologic changes which constitute sleeping sickness. 5. That up to the present no evidence has been brought forward to show that any of the lower animals take any important part in the spread of human trypanosomiasis. 6. That human trypanosomiasis is conveyed from the sick to the well by means of a biting fly—the *Glossina palpalis*. 7. That several members of this genus are also able to convey the virus from the sick to the healthy. 8. That there is no proof that other genera of biting flies carry the infection under natural conditions. 9. That there is no proof that *Trypanosoma gambiense* passes through any metamorphosis in *Glossina palpalis*, but that the transference of the parasites by this fly from one animal to another is purely mechanical. 10. That all the stages of development of the *Trypanosoma gambiense*, so far as is known, take place in the human host. 11. That measures for the prevention of the spread of sleeping sickness should aim at preventing, as far as possible, the movement of natives from sleeping sickness areas into any part of the country where any species of tsetse fly is found; the evacuation, if possible, of those areas, the destruction of the breeding places of the tsetse fly and of the fly itself, whenever possible.

4. **Cerebrospinal Fluid in Trypanosomiasis.**—Christy studied the cerebrospinal fluid obtained by lumbar puncture in 104 cases of sleeping sickness, and presents the following provisional conclusions: 1. That in many cases the trypanosomes never find their way into the cerebrospinal fluid, and in those cases in which they do, they are more frequently to be found toward the end of the disease. 2. That the commencement of the fever or other symptoms is in no way correlated to the entrance of the parasites to the cerebrospinal fluid. 3. That a large number of trypanosomes in the cerebrospinal fluid is rare, that when it does occur there is usually an access of temperature. 4. That the parasites may come and go in the cerebrospinal fluid as in the blood. 5. That enormous numbers may appear in the blood without appearing in the cerebrospinal fluid, and to some extent, vice versa. 6. That when trypanosomes are present in the cerebrospinal fluid, its white cell elements are apt to be increased. 7. That in cases where the parasites gain access to the cerebrospinal fluid early in the disease, mania and other head symptoms are more likely to be prominent.

The Lancet, London.

August 20.

8 Reflections Suggested by the New Theory of Matter. A. J. Balfour.
9 *Pathology and Treatment of the Herniæ of Children and Their Relation to Conditions in the Adult. E. M. Corner.
10 Electrocution on the Railway. The Dangers of the Live Rail. Thomas Oliver.
11 On the Action of Venoms of Different Species of Poison Snakes on the Nervous System. George Lamb and Walter Hunter.
12 Respiratory and Cardiac Reflex Induced by Peripheral Impressions on the Pubic Nerve During Anesthesia. Alexander Wilson.
13 Case of Latent Portal Cirrhosis with Sudden Onset of Hematemesis and Rapidly Fatal Toxemia. Robert M. McQueen.
14 *Medical Treatment of Deep-seated Hemorrhages. Francis Hare.
15 Rideal-Walker Method of Testing Disinfectants, with Special Reference to the Action of Formalin and Cyllin on the Plague Bacillus. W. J. R. Simpson and R. T. Hewlett.
16 A Cause of Intestinal Obstruction After Gastroenterostomy. H. M. W. Gray.

9. **Hernias of Children.**—Corner discusses the pathology and treatment of the hernias of children and endeavors to throw light on the origination, the treatment, and the after-effects on adults. Childhood is the time when an operation has the best chance of curing a hernia, as then, and then only, is the

surgeon's skill aided by Nature in the subsequent growth of the subject. For the treatment of the hernias of infants or children, he suggests the following: Treat with dieting, rest in bed, if necessary, a light truss, and gray powder or the like, all hernias up to the age of four or five years. The selection of this time is quite arbitrary and the proper age limit must be selected for each individual subject. Female children can naturally be treated with more effective trusses than male. Exceptions must be made from the following: (a) large or uncontrollable hernias; (b) irreducible, perhaps difficult reducible or incarcerated, hernias; and (c) strangulated hernia. In these it is better not to delay operative procedures. Many of the difficult reducible hernias of children are caused by the cecum on the right side sliding into the hernia sac without a complete peritoneal investment. This condition is called hernia en glissade. At the age of four years, or thereabouts, all hernias of children should be submitted to operation unless there are special circumstances. Particular mention may be made of (a) those with a congenital sac (the operation is now performed at the age of election); (b) those with an imperfectly descended testis; and (c) those which have been and apparently will be persistent in character. If more attention is paid to the diet and the persistence of abdominal distention of children the advisability or not of operative interference for all hernias in children which are persistent or of which the subjects are above the age of 5, the diagnosis between the acquired and congenital hernia sac, and active treatment adopted during childhood, far fewer adults would be handicapped by hernia.

14. **Medical Treatment of Deep-Seated Hemorrhage.**—Hare reduces the blood pressure in the bleeding area by promoting the fall of the general blood pressure through widespread vasodilation, and the administration of amyl nitrite by inhalation. It is applicable not only to cases of hemorrhage from some part of the systemic circulation, but also to pulmonary hemorrhage. Five consecutive attacks of hemoptysis occurring in four patients were all stopped instantaneously by amyl nitrite inhalation.

The Practitioner, London.

August.

17 *A Note on the Treatment of Syphilis. Jonathan Hutchinson.
18 The Treatment of Some Forms of Anemia. Nestor Tirard.
19 A Case of Gastro-tetany. T. Gilman Moorhead.
20 Observations on the Treatment of Neurasthenia. Charles W. Buckley.
21 Progeria: a Form of Senilism. Hastings Gilford.
22 Review of Recent Work on Blood Pressure. John M. Cowan.
23 On the Present Status of Suprapubic Prostatectomy for Enlarged Prostate. J. W. Thomson Walker.

17. **Treatment of Syphilis.**—Hutchinson describes a plan of treatment invariably pursued by him as follows: A pill is prescribed containing 1 gr. of gray powder and one of Dover's powder, and this the patient is to take after meals, and only three times a day at first. If no diarrhea follows after a few days, the pill is to be given, four, five or six times a day. All soups, fruit, and green vegetables are forbidden, and the patient is told that the treatment and the precautions must be continued without any intermission whatever for one year at least. An alum mouth wash is ordered to prevent ptyalism. The patient is allowed to continue his ordinary avocations, but is advised to spend as much time in bed as possible. If there is debility, a grain of quinin is added to the pill. Under this plan it is very rare to see any symptoms either in the throat or on the skin. Hutchinson never begins the treatment until the character of the sore is definite. In some cases it is necessary to send the patient to the seaside, and sometimes, when extensive ulceration is present, iodid of potassium is given in a fluid dose to be taken together with the mercurial pill. He regards the iodids of mercury as much less manageable than are the two given separately. As a rule, the iodids are avoided in all early stages.

Journal of Laryngology, Rhinology and Otology, London.

August.

24 Some Points in the Development of the Tympanic Plate and the Mastoid. John Cleland.
25 *The Treatment of Dullness of Hearing and Subjective Noises in the Ears by High Frequency Currents. J. G. Connal.
26 Suppurative Disease of the Temporal Bone with the Principal Extension Into the Petrous Portion. Richard Lake.
27 A Case of Tinnitus and Vertigo Treated by Division of the Auditory Nerve. R. H. Parry.
28 Résumé of Practical Deductions from Our Recent Knowledge of Suppuration of the Labyrinth. Dundas Grant.

25. **High Frequency Currents in Deafness.**—Connal has studied the influence of high frequency currents in the treatment of dullness of hearing and subjective noises in the ear. In all the cases selected other methods of treatment were ineffectual. The cases were of a class not readily influenced by ordinary methods of treatment. The types selected were: (1) chronic dry catarrh of the middle ear with secondary labyrinthine involvement; (2) chronic dry catarrh of the middle ear without marked labyrinthine involvement; (3) sclerosis of the middle ear; (4) post-suppurative conditions of the middle ear (the purulent process having ceased) leaving a cicatrix or a dry perforation with or without calcarious deposit in the tympanic membrane; (5) primary labyrinthitis (traumatic); (6) tinnitus without dullness of hearing. In all the cases both ears were involved, one ear generally being worse than the other. Results: 1. Six cases. No improvement in the hearing in any of them. In four the tinnitus persisted, two thought the noises were slightly lessened, but were not sure about it. 2. Fourteen cases. In ten, no improvement in hearing; one was worse; two noted a slight improvement in the hearing. One patient said she heard much better, but the improvement was not appreciable by any tests applied. Of the ten patients who complained of tinnitus, eight reported an improvement; two of these said they were very much better. In one case the noise disappeared entirely in one ear for six weeks, when it recurred. 3. Five cases. One patient said she heard better, but did not respond to tests; four reported an improvement in the hearing confirmed with the watch, and an improvement in the tinnitus. 4. Seven cases. Four reported a slight improvement in hearing, and four of five who had tinnitus reported improvement. 5. One case. No benefit. 6. One case. No benefit. The author urges the importance of technic in the electrical treatment of these cases. The common method of applying the current is by means of the effleuve (or spray). This method was adopted in the earlier cases, but was found unsatisfactory. The method of using a condensor electrode in each ear was substituted and gave better results, probably because the current is more completely concentrated on the ears.

Bulletin de l'Académie de Médecine, Paris.

30 (LXVIII, No. 30.) *Le mouvement méthodique dans le traitement des phlébites et des varices. J. Lucas-Championnière
31 La stomatite ulcéro-membraneuse épidemique, envisagée au point de vue de la pathogénie et de la pathologie générale. Kelsch.
32 *Quelques faits rélatifs à l'action thérapeutique du radium. Raymond and Zimmern.

30. **Treatment of Varicose Veins by Walking.**—Marchais' views on this subject were mentioned in THE JOURNAL recently, page 287. He applies massage at first for two to four weeks. This tones up the muscles and vessels and causes the absorption of the edema. The varicose subject should not stand nor walk slowly. What Marchais advises is a rapid walk, 100 steps to the minute, stopping short at the first symptoms of fatigue, then continuing when well rested. In case of recurrence of pain or edema, massage should be resumed. Elastic stockings and hot baths should be prohibited, but cold tonic baths are useful. His results with 22 patients confirm the efficacy of this mode of treatment. Lucas-Championnière confirms it, and applies the same principle in the treatment of phlebitis after subsidence of fever. He is convinced that immobilization favors embolism and cites 4 cases in his experience in which fatal embolism occurred during immobilization of a fracture. He has his patients remain in bed after operations for varices, but leaves the legs free. None of his patients with phlegmasia alba dolens is immobilized and all recover with surprising promptness.

32. **Therapeutic Action of Radium.**—Raymond and Zimmern have found that radium has a remarkably soothing action on the element of pain in certain nervous affections. This effect

was particularly noticeable in tabes. The improvement and relief was marked after a few exposures. They found that the Roentgen rays also displayed great efficacy in this respect. They used a small quantity of pure radium bromid. No effect was perceptible in the merely functional neuroses. The results were also negative in a case of facial paralysis and one of facial neuralgia, but in tabes, the lightning and lancinating pains vanished as if by magic. In 4 tabetics thus treated the application of the radium tube for four minutes banished the local pains.

Presse Médicale, Paris.

33 (No. 56.) Slow Pulse and Hystero-Traumatism. Debove.—Pouls lent permanent et hystéro-traumatisme.
34 Anatomie pathologique chirurgicale et diagnostic de la gangrène pulmonaire. Auvray.
35 *Les analyses chimiques d'urine: Interprétation et valeur séméiologique. M. and H. Labbé.
36 (No. 57.) *Influence des poussées phlébitiques sur les veines variqueuses. E. Poulain.
37 Sur le diagnostic de l'hyperchlorhydrie par la recherche des matières amylacées solubles. H. Surmont.
38 *Prophylaxie du tétanos par l'emploi du serum antitétanique sec et pulvérisé. M. Letulle.
39 (No. 58.) *L'intervention chirurgicale dans la gangrène pulmonaire: technique opératoire, résultats, indications. Auvray.
40 Autopsie de la moelle épinière; instrumentation spéciale (dissection of spine). Chavigny.
41 (No. 60.) II Congrès de l'Association des médecins de langue française de l'Amérique du Nord (Montreal, 28-30, Juin, 1904). E. Saint-Jacques.
42 Discours du professeur Pozzi (address).
43 *Impressions d' Amérique. J. L. Faure.
44 (No. 61.) Abcès chauds du sein (mammary). Tillaux.
45 Prophylaxie du paludisme dans l'istbme de Suez. A. Pressat.
46 Quelques considérations sur la technique des lavages urétro-vésicaux. Meinn.
47 (No. 62.) Sur la pathogénie de l'hydronéphrose intermittente. P. Bazy.
48 *L'insuffisance langerhansienne. Thoinot and G. Delamare.

35. **Chemical Analysis of the Urine.**—Labbé states that a rational interpretation of the findings in the urine is possible only when the intake of salt, etc., is known. No arbitrary standard can be established. To say that the amount of salt normally eliminated is 10 to 12 gm. a day may happen to be true for a certain individual one day, but is liable to be erroneous the next day, when he takes more milk than usual or his cook has been too generous with her seasonings. The chemical findings are of import only when the ingesta and the excreta are compared. A healthy individual normally eliminates exactly as much material as he takes in. The human machine is only a transformer of energy. The salts and the nitrogen are found in the urine in approximately the same proportions in which they were ingested. Analysis of the urine imparts no information in regard to the carbohydrates and fats, the products of whose final transformation are eliminated by the lungs.

36. **Cure of Varicose Veins by Intercurrent Phlebitis.**—Poulain has observed a case in which the varicose saphena vanished as a result of a grippal phlebitis. The indurated vein was replaced by a groove perceptible to the eye. The leg presents occasionally slight edema near the ankle, it tires more readily during a long walk, and there is once in a while some formication. These are the only traces left of the extensive varicose enlargement and severe phlebitis. The complete obliteration of the superficial veins seemed to have a favorable influence in this case.

38. **Prophylaxis of Tetanus with Pulverized Serum.**—Letulle washes out the wound with boiled water for fifteen minutes and then dusts it thick with dried, pulverized antitetanus serum, and covers with gauze. This treatment is repeated every day until healing is complete. This mode of prophylaxis is called the "Calmette method," and Letulle urges its general adoption.

39. **Surgical Treatment of Gangrene of the Lungs.**—Auvray reviews the international literature on the subject and states that the post-operative mortality has been only 40 per cent. in the last series of 63 cases of gangrene of the lungs treated by surgical intervention. Tuffier's last 11 cases have had a mortality of only 36 per cent. The operative mortality is less in case of gangrene consecutive to pneumonia or bronchitis or their combination than when it is consecutive to bronchiectasia, foreign bodies, wounds, embolism or perforation of the esophagus. Patients seen again a few years afterward have been found normal or, in a few instances, the shape of the thorax was somewhat altered and respiration slightly affected. The remote results depend, of course, on the character of the causal affection, a chronic process seldom permitting complete restitution. With such a process both lungs are usually more or less degenerated. Treatment should be early and extensive pneumotomy.

43. **Impressions of America.**—In this interesting summary of his hurried trip through America, including Quebec and Mexico, Faure comments on the famous marble operating room at Mount Sinai Hospital, New York, as the handsomest he has ever seen, with its marble doors, but as a useless prodigality. He does not think the American operating tables compare favorably with the French, while the American instruments for general surgery and gynecology impressed him as heavy, primitive, and sometimes even coarse. He says that instruments of this kind, to be delicate, supple and strong, have to be made by artists, working with brain as well as hand, and can not be turned out by machinery. He makes the statement that in America "the free hospital—the hospital for the poor—does not exist, perhaps because there are not many poor people, or at least, everyone, from the richest to the poorest, considers it natural and legitimate to pay for the care he receives and the time devoted to him. Another reason may be that the towns are, many of them, too new for an official 'assistance publique' to have been organized." He comments with decided approval on the system of having rooms for rich paying patients under the same roof with free wards, a custom which he hopes will be introduced in France. The union of hospitals with politics here he qualifies as deplorable, much preferring the French system of competitive examinations with all its defects.

48. **Langerhans Insufficiency.**—Lesions in the islands of Langerhans have been found in 130 out of 167 diabetics examined from this point of view. Thoinot and Delamare found them in their cases of "lean" diabetes, not in the "fat" variety, nor in the pancreas of 10 control subjects with various affections. They are not found in nervous diabetes nor in toxic glycosuria. These lesions are frequently associated with lesions of the other parts of the gland, but are sometimes the only lesions to be detected. The explanations offered by various writers do not withstand scrutiny except the theory that certain cases of diabetes are the manifestation of insufficiency of these islands of Langerhans. This suggests the possibility of an effectual organ treatment of such cases, using an extract of the tail of the pancreas from young animals.

Berliner klinische Wochenschrift.

49 (XLI, No. 31.) *The New "Academy for Practical Medicine" at Cologne. O. Minkowski.—Zur Eröffnung der "Akademie für praktische Medicin" in Cöln.
51 *Freezing Point of the Blood in Cancer Subjects. K. Engel (Koranyi's clinic, Budapest).—Ueber die Gefrierpunktserniedrigung des Blutes bei Krebskranken.
52 Atheromatosis aortæ bei Kaninchen nach intravenösen Adrenalin-Injectionen (in rabbits). C. v. Rzentkowski.
53 Rare Family Nervous Affection. O. Maas.—Ueber ein selten beschriebenes familiäres Nervenleiden.
54 Elektromagnetische Therapie. C. Lilienfeld.

49. **The "Academy for Practical Medicine" at Cologne.**—An important innovation has been introduced into Germany in the inauguration of these new "academies." They are intended to serve as centers for postgraduate instruction. Cologne leads, but will soon be followed by Frankfort, Düsseldorf and other cities where there is no university. The innovation is regarded with some apprehension by the general practitioner, fearing that it may cut into his sphere of activity, but the city authorities affirm that they were impelled to this step by the interests of the medical profession and by the growing conviction of the importance of this profession for the general welfare. These convictions have impelled the city authorities to exact contributions from their fellow-citizens in order to promote the further professional perfecting of physicians, that they may better serve the general welfare. The aim of the new "academies" is to utilize for postgraduate instruction the vast material in the hospitals now going

to waste in many of the cities. They do not aim to train specialists, but they hope to render the general practitioner proficient in the specialties. The plan of organization tentatively adopted has four departments in view: the training of newly fledged M.D.'s during their compulsory year as "praktikants;" postgraduate training of established physicians; training in specialties, and promotion of scientific research.

51. **Freezing-Point of Blood in Cancer Subjects.**—Engel did not find the molecular concentration of the blood abnormal in any of the cancer subjects examined.

Centralblatt f. Chirurgie, Leipsic.

55 (XXXI, No. 31.) Zur Mitteilung "Ueber plastische Wanderlappen" (migrating flaps). von Hacker (Graz). Claim for priority.

Centralblatt f. Gynäkologie, Leipsic.

56 (XXVIII, No. 21.) *Prevention of Puerperal Fever. P. Zweifel.—Ueber die Verhütung der Fieberfälle im Wochenbett.
57 *Intraperitoneale Ligamentverkurzung mit ausschliesslicher Verwendung von Catgut als Fixations-Material. Menge.
58 *Physostigmin nach Laparotomien. K. Vogel (Bonn).
59 (No. 22.) Proportions between Sexes born. E. S. Schultze (Jena).—Zum Problem vom Geschlechtsverhaltnis der Geborenen.
60 *Vulvn-Edem und Dammriss (laceration of perineum). A. Sittner.
61 (No. 23.) Ueber die pathologische Histologie der Oophoritis chronica. C. Pinto.
62 *Gravidität-Psychose; Abortus provocatus; Genesung. H. Treub (Amsterdam).
63 (No. 24.) Studien zur Physiologie des Uterus. K. Franz.
64 *2 neue Fälle von Restintio vaginæ per transplantationem ani et recti. W. F. Sneguireff (Moscow).
65 (No. 25.) *Zur Lagerung der Arme in der Narkose. Torggler and R. Pnschnig.
66 *Weighted Compresses. Barcher and O. Rossel.—Plombierung um das Zurnckiassen von Tüchern in der Bauchhöhle bei Laparotomien zu vermeiden.
67 *Zur Laparotomie-Technik. S. Gottschalk.
68 Zur Publikation: "Eine modifizierte Kugelzange von O. Frankl." Peters.
69 (No. 26.) *Prevention of Fever in Parturients. A. Mueller. Ibid. W. Bokelmann.
70 Fall von abnorm langer Retention des am normalen Schwangerschaftsende abgestorbenen Foetus. J. Goldenstein (Jassy). Four months' retention. No disturbances.
71 (No. 27.) *Schonende oder forcierte Entbindung bei Eklampsie (expectant or forcible delivery). A. Sippel.
72 *Button Guide for Puncture Canula. S. Flatau (Nuremberg).—Zur Erleichterung der Punktion von der Vagina aus.
73 Vaginal Cesarean Section for Placenta Previa. S. Dührssen (Berlin). (Reply to articles in No. 20.)
74 (No. 28.) *Zur prophylaxe der postoperativen Cystitis bei Frauen. P. J. Israel and P. Rosenstein.
75 Doppelseitige Ovariotomie im Anfange der Gravidität. Ausgetragenes Kind. E. Essen-Möller (Lund).
76 * New Examining Sofa. de Seigneux (Geneva).—Ein neuer Untersuchungs-Divan.
77 (No. 29.) *Reply to Menge in No. 21. L. Kleinwächter.
78 *Zur Wahrung meiner Priorität. K. Beck (New York). See abstract 74, on page 686, vol. xlii.
79 Spontane Ventrofixation des Uterus als Ursache schwerer Nachgeburtsstörungen. O. Fuchs (Breslau).
80 *Ueber ein einfaches Verfahren zur sicheren Katheter-Sterilisierung. W. J. Gusseff (Moscow).
81 (No. 30.) *Zur Hebotomie. T. H. van de Velde (Harlem).
82 (No. 31.) Zur Behandlung der postoperativen Darm-Paralyse mit Physostigmin. Pankow (Jena). Negative results from preventive treatment of intestinal paralysis.

56. **Prevention of Fever in Parturients.**—Zweifel shows that all the modern efforts for asepsis in maternity cases have not resulted in any decrease in the number of febrile cases. The mortality has been wonderfully reduced, but the number of patients developing fever has not been materially diminished. He thinks that the principles of surgery should be applied more to obstetrics, especially the principle of wiping the parts dry of blood. He noticed that one or two small clots of blood usually lurk in the recesses of the vagina, and thinks that decomposition of these clots is sufficient to explain the febrile course. If a woman is examined half an hour to an hour after delivery of the after-birth, one or two clots, as large as a walnut, will almost invariably be discovered in the fornix vaginæ. He removes these clots with a dry sponge, as they are in any event entirely superfluous and may cause trouble as they decay. All his lying-in patients have been wiped dry in this way since last October, the operation done with rubber gloves. The percentage of febrile cases dropped at once after this innovation was introduced so that in 94.3 per cent. of all the normal maternity cases the temperature was normal throughout, a result never before attained. There were only 14 febrile cases in 243 births, and, in fact, only 3,3 per cent. developed fever which could be attributed to the genital tract, out of the total 5.7 per cent. febrile cases. During the few weeks in which the vagina was wiped dry without gloves the proportion of febrile cases increased. During previous years the proportion of febrile cases has ranged from 32 per cent. in 1890 to 21.4 per cent. in 1901, and 16.2 per cent. in 1903, the average for the nineties being 28.34 per cent. and from 1899 to 1903, 19 per cent. The reduction since 1899 followed the introduction of gloves. The pathogenic germs can readily find their way from without to these clots lurking in the vagina, and might easily originate fatal infection in them. Hence it follows that the wiping away of all clots of blood should be regarded as one of the routine prophylactic measures in maternity cases. It should always be done under dry asepsis, and by the physician. Zweifel adds that irrigation of the vagina before or during delivery is always superfluous and liable to be dangerous, but this dry wiping away of the blood is an important, decided forward stride in the prevention of puerperal fever.

57. **Intraperitoneal Shortening of the Ligaments with Catgut.**—Menge considers every backward displacement of the uterus as necessarily pathologic. He fastens the uterus in an approximately normal position by taking up a loop in each round ligament and suturing this loop with a row of stitches down the middle to make it solid. He then brings the ends of the loops together and sutures them firmly to the uterus underneath. The loop is taken in the part of the ligament close to the uterus, and a single fine catgut thread is sufficient to insure solid fixation. The operation is particularly useful after wedge-shaped excision of the tubes, the loops of the ligaments being folded over the turned-in raw surfaces. The technic is fully illustrated.

58. **Physostigmin After Laparotomies.** Vogel's experience with physostigmin as a preventive of post-operative ileus has been very favorable. He has been using it for three years, injecting .0004 gm. physostigmin three or four times during the day, giving the first injection before the patient leaves the table, and supplementing it later with a glycerin enema if necessary. When ileus has developed the physostigmin may be tried, but should not be forced.

60. **Vulvar Edema and Laceration of Perineum.**—Sittner explains edema of the vulva as a natural process to protect the perineum against laceration. The vulvar ring is enlarged and the tissues become more elastic.

62. **Gravidal Psychosis Cured by Induced Abortion.**—Treub's patient was a ii-para in the fourth month. She had been reading Victor Hugo's "Notre Dame de Paris," and had become convinced that the child she was bearing would prove to be a monster. Her psychosis was so pronounced that she tried to commit suicide to destroy the monster, and Treub finally induced abortion, which was followed by complete recovery.

64. **Restitution of Vagina by Transplantation of Anus and Rectum.**—Twelve years ago Sneguireff reported a case of this kind. The result of the operation was complete and permanent. Coitus has been rendered apparently normal and the artificial anus made in the place of the excised coccyx functionates normally. He does not know of anyone's having repeated the operation, but its perfect success encouraged him to try it again in 2 cases during the last year or so in which it was indicated. The patients were young married women who had never menstruated although the molimen recurred regularly, and one had vicarious epistaxis. This one applied immediately after her marriage to know why coitus was not possible. In the other patient the urethra had been used unwittingly in place of the vagina, and she applied only for relief from a laceration of the urethra. The vagina in each case was merely an inch-deep recess. The operation was done under ether; the coccyx was removed; the rectum was mobilized, brought out through the incision and cut across. The edges of the lower stump were turned in and sutured together to make the top of the new vagina. The proximal stump was sutured to the skin, embedded in the muscles in such a way that the fibers of the levator ani co-operated in the functioning of the new anus, which was in fact the sphincter ani tertius.

The pelvis was then raised, and through the natural anus the wall dividing the rectum and anus from the vagina was incised; the mucosa lining of the vagina was sutured to the mucosa lining of the rectum and anus. The incised anus thus sutured to the small orifice of the vagina presented a striking resemblance to normal aspect and conditions. Defecation was suppressed for six days, then castor oil was given, and the sutures removed. The new anus was incontinent at first, but after a month, formed feces could be retained and evacuated at will in the first case, and in less than three weeks in the other. The results of the operation have realized all that was anticipated. The three steps of the operation are shown in diagrams.

65. **Management of the Arms During Narcosis.**—In all vaginal operations Torggler crosses the arms of the patient on her breast, the hands touching the elbows, and draws up the front of the chemise over them, tucking it in above the arms. This holds them and prevents nerve paralysis from compression at any point. During ten years of experience he has had but a single chloroform death in 866 narcoses, and this was a purely heart accident, occurring before the narcosis had really commenced.

66. **Weighting the Compresses for Laparotomies.**—Bircher fastens a small weight—2.5 to 3 gm.—to one corner of each compress, using a stout linen thread for the purpose, about a foot long. As the compress is used in the abdominal cavity, the weight is tossed to the length of the string and lies on the operating sheet. He has been using this device for ten years, and has never failed to recognize and remove every compress without dread of any having been left inside. He criticises Kreutzmann's method as too laborious and time-wasting.

67. **Laparotomy Technic.**—Gottschalk advocates in operating to draw the tumor or organ being operated on out of the abdominal wound and close the incision behind it as far as possible. The weight of the tumor will aid in detaching it. He insists that the surgeon should ask himself in every case whether it is not possible to close the abdominal cavity as soon as the tumor is drawn out instead of waiting until later. Also that the operation should be done outside of the abdominal cavity as far as possible. He describes in detail a case of myomotomy, with amputation in the collum, performed under these principles. They obviate the necessity for raising the pelvis.

69. **Prevention of Puerperal Fever.**—Mueller endorses Zweifel's remarks, cited above. He goes still further and advocates removal of all clots of blood from the uterus itself, as well as from the vagina. He accomplishes this with what he calls a "scraping-rinsing-catheter." It consists of a stout metal tube, the tip surrounded by a comb with wedge-shaped incisions, the outer edges slightly rough like a file. By twisting this tube, in contact with the walls of the uterus, all the clots of blood and scraps of membranes are detached from the walls of the uterus and swept out by a stream of hot water turned on through the tube. The instrument thus combines the removal of all scraps and clots liable to decay, with mechanical stimulation, and the action of heat in the hot rinsing. He has been using it for three years and has been delighted with it. He has not had occasion to tampon the uterus on account of hemorrhage or apply compression, except in a few rare instances, since he has been using this scraper. He adds that puerperal fever is sometimes due to decay of fecal masses, and advises energetic castor oil purges and repeated high enemata as a means of preventing infection from this source. He classifies his febrile cases as those which can be cured by energetic purgation and those with fetid lochia which can be cured by energetic rinsing of the uterus. The class of cases which do not respond to these measures are the true septic puerperal fevers, due to some primary, previously existing pus focus in the appendix, annexes or elsewhere, which has been encapsulated and caused no trouble until disturbed and the walls broken down by the trauma of the birth act, or else to infection from without, due to the attendants or the patient herself. This latter cause is becoming rarer and rarer under modern methods. The physician should seek to discover and render harmless the primary focus, possibly resorting to intravenous silver injections according to Credé.

Bokelmann discusses the same subject but denounces Zweifel's views. He proclaims that the parturient woman should be regarded as a *noli me tangere*, and that the application of the principles of modern surgery to the physiologic process of childbirth is liable to be attended by the most serious consequences. He thinks that dry asepsis is unattainable in the normal vagina after delivery, while attempts to realize it throw wide the portals for infection. His motto is: "The strictest asepsis for everything that comes in contact with the birth passages, and strictest avoidance of every contact with the birth canal not absolutely required."

71. **Delivery in Eclampsia.**—Sippel has always been an advocate of expectant treatment of eclampsia, but his recent experience has converted him to the opposite view. He now proclaims that there is only one thing yet known positively in regard to eclampsia, and that is, that it is a consequence, a product of pregnancy. This being the case, the logical treatment is to remove the cause, that is, to put an end to the pregnancy.

72. **To Facilitate Puncture Through the Vagina.**—Flatau uses what he calls a "guide button" on the canula to protect the parts from injury. It is an elliptical, elastic ball which is placed over the tip of the canula. When the latter is forced into the tissues the ball slips back on the canula.

74. **Prevention of Postoperative Cystitis.**—The double catheter used in Israel's clinic is made in such a way that the inner tube does not come in contact with the walls of the urethra at any point, as it is not pushed out of the outer tube until the latter reaches the entrance into the bladder. It is thus possible to rinse out the bladder as frequently as deemed necessary, without fear of infection. In 34 cases of serious operations the bladder was thus rinsed from 6 to 21 times without a single mishap with the exception of one case, in which the vitality of the bladder had already been seriously compromised. He does not attempt to enumerate the cases in which the double catheter was used less than 5 times. He thinks that this principle of absolute asepsis and frequent irrigation is the right one for the prevention of post-operative cystitis.

77 and 78. **Intraperitoneal Shortening of the Ligaments.** Kleinwächter criticises Menge very sharply for announcing as new the method of surgical treatment of retrodisplacement of the uterus briefly outlined in abstract 57 above. Kleinwächter reproduces the cut from Palmer Dudley's article, published fourteen years ago, in which the latter describes what is essentially the same operation. The only difference seems to be in favor of Dudley's technic, namely, that a larger surface is freshened. Kleinwächter sarcastically comments that it is usually expected that a specialist and especially a professor, should be thoroughly posted in the history and literature of his specialty. Professor Menge, he adds, is proof of the fact that there are exceptions to this rule. In the following article Beck of New York claims priority for the operation recently promulgated by Bardeleu, mentioned on page 686 of the last volume.

80. **Sterilization of Catheters.** Gussell uses an ordinary nickel tube to hold the catheter. One end has four holes bored through it, through which 2 wires are passed at right angles, forming a support for a wad of cotton which keeps the catheter from dropping out. The other end of the tube is stoppered with cotton. These tubes are inexpensive, never break or wear out, and there has not been a single case of infection in more than 4,000 catheterizations in which the catheters were sterilized in these tubes. A dozen or so of the tubes at a time are placed in the autoclave together. After the catheter is used, it is boiled in soda solution with the tube; fresh cotton is put in, then the catheter and the stoppered tube is placed in the autoclave.

81. **Hebotomy or Extramedian Symphyseotomy.**—The particulars of the 4 cases in which van de Velde has performed this new kind of symphyseotomy are related in detail. He

styles the operation "extremely simple, typical, rational, convenient, with little trouble for the patient, a really ideal operation, and the only one able to save the child alive in many cases." One of his first patients has passed since through a normal pregnancy and delivery, the pelvis having been so enlarged by the hebotomy that delivery proceeded normally. The operation has not affected the gait in any instance. He coins the word hebotomy from the Greek term for pubis. The previous notices of the operation will be found on page 133 of vol. xl. and 231 of vol. xxxix.

Therapie der Gegenwart, Berlin.

Last indexed page 436.

83 (XLV, No. 8.) *Treatment of Tendency to Kidney Stone Formation. G. Klemperer.—Die Behandlung der Nierenstein-Krankheit.

84 *Local Hot Air in Treatment. M. Jerusalem.—Einiges über lokale Wärmebehandlung.

85 Die mechanische Behandlung des Emphysems. H. Wolf.

86 Critical Review of Recent Publications on Infant Feeding. H. Finkelstein.—Sammelreferat.

83. Treatment of Tendency to Kidney Stone Formation.—Klemperer believes that it is possible to prevent stone formation in the kidneys by appropriate dieting. When dieting is inconvenient the same results can be attained with alkaline mineral waters used copiously, or even with artificial substitutes for the mineral waters. He tabulates the results of a number of clinical and experimental researches which sustain these assertions in regard to urate concrements. The oxalates are dissolved when 2 gm. magnesium sulphate are given once or twice a day with a mixed diet. He advises giving .5 magnesium sulphate four times a day when vegetables or milk or eggs are being copiously eaten. This serves to prevent oxalate crystallization. Mineral waters are also useful, but by no means to the same extent as with the urates. Phosphate concretions are generally due to overexcitability of the nervous system, entailing gastric hyperacidity. His researches have also shown that already formed concrements can be dissolved by the copious use of mineral waters. A course at a watering place is not at all necessary if the required hygiene is followed at home. In any event, the hygienic and other measures must be kept up for years or one's entire life, to ward off threatening trouble from this source. Cystin stones are the expression of a constitutional anomaly in the metabolism, like diabetes, and the tendency to their formation should be combated by the usual measures and restricting the albuminoids in the diet to such as contain little, if any, preformed cystin. Egg and plant albumin contains much less cystin than serum albumin and fibrin.

84. Local Application of Heat.—Jerusalem relates his favorable experiences with dry hot air applied to the treatment of erysipelas and streptococcic phlegmons. He thinks cold applications are contraindicated in case of inflammation, citing Bier, who proclaims that cold applications are liable to transform an acute and curable process into a chronic, incurable one. Warmth is always agreeable in case of inflammation, and is actually the best analgetic at our command. It has also displayed remarkable power as an analeptic and absorbent. Thermophore compresses are the most convenient, but heated, dry cloths or bags of sand are equally efficient. Phlegmons on the limbs have been effectually treated with prolonged local baths as hot as the patient can bear.

Wiener klinische Rundschau.

Last indexed page 577.

87 (XVIII, No. 26.) *Die röntgenologische Untersuchung der Schädel-Basis (of skull). A. Schüller and I. Robinsohn.

88 (No. 29.) *Ueber den Einfluss der Credé'schen Silber Therapie auf die den Tuberkel-Bazillus begleitenden Bakterien. M. Behr.

89 *Surgery and Alcoholism. O. Polak.—Ueber die Beziehungen des Alkoholismus zur Chirurgie. (Commenced in No. 26.)

90 (No. 30.) Die Prokto-Sigmoideskopie. F. Schilling.

91 (No. 31.) *Comparative Value of Natural and Artificial Infant Feeding for Animals. H. Brüning (Leipsic).—Vergleichende Studien über den Wert der natürlichen und künstlichen Säuglingsernährung bei Tieren.

87. Roentgen Views of the Base of the Skull.—All the parts of the base can be skiagraphed, but they require frontal, sagittal, axial or oblique exposures for varying conditions. Most of the anomalies in this region show up well, and Roentgen examination is a valuable aid in diagnosis. Two fine, nearly life-size skiagraphs are given, one of a normal and the other of a cretin man. The differences are striking and characteristic.

88. Influence of Collargol on Bacteria Accompanying Tubercle Bacilli.—Behr writes from a tuberculosis sanatorium to describe his experiences with 14 cases of tuberculosis treated with collargol to control the mixed infection. He was impressed with the way in which the pyogenic germs accompanying the tubercle bacilli were influenced by the collargol, which displayed marked therapeutic action in this respect. The tuberculous process was also favorably influenced, but as this result is always obtained in the sanatorium, he does not venture to ascribe the benefit in this respect to the collargol. Further tests in this direction should be instituted in dispensary treatment of tuberculosis where the patients remain in their usual environment. In 7 out of 10 patients the number of cocci in the sputa was found very much reduced, the sputa also diminished. He administered the collargol by the mouth and rectum, buying 100 gm. in substance and dissolving it in distilled water to make a 1 per cent. solution. He gave one tablespoonful of this twice a day, supplemented by 30 c.c. given per rectum. Each patient thus received .5 gm. silver per diem. This was kept up for one to eight weeks in 14 cases, with an average of seven weeks, or 110 days.

89. Relations of Alcoholism to Surgery.—Polak remarks that the number of drunkards is comparatively limited in Bohemia, the official records showing only 4 to each thousand inhabitants. Nelson's figures report 1 to each 145 inhabitants in England. Polak argues that the surgeon must be versed in the detection of acute and chronic alcoholism, as it has such a marked influence on the outcome of his work, and he should know how to combat it. If a very tipsy subject requires surgical intervention at once, he should be prepared by copious lavage of the stomach, caffein in case of weak heart action, and, in case of insufficient respiration, it should be promoted artificially and .002 gm. atropin be injected several times. Tepid baths with cold water poured on the head and back of the neck are also useful. In chronic alcoholism the surgeon has to distinguish between the three stages. In the first he has to anticipate only a somewhat severer and stormier narcosis, and the tendency to fat in the subcutaneous tissue sometimes interferes with primary healing. The last stage, the "premature senile" stage, is a contraindication to any major operation, as body and mind are too much countermined. In the middle stage the resisting powers are weakened. Narcosis of such a subject is likely to be a difficult affair, but it sometimes happens that after such a subject is once fully narcotized the operation can be continued without further use of the narcotic, as he lies tranquil without experiencing any special pain. Polak reviews the experiences with alcoholics at Maydl's clinic at Prague. He found that the wound suppurated in 7 per cent. more of the alcoholic subjects than in the others, and the mortality among them was greater, gangrene claiming 31.8 per cent.: abscesses and phlegmons, 35.7, and erysipelas, 14 per cent., while the corresponding mortality among the non-drinkers was from gangrene, 17 per cent.: abscesses, 7.9, and erysipelas, 9 per cent. These infectious, febrile suppurative processes are especially hard on drinkers. A trophoneurotic hemorrhagic bladder affection was noted in one, and the bones were found more fragile in them. Fat embolism occurred in 2. He regards large doses of strychnin as the most approved means of curing the psychosis underlying dipsomania, citing Portugalow's experience of 455 drunkards cured with strychnin. Delirium tremens is frequently brought on by traumatism, and is always a very serious complication even with slight surgical injuries and operations.

91. Artificial Feeding of the Young of Animals.—An interesting series of researches are here described showing the growth of young goats fed with sterilized milk according to the rules of infant feeding. The various particulars are tabulated and compared with the growth of normal suckling kids. The results confirm the theoretical views in regard to the incomparable superiority of the mother's milk for the growth of the young.

Brazil Medico, Rio de Janeiro.

Last indexed page 232.

92 (XVIII, No. 21.) *Treatment of Yellow Fever by Anti-Ophidic Serum. Bettencourt Rodrigues.
93 (No. 22.) Hematologia da febre amarella (yellow fever). A. A. de Azevedo Sodré.
94 (No. 23.) *Frequencia do cancer no Brazil. Ibid.
95 (No. 24.) A paranoia e os syndromas paranoides. J. Moreira and A. Peixoto. (First part in No. 21.)
96 Congestoes e apoplexias. A. de Mello.
97 Contribuicao ao estudo da ataxia locomotora progressiva. Papadopoulos.
98 (No. 25.) Conferencia sanitaria internacional. See notice, page 412.
99 (No. 26.) Theoria da immunidade. J. Mendez.
100 Contribuicao ao estudo da "bouba brazileira" (endemic ulcer). J. Moreira and A. Anstregesilo. (Commenced in No. 25.)
101 (No. 27.) Prophylaxia publica da syphilis e enfermidades venereas. A. Peixoto.
102 *Um novo antidiabetico. O. de Freitas (Pernambuco).
103 Festival Meeting of Academia Nacional de Medicina, 75th Anniversary. See notice page 617.

92. **Treatment of Yellow Fever with Anti-ophidic Serum.**—Rodrigues' statements in regard to the efficacy of treatment of yellow fever with a serum made to combat the bites of poisonous snakes of Brazil, have not been confirmed by the experiences of others. Carlos Seidl and Marchoux and Simond gave the method a trial, but met with negative results. The first to suggest serum treatment of yellow fever was Professor Miguel Couto, of Rio, who treated several yellow fever patients with serum from convalescents. His communication on the subject was published in the *Brazil Medico* of April 22, 1892. Rodrigues reports rapid recovery of 24 yellow fever patients, with but one exception, under treatment with anticrotalic and antibothropic serum.

94. **Cancer in Brazil.**—This article by Professor Sodré, editor of the *Brazil Medico*, was presented at the recent Latin-American Congress. His figures show that cancer is comparatively rare in Brazil, although at certain points the number of cases has increased during the last few years. There is an unmistakable connection between the frequency of cancer in Brazil and the climate, the number of cases varying with the latitude. In the extreme north, the equatorial portion of the country, cancer is exceptional. The number of cases increases toward the tropic of Capricorn, and reaches its maximum in the extreme south, where the climate approximates that of the European Mediterranean countries. In Brazil cancer locates with marked predilection in the uterus. Stomach and liver cancers are very much less frequent. He gives a comparative table of the mortality from malignant disease in various cities of the world per 10,000 inhabitants. In Paris this proportion was 11.8; in London, 6.8; in Boston, 7.9; in New York, 6.2, while in Bahia it was only 1.9, and in the most affected center, Rio de Janeiro, only 2.8. In other tables he gives the same figures for the countries, France heading the list with 9.8 per 10,000 inhabitants; England with 7.6; United States, 3.4; Tasmania, 5; New Zealand, 4.4, and Brazil, 0.41.

102. **New Remedy for Diabetes.**—De Freitas announces that an indigenous tree, the ironwood, has remarkable anti-diabetic properties. He uses an alcoholic tincture of the inner bark, and reports its success in 8 cases of diabetes with sugar in amounts of 15, 26 and 30 gm. or thereabouts, in the urine. Examination a few days after taking the "pao ferro" showed entire absence of sugar in every instance. The scientific name of the tree is the *Dialium ferrum*. The uniformity of action observed in the 8 cases, the complete cure and its permanence to date, compel him to publish his results without waiting for further confirmation.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A HANDBOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY, with an Introductory Section on Postmortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M.D., LL.D., Emeritus Professor of the Practice of Medicine, College of P. and S., Columbia University, New York, and T. Mitchell Prudden, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of P. and S., Columbia University, New York. Seventh Edition. With 13 Full-page Plates and 545 Illustrations in the Text in Black and Colors. Cloth. Pp. 885. Price, $5.00 net. New York: Wm. Wood & Co. 1904.

THE PRACTICE OF OBSTETRICS. Designed for the Use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. Second Edition, Revised. With 1,264 Illustrations, Including 5 Colored Plates and 38 Figures Printed in Colors. Cloth. Pp. 1,152. Price, $6.00. Philadelphia: P. Blakiston's Son & Co. 1904.

A TEXT-BOOK OF ALKALOIDAL THERAPEUTICS, Being a Condensed Résumé of All Available Literature on the Subject of the Active Principles Added to the Personal Experience of the Authors. By W. F. Waugh, M.D., and W. C. Abbott, M.D., with the Collaboration of E. M. Enstein, M.D. Cloth. Pp. 405. Price, $2.50 postpaid. Chicago: The Clinic Publishing Co. 1904.

A MANUAL AND ATLAS OF MEDICAL OPHTHALMOSCOPY. By Sir William R. Gowers, M.D., F.R.C.P., F.R.S. Fourth Edition. Edited by the Author and Marcus Gunn, M.B., F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital. Cloth. Pp. 318. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1904.

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. Clouston, M.D., Edin. F.R.C.P.E., President of the Royal College of Physicians of Edinburgh. Sixth Edition. Cloth. Pp. 738. Price, $4.25. Philadelphia and New York: Lea Brothers & Co. 1904.

CLINICAL UROLOGY. By Alfred C. Croftan, Professor of Medicine, Chicago Post-Graduate Medical College and Hospital. Illustrated. Cloth. Pp. 298. Price, $2.50 net. New York: Wm. Wood & Co. 1904.

TRANSACTIONS OF THE SEVENTY-FIRST ANNUAL SESSION OF THE TENNESSEE STATE MEDICAL ASSOCIATION, Chattanooga, 1904. Cloth. Pp. 422. Press of Southern Publishing Association, Nashville, Tenn.

TRANSACTIONS OF THE ARKANSAS MEDICAL SOCIETY. Twenty-ninth Annual Session Held at Texarkana, Ark., May 3, 4 and 5, 1904. Cloth. Pp. 378. Press of Arkansas Democrat Co., Little Rock.

NEW PATENTS.

Patents recently granted that are of interest to physicians:

765538. Pocket pill safe. John W. Acker, St. Louis.
765469. Shade for x-ray tubes. Robert Friedlander, Chicago.
765470. Electric therapeutic apparatus. Robert Friedlander, Chicago.
765472. Hygienic medicated belt. Thomas O. Gasaway and J. S Aydelotte, Ind.
765361. Device for eradicating facial wrinkles. Wm. B. Hargrave, Colfax, Wash.
765389. Operating table. Florus F. Lawrence, Columbus, Ohio.
765293. Truss. Henry B. Morris, Midvale, N. J.
765369. Stretcher. Elphinstone M. Smith and J. Ferrin, Oakland, Cal.
765530. Medical battery. George F. Webb, Geneva, Ohio.
765261. Suspensory. Wm. S. Wise, St. Louis.
766135. Microtome. Edward Bausch and G. Hommel, Rochester, N. Y.
765879. Dilator. Wilber A. K. Campbell, Chicago.
766106. Vaginal syringe. Hubert T. Foote, New Rochelle, N. Y.
765887. Otoscope. Peter T. Geyerman, Brewster, Minn.
765733. Bandage rest. Wm. S. Hobbard, New York.
765898. Extracting soluble albumen from milk. Charles Lewis, Toronto, Canada.
765746. Massage apparatus. Walter Miner, Creston, Iowa.
765984. Foot for crutches or canes. John W. Morris and G. J. Luck, Milwaukee, Wis.
766057. Spring forceps. John Muller, Brooklyn.
765793. Surgical bridge. John F. Ruckel, Chicago.
766069. Means for facilitating internal flushing or syringing. John D. Sourwine, Brazil, Ind.
766121. Holder for serums. Frederick K. Stearns, Detroit.
765943. Making a substitute for cod-liver oil. Karl F. Tollner, Bremen, Germany.
765690. Apparatus for producing gyratory magnetic lines of force for therapeutic purposes. Rheinhold Trub, Hombrechtikon, near Zurich, Switzerland.
766336. Vaginal irrigator. Charles O. Farrington, Palestine, Tex.
766686. Artificial limb. Alexander Gault, Medford, Minn.
766688. Bottle stopper and dropper. Wm. T. Goldsmith, Washington, D. C.
766344. Packaging of medicines for hypodermic purposes. Herman H. Hager, Detroit.
766367. Cheek plumper. Olive L. Mayes. Evanston, Wyo.
766720. Clinical thermometer. Christian W. Melnecke, Jersey City, N. J.
766523. Pasteurizing apparatus. Alban H. Reid, Philadelphia.
766743. Physical exerciser and developer. Alfred E. Terry, Redditch, England.
766203. Hypodermic syringe. Ralph Walsh, Washington, D. C.
766204. Hypodermic syringe. Ralph Walsh, Washington, D. C.
766863. Body brace. Joel U. Adams, Cincinnati.
766867. Inhaler for anesthetics. George L. Bennett, Chicago.
767201. Artificial arm. Joseph V. Bennett, Huntsville, Mo.
767334. Optical testing instrument. Ernest Elmer, Muskegon, Mich.
767233. Druggists' label holder. Newton W. McCourt and G. W. McAllister, Bradford, Pa.
766969. Optometer. Harry C. Paul, Chicago.
766897. Massage machine. Charles Pfanschmidt, Chicago.
766970. Massage machine. Charles Pfanschmidt, Chicago.
766842. Antiseptic wall paper. Edward E. Pray, Plainfield, N. J.
767124. Hygienic amusement bath and swimming school. Claiborn P. Randolph, Los Angeles, Cal.
767015. Electric therapeutic machine. Harry A. Slaughter, Los Angeles, Cal.

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Address.

REMARKS ON ADVANCES IN GYNECOLOGY DURING THE LAST YEAR; SENILE ENDOMETRITIS.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN, AT THE FIFTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT ATLANTIC CITY, N. J., JUNE 7-10, 1904.

L. H. DUNNING, M.D.

INDIANAPOLIS.

Before beginning my address, I desire to thank the members of the Section and to express to them my high appreciation of the honor they have conferred on me in electing me chairman of the Section for the year. Mindful of the obligations resting on the chairman of this Section, I have used my best endeavor to advance the interest of the Section, and to assist in the preparation for this session of a program worthy of the occasion.

If we have succeeded in this endeavor, a large share of the credit must be accorded to our secretary, Dr. C. L. Bonifield. His labors have been faithfully and efficiently performed,, with perseverance and cheerfulness. I commend his example to all future secretaries. It will be observed on perusal of our printed program that we have been able to obtain twelve papers on obstetric subjects, besides several others which have an indirect bearing on the same subject. For valuable suggestions relating to the arrangement of the program and assistance in obtaining obstetric papers, I wish to thank our esteemed member, Dr. C. S. Bacon.

THE PROGRESS OF GYNECOLOGY.

It is not my purpose to indulge in extended remarks on the progress of gynecology during the last year, as master minds have already successfully undertaken the task of writing its history. One seeming fact has impressed itself on me as I have studied this history. It is that there has been less published than usual, during the year, relating to new operative procedures. The year seems to me to have been one in which a large amount of successful surgery has been done, but one in which the struggle has been to seek out and find the best indications and methods. There has been also much earnest effort to solve some of the difficult questions of etiology and pathology as they relate to diseases of women.

These are right tendencies, and will assuredly appeal to right-minded persons everywhere. There are still many difficult and important questions demanding solution at our hands, and it seems to the writer not inappropriate to indicate a few of them at this time. Those mentioned may not be the most important, but are such as have forced themselves on me during the progress of many years of active work as a general practitioner and as a gynecologist.

Our method of treatment must be based on our ideas of etiology and pathology, so that the first effort of the gynecologist should be to discover, so far as possible, every cause of disease of women, and to endeavor to obtain a correct understanding of the morbid processes existing in any given case, and in all cases. Fortunately for the present age, the activities of physicians in the past have resulted in the establishment of a well-nigh perfect classification of diseases, with a good nomenclature and a very clear understanding of the symptoms and course of the various diseases. Our debt of gratitude to our predecessors is immeasurable. As observers and classifiers of facts, the physicians of the past were fully equal to those of the present day. They have, however, left for us to solve many a knotty question, especially those relating to the causation of disease and the morbid processes induced by the same. I do not need to cite instances. You are familiar with them. We have all witnessed the struggles to discover the cause of cancer, of epilepsy, of the development of neoplasms, of eclampsia, of the growing sterility in the class of educated women. And so, too, have we witnessed the efforts to find not only the cause but the pathology of painful menstruation, of the perplexing pain in the ovarian region usually denominated ovarian neuralgia, of the blighting of organs, and the lack of co-ordination of the nervous system. In each one of these morbid conditions, or distressing signs of disease, there is a fruitful field for investigation.

Many of the sources of infection have been found, their disastrous results ascertained, and the methods of prevention and cure are becoming known. In the labors of Jenner, Pasteur, Koch, Lister, Tate and others, humanity has been greatly blessed. They have not only been benefactors of the world, but have given our profession immortal fame. McDowell's and Sim's names should be added to the list of benefactors. The achievements of all these great men came not by chance but by deliberate effort. In like manner shall appear the findings of the present and future physicians, for we discover that which we seek to find, more perhaps than we at first thought, for our vision enlarges and our understanding quickens as we advance.

I have been incited to give utterance to these thoughts because of one or two pessimistic papers and a few remarks I have listened to during previous meetings of this section. So long as the world stands there will be unsolved problems, and a suffering people waiting for their solution. The moral is, let each man find an unsolved problem within the scope of his attainments, and then set himself deliberately and persistently to the task of its solution.

SENILE ENDOMETRITIS.

The scientific subject I have chosen to discuss at this time is "Senile Endometritis," and it is selected because I believe it has not received the attention at the hands of practitioners and authors its importance demands. There seems to prevail a mistaken idea that endometritis affecting women before the menopause disappears after that period, and that should there be by chance a case prolonged beyond the climacteric, it is of little importance and easily cured. Such is not the invariable rule. It is true endometritis after the menopause is not of so frequent occurrence as it is during the childbearing period, yet is not uncommon, as evidenced by the fact that out of 464 consecutive private cases of disease of the reproductive organs recorded in my case-book, there are histories of 15 cases of senile endometritis of sufficient severity to bring the patients to a specialist for relief. The complications of the disease are in the main different from those in the ordinary cases of endometritis. Its course is more protracted, and the sufferings of the patients marked and characteristic, so that the writer believes senile endometritis should be treated as standing in a separate class.

Clinically, we observe two forms of the disease, classified according to the intensity and duration of the inflammation, viz., the acute and the chronic. The acute form results from primary infection or from an exacerbation of the chronic form of the inflammation. I have observed a number of cases of acute senile endometritis, due to gonorrheal infection. In these instances the vagina was involved first and later the endometrium. In one case in which there was also mixed infection, the inflammation extended beyond the interior of the uterus into the tubes and ovaries and to the pelvic peritoneum. Inasmuch as this raises a question which has not been much discussed heretofore, I have thought it best to introduce the history of this case. It is as follows:

CASE 1.—Mrs. A., aged 54 years. The menopause occurred four years previously. She was a large, finely developed colored woman who did not appear to be more than 45 years of age. She came into my service at the City Hospital, Oct. 15, 1902. She complained of pain in the hypogastric and inguinal regions and had a vaginal discharge. She confessed she thought she had gonorrhea, which had been contracted six weeks previously.

Examination.—There was slight fever, marked pain and systemic disturbance enough to confine the patient to the bed. A vaginal examination showed only slight vaginitis, but marked endometritis, a fixed uterus and induration surrounding the uterus. Dr. W. S. Dodds made a bacteriologic examination of the vaginal and uterine secretions, demonstrating the presence of gonococci, streptococci and staphylococci.

Diagnosis.—Here, then, was a case of acute pelvic inflammation, due to gonorrheal and mixed infection, the infective material finding lodgment in the uterus, and there exciting an inflammation that extended to other pelvic tissues. Two weeks after her admission an examination showed a marked improvement in the pelvic peritonitis, and the prolapsed, inflamed and agglutinated tubes and ovaries could be palpated. A few days later it became apparent that pus had formed and was accumulating in the tubes or ovaries. The patient declined to allow us to operate by abdominal section, but finally consented to permit us to aspirate the abscess in the right tube or ovary with a hypodermic syringe. By this means we drew from the abscess several drops of pus, thus demonstrating the statement I have made in a former paper,[1] that in acute senile endometritis "there is a tendency of the inflammation to spread to the uterine appendages and the pelvic peritoneum, resulting in some instances in pus accumulations within the tubes and ovaries or leading to pelvic adhesion."

1 THE JOURNAL A. M. A., Nov. 3, 1900

In the beginning of acute senile endometritis there is marked intensity of symptoms. The chronic form of senile endometritis may be a prolongation of a former endometritis; in other words, it may be a continuation of an endometritis existing before the menopause. An endometritis resulting from gonorrheal infection and progressing until the tubes and ovaries must be extirpated in consequence of purulent disease, is very prone to persist after the salpingo-oöphorectomy, even though the uterus be most thoroughly curetted.

When the inflammation so persists it is most distressing and retards convalescence. So distressing and persistent is this post-operative endometritis that I have gradually come to the belief that where the endometritis is pronounced and has existed long previous to the operation, it is the better practice to remove the uterus also, when necessary to extirpate the appendages. Unquestionably, chronic senile endometritis in the majority of instances is preceded by acute endometritis when it is not a sequel of an anteclimacteric endometritis.

Retroversion of the uterus and suppurating fibroid tumors are recognized as predisposing causes of senile endometritis. Prolapsus of the uterus, because of the congestion of the uterus dependent on it, and because of the exposed condition of the cervix and os, must be considered another cause. So may be laceration of the cervix uteri also. In the latter case not infrequently the diseased condition of the mucous membrane and deeper structures of the cervix furnish a suitable field for the rapid development of microbic action. Because of the lowered resisting power of the tissues, together with the proneness of these senile tissues to degenerative changes, there is no strong barrier against inflammatory changes, due to the activity of the pathogenic bacteria. A patulous os and cervical canal may in some instances afford ready entrance to infectious material introduced into the vagina. The sources and nature of the infections in senile endometritis are those common to inflammatory diseases of this region. Gonorrhea is not so frequent after the menopause, yet when it does occur it often runs a virulent course, involving an inflammation of varying degrees of intensity, the vagina, uterus and bladder, and not seldom the rectum also. The history of the following case illustrates a frequent course in such cases:

CASE 2.—Mrs. B., aged 52 years, passed the climacteric twelve years previously. She consulted me Feb. 19, 1898, giving the following history: She is the mother of six children, and has always enjoyed good health until two years ago, when she became ill, complaining of frequent and painful micturition, vaginal discharge and an inflamed and eroded vulva.

Examination.—At the time of my examination there was but little swelling of the vulva, but an intense vaginitis and marked endometritis. The patient complained of very distressing smarting, burning and itching of the external genitals. A few weeks' treatment of topical applications of solution of nitrate of silver and astringent douches brought marked relief, so that the vaginitis seemed very nearly well, but the endometritis persisted. In this case the discharges were purulent and offensive. A bacteriologic examination showed the presence of gonococci in the discharge. There were occasional small uterine hemorrhages.

Operation.—March 10, 1898. A thorough curettement of the uterus was done with a sharp curette and the cavity packed with iodoform gauze. Two days later the packing was removed and the uterine cavity was irrigated with an antiseptic solution. The os and cervical canal were patulous, the uterine cavity dilated, and the walls of the uterus very elastic, so that we felt the necessity of caution in curetting, lest the uterine wall be punctured or torn.

After History.—For a few weeks after the curettage the pa-

Fig. 2.—A. Cervical epithelium. B. Cystic glands. C. Muscularis. D. Congested vessel. E. Round-celled infiltration. Bausch & Lomb 1/6 obj.

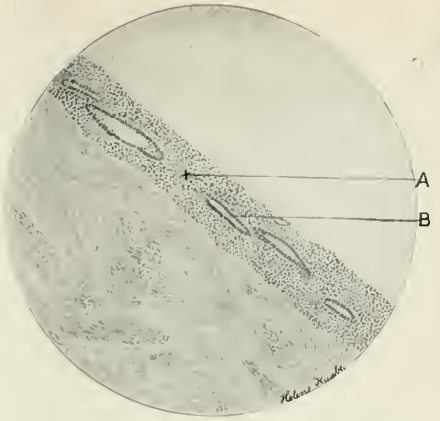

Fig. 3.—Endometrium. Area showing a thin atrophic mucosa, gland tubules few and lying parallel to surface. No inflammatory infiltration. Surface epithelium entirely gone. A. Mucosa. B. Gland.

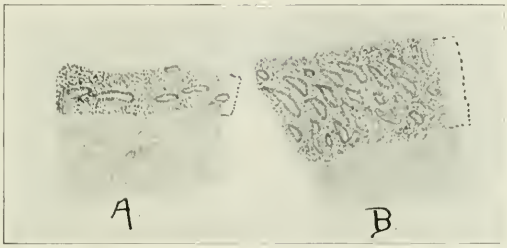

Fig. 6.—Outline sketch to show relative thickness of thin areas and thicker areas with inflammatory infiltration. Bausch & Lomb 2/3 obj.

Fig. 4. Senile endometritis. Mucosa. A. Mouth of gland. B. Surface epithelium, shows flattened condition, cells are cuboidal or even squamous. Epithelial layer is not continuous; only a few such islands as shown here can be found; limit of this "island" is seen at C. Bausch & Lomb 1/6 obj.

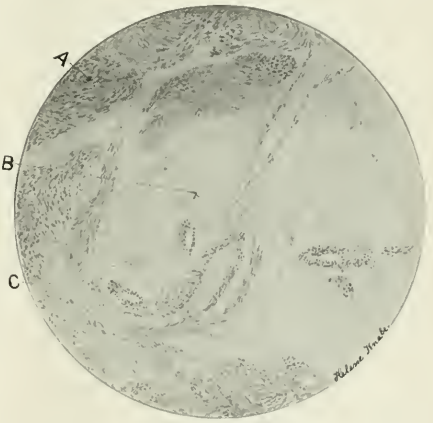

Fig. 5. Cross section body wall of senile uterus. A. Normal muscle tissue. B. Area of mucoid degeneration, involving both connective and muscle tissue. C. Band of muscle tissue undergoing degeneration. Bausch & Lomb 2/3 obj.

Fig. 1.—Case 3. Senile endometritis. A. Denuded epithelium. B. Gland. C. Gland containing blood. D. Effused blood in endometrium. E. Muscularis. F. Vessel (arteriosclerosis). G. Round celled infiltration. Bausch & Lomb, Ob. 2 3.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Illustration of article by Dr. L. H. Dunning.

tient was markedly better, but then the discharge gradually increased, became offensive and irritating, and slight hemorrhage appeared. The patient declined to have anything further done for two years, when the suffering became intolerable, and I was asked to do another curettage. I advised a hysterectomy, but it was rejected; so, Jan. 6, 1900, another thorough curettage was done. As in the former instance, this brought relief for a time, when again the discharge became profuse, offensive in odor and irritating to all the tissues it touched. In January, 1904, the husband of the patient consulted me about his wife's case. He said she was well nourished and able to attend to her household duties, but that she had the same old foul, irritating discharge, and occasional hemorrhages. I urged the advisability of a hysterectomy, but this the patient declined, and I lost sight of the case.

Case 1 illustrates the further extension of the inflammation into the uterine appendages and pelvic peritoneum. In this instance, however, there was a mixed infection. Investigations have not extended far enough to justify positive statements regarding the relative importance of the different pathogenic bacteria. It is highly probable, however, that the same principles and facts apply in senile endometritis that do in ordinary anteclimacteric endometritis.

SYMPTOMS AND COURSE.

Senile endometritis is not a self-limited disease. It is prone to persist for a long period of time. The acute form after a time gradually merges into the chronic form. The symptoms are alike in both the acute and chronic forms, varying only in intensity.

Some time in the course of chronic senile endometritis there is likely to appear inflammatory changes in the mucous membrane of the vaginal and urinary tracts, and also in the mucous membrane of the rectum. When these complications arise, the patient suffers much distress on account of offensive discharges, frequent and painful micturition, and an uncomfortable fullness and painful feeling about the rectum. Vulvitis is common, and leads to intense itching and marked nervous symptoms. The most prominent symptom due to senile endometritis is the discharge from the uterus. This discharge is purulent, muco-purulent or sanguino-purulent. Ofttimes it is of exceedingly offensive odor, and in not a few cases the hemorrhage is considerable, but the sanguineous discharge is most frequently mixed with purulent material, and more or less of the composite mixture may be retained in the uterus and become exceedingly offensive. In two of my cases I was entirely unable at first to understand why so much of this material accumulated within the uterus. The os was patulous in both cases. On examination the uterus was found to be slightly retroverted. The walls of the uterus were thin and elastic, and a histologic examination showed the muscular walls to be weakened by degenerative processes. In these instances we had a full explanation of the cause of the retention, in the retroversion and in the diminished contractile power of the uterus.

Dr. Ferguson suggests that in cases such as he and Dr. Ritter examined, inasmuch as the discharge found in the uterus on opening it after the operation was slight and inoffensive, that it is probable that the uterine discharges were arrested in the folds of the vaginal mucous membrane and there came in contact with bacteria which induced decomposition and gave rise to the offensive odor so pronounced on vaginal examination.

Occasionally the internal os is closed. This, however, in my experience is not frequent, and in this my observations are at variance with those of some writers. In the few cases in which I have found retained pus, blood and débris in the uterine cavity the odor of these fluids has been exceedingly offensive.

Usually the cervical canal is easily dilatable, so that a large-sized sound may be passed with ease. The purulent discharge is usually creamy in consistency, sometimes of an offensive odor, and more or less irritating to the external genital organs.

Pain is a persistent symptom. The pain is burning in character. Occasionally the patient may describe the pain as a sore pain, and in rare instances the soreness of the pelvic organs is the chief cause of complaint. Many patients complain of backache and languor, and not a few of them are cachectic, the cachexia being due to a mild form of sepsis. In the acute cases there are also systemic disturbances, such as a low grade of fever and general malaise. Ofttimes the symptoms produced by the incidental or complicating lesions will overshadow the symptoms produced by the endometritis. This is true especially if there be vulvitis attended by soreness, pain, itching and extreme nervousness, or if there be kraurosis of the vulva and a carunele of the urethra. Probably cystitis is the most distressing complication.

In a former artiele[1] I gave the results of a microscopic examination of a uterus in which the lesion was acute senile endometritis. To-day I present the histologic findings in two cases of chronic endometritis. The first case is as follows:

Case 3.—Mrs. C., aged 63 years, was referred to me Jan. 27, 1904, by Dr. Peacock of Ladoga, Ind. The patient passed the menopause twenty-three years ago. She states that her health was good until four or five years ago, when she had an attack which was pronounced gallstone colic. She recovered from this, when she began to have falling of the womb. The latter disease was gradually increased until it had become a great source of discomfort to her, and has been aggravated because of the necessity of her being compelled to lift and care for a helpless husband. She says that for about a year she has had a creamy discharge from the genitals. Last August, five months ago, she had the first bloody discharge. Since that time she has had a bloody discharge almost continuously. This discharge was at times quite profuse. She states that there is at times a watery discharge, the odor of which is very offensive.

Examination.—The uterus was prolapsed to the second degree, the vaginal walls partially prolapsed, thickened and reddened. The external os showed some slight redness, with two or three small areas of papillary enlargement. These bleed readily on touch. There did not seem to be any localized area of inflammation or irritation of the vaginal walls. The prolapsed portion of the vaginal walls showed the usual thickening and roughening, due to prolapsus, and irritation due to the friction of the patient's clothing. The depth of the uterus was 2½ inches. Quite a little sanguino-purulent discharge passed from the uterus on examination. It had an offensive odor.

Diagnosis.—I made a diagnosis of senile endometritis and prolapsus of the uterus, and decided to extirpate the uterus because of the prolapsus, which had not been relieved, notwithstanding a prolonged and persistent effort by her regular physician.

Operation.—The patient was sent to St. Vincent's Hospital and was operated on Feb. 3, 1904, in the presence of the medical students, internes, and with the assistance of Drs. J. Q. Davis and C. E. Ferguson. A hysterectomy was done by the Clamp method. The uterus and appendages were handed over to Dr. Ferguson for bacteriologic and histologic examination. His report is herewith appended, together with drawings (Figs. 1 and 2, Case 3) from microscopic sections.

Dr. Ferguson reports on this case as follows:

Pathologic Report.—"The length of the uterus is 3 inches, a little more than one-half of which is cervix. The depth of the

canal is 2½ inches and patulous throughout its course. The anterior and posterior walls of the body are each ¾ of an inch in thickness and very firm and resistant to the knife. A cyst the size of a pea is seen on the cervical mucosa at the internal os. The anterior and posterior lips are much thickened. The endometrium from the internal os to the fundus is ecchymotic and closely studded with minute elevations.

Microscopic Report.—"Material obtained from a portion of the mucosa by gentle scraping shows an almost entire absence of columnar epithelia, and the presence of a large number of squamous epithelia, and a few red blood cells are found. Sections show the surface epithelium changed or absent. Extensive round-celled infiltration of the mucosa is found, that in many places extends into the muscularis. Glands are numerous, extend into the muscular layer, but are not tortuous as in endometritis glandularis chronica. The mucosa presents numerous cystic spaces, in some instances filled with blood. These spaces are dilated glands, lined by a single layer of columnar epithelium. The capillaries are numerous in some parts of the mucosa, dilated and filled with blood. The mucosa is thickened and infiltrated with blood throughout a greater part of its depth and surface. The blood vessels of the uterine wall show marked arteriosclerosis, the thickened walls in some instances almost entirely closing the lumen. This thickening is confined to the intima.

"The cervix shows marked increase in the glandular elements, numerous cyst adenomata, and congested blood vessels are present. Arteriosclerosis is marked. Round-celled infiltration extends for some distance into the muscular layer.

"Altogether, the microscopic examination gives the picture of a well-marked chronic endometritis in a senile uterus, with a tendency to hemorrhage, the hemorrhage being due to circulatory disturbances, probably dependent on degenerative changes in the walls of the blood vessels and chronic congestion incident to prolapsus of the uterus.

Bacteriologic Report.—"Immediately after the operation the uterus was bisected and cultures made from the endometrium on blood serum, agar agar and gelatin. The result in every instance was negative. A similar bacteriologic examination was made in Case 4, with a negative result."

CASE 4.—Mrs. D., aged 61 years, consulted me April 4, 1904, on account of prolapsus of the uterus which had existed 1½ years and had been treated by posture, tampons, pessary, etc., without more than temporary relief. She was a well-nourished and active woman. On examination of the heart, lungs and kidneys nothing abnormal was found. She complained of weight and burning pain through the uterus, and stated that she had a thin, creamy discharge from the uterus, which was irritating and at times of offensive odor. She passed the menopause eleven years ago, and was not aware of the presence of any uterine disease or displacement until 1½ years ago. The displacement of the uterus preceded the appearance of the discharge several months. Two weeks ago she had, for the first time in eleven years, a sanguineous flow from the uterus lasting four days and as abundant as an ordinary menstruation.

Examination.—I found the uterus protruding from the vagina. There was also prolapsus of the vagina, and the os was larger than normal, but not eroded. The uterine sound passed readily into the cervical and uterine canals 2¾ inches.

Operation.—She was sent to the Deaconess Hospital and operated on April 6, 1904. The external os was closed by sutures, and the uterus extirpated by the clamp method.

Pathologic Report.—An examination of the uterus after removal showed the organ rather larger than the normal senile uterus. There was supravaginal elongation of the cervix. The cervical canal was patulous and the uterine cavity easily distensible. There was no evidence on macroscopic examination of hemorrhage beneath the mucous membrane or into the muscularis.

The specimen was given to Dr. R. H. Ritter for critical examination. Dr. Ritter's report was as follows:

"The uterine cavity was opened after the surface had been seared by a sterile knife, and the surface of the mucosa gently scraped by the platinum loop. Culture tubes of gelatin, agar and blood-serum were inoculated.

"The uterine cavity is small, the mucosa lining it smooth, even and glistening. The cervical canal is pervious. There is a rather more than normal constriction at the internal os, but the external os is gaping. There are numerous small colored spots, about the size of large pinheads, resembling petechiæ scattered throughout the corporeal mucosa.

Microscopic Report.—"Sections were made from six areas of the mucosa. All present the same picture. The mucous membrane varies greatly in thickness. In some places it is thin and contains very few glands. The glands that remain are small, usually with a very narrow lumina, and lie more or less parallel with the surface. There is no inflammatory infiltration. These areas, then, exhibit the normal atrophic changes of senility.

"In other regions the endometrium is of normal or perhaps slightly increased thickness, the glands are numerous but irregular and tortuous, many having dilated lumina. The stroma of the mucosa in such places is quite dense, especially around the glands. There is an irregular round-celled infiltration of inflammation in these areas. Throughout the whole endometrial surface the epithelium is almost entirely gone. Only a few patches are seen, most of them lying about the mouths of glands. The epithelial cells are very much flattened and are described as cuboidal, or even squamous, cells.

"There is no evidence of an ulceration of the mucosa, and no loss of substance by necrosis and sloughing to produce the 'thin' areas. There has apparently been a simple epithelial degeneration. I can find no evidence of hemorrhage into the mucosa or into the glands, nor any pathologic changes in the capillaries. The muscularis shows a spread of fibrosis, probably not more, however, than is normal to the senile organ. The blood vessels are markedly thickened, the lumen in many cases being almost obliterated by the thickened intima. Hyaline degeneration has taken place to a marked degree in these vessels. Throughout the larger bands of connective tissue, and involving also bands of muscle fibers, are masses of mucoid tissue, evidently a secondary change to the fibrosis."

There is a marked similarity in the macroscopic and microscopic appearances of these two uteri. The evidences of inflammation are almost identical in both, and this leads me to believe that they may be taken as the type of many cases of chronic senile endometritis, in which an anteclimacteric endometritis is prolonged and continued as a lesion after the menopause.

The characteristic inflammatory lesions present are a thickened mucosa, for the most part divested of epithelium, and showing round-celled infiltration, marked granular activity, the glands in both cases being here and there dilated and in some instances cystic. The inflammatory process showed greater activity in the region of the glands. The glands are lined with columnar epithelium, while the epithelium on the surface of the mucosa is flattened. There is a tortuous course of the glands, and in one case (Fig. 1 C) the lumina of a few of the glands are filled with blood. The round-celled infiltration extends into the muscularis. In this tissue, in Case 4 (Figs. 5 and 6) was found mucoid degeneration of the connective and muscular tissues. In both cases there is marked arteriosclerosis, and in one also hyaline degeneration of the walls of some of the arteries.

In both cases there was considerable hemorrhage. In one case (Fig. 1) there was found effused blood in the endometrium and in some of the glands. In the other case there had been but a single hemorrhage (profuse), yet there was more evidence of degeneration in the walls of the blood vessels than in Case 3. It is probable that had not the uterus been removed, subsequent hemorrhage would have occurred.

DIAGNOSIS.

The diagnosis is made by the symptoms above enumerated and by the physical signs. The pain and soreness in uncomplicated cases are distinctly referred to the uterus. As a rule, the upper portion of the vagina is inelastic and the uterus difficult of palpation. The vaginal portion of the cervix may be almost entirely obliterated, but the patulous external os can usually be felt. In such cases it is common to find the vaginal mucous membrane surrounding the os more or less eroded in small areas, and the whole circumference of the upper portion of the vagina infiltrated and inelastic. If now in this field is seen the opening of the patulous os, from which exudes a mucopurulent or sanguinopurulent discharge, we have in all probabilities to deal with a case of senile endometritis, and if, further, a sound passes readily into the uterus, and by it it is determined that there is an absence of any neoplasm, and there is the presence of a smooth mucous surface lining a dilated cavity of the uterus, the diagnosis of senile endometritis may be confidently made.

In other cases, especially if there be prolapsus of the uterus or laceration of the cervix, the cervix may be unusually large for a post-climacteric uterus. Cystic degeneration of the cervix may be observed or an angry erosion which bleeds readily on the slightest touch. Occasionally there will be found slight papillary elevations projecting from the eroded surface. This latter appearance closely resembles that seen in incipient squamous-celled epithelioma of the cervix, and a differential diagnosis can be positively made only by a histologic study of portions of the diseased tissues removed for examination. Another source of difficulty in diagnosis is an occasional presence of an adenoma of the cervix. In these cases the sanguineous flow is more abundant and the discharge less purulent. Here also a histologic study of portions of the diseased areas must be made to confirm the diagnosis.

The same remarks hold true regarding the diagnosis in doubtful cases in which there is a sanguineous discharge from the interior of the uterus. Here it is wise to thoroughly curette the uterus and make search for evidences of malignancy in the scrapings. In all the cases of suspected senile endometritis in which I have explored the interior of the uterus with a dull curette, and there has been an absence of anything resembling a neoplasm, the case has proved to be non-malignant. In the case of a sloughing submucous fibroid tumor the difficulties of diagnosis with microscopic examination are insurmountable. In severe persistent cases I think it important to determine the character of the infection, as those due to mixed infection will likely require energetic treatment, while cases dependent on gonorrheal infection will often demand hysterectomy. When the internal os is closed the uterus will be found distended, so that if a probe be carried through the obstruction and the opening thus made dilated, there will be an escape of a considerable quantity of purulent or sanguinopurulent bad smelling discharge.

TREATMENT OF SENILE ENDOMETRITIS.

At the beginning of acute cases it is all important that good drainage be established and the complications duly treated. Should there be stenosis of the os it should be overcome by gentle yet thorough dilatation. The steel dilator may be used, but the tissues of the cervix are so inelastic that forcible dilatation must be employed with gentleness lest the tissues be lacerated. The slippery-elm tent when it can be passed through the internal os is quite efficient. In the acute cases I do not believe the curette should be employed until the intensity of the symptoms has passed. I have on several occasions after dilating and washing out the cavity, made applications to the interior of the uterus of pure carbolic acid, and followed this in one to one and one-half minutes with an injection into the cavity of commercial alcohol. No outward symptoms have followed this procedure, and very marked relief of the soreness and discharge has resulted. This is, I believe, appropriate treatment for both the acute and chronic cases. Such applications for a few times may be repeated once a week if well borne. When the acute symptoms have passed, dilatation, curettage and packing with iodoform gauze have been beneficial and not infrequently curative. The advantages gained by the curettage should be followed up by maintaining a patulous condition of the os, and by making applications to the endometrium of solutions of nitrate of silver in strengths of 5 to 10 grains per ounce.

Reference to Figure 6, Case 4, together with Dr. Ritter's description of the microscopic findings in this case, will, I think, afford an explanation of the fact that not infrequently a curettage fails to effect the cure of endometritis. In this case the inflamed portions of the mucosa were found in islands or patches, while other portions of the mucosa were normal. If a curettage is not sufficiently thorough to remove the mucosa in every part of the uterine cavity and cervical canal, that part untouched by the curette or only partially removed, if inflamed, may remain as a focus, from which will spread the lesion after regeneration of the endometrium.

If senile vaginitis and vulvitis exist with the endometritis, these conditions should be, if possible, cured before the curettage.

To this end, two or three times a week the vulva and vagina may be painted with a solution of silver nitrate. This, with the applications twice a day of Lassar's paste to the inflamed tissues and the use of astringent and antiseptic douches, usually bring relief.

In those cases dependent on the presence of a necrotic fibroid tumor, the remnants of the neoplasms should be removed by the curette or other means. The writer has met with little success in overcoming retroversion of the senile uterus. If this displacement is the cause of the endometritis, and the ordinary means of cure fail in the grave cases, recourse may be had to hysterectomy.

During the progress of the local treatment attention should be given to the general health of the patient. Tonics, alteratives and laxatives may be employed according to the requirements of the case.[2] Skene places much reliance on the local effects of iodoform applied as a powder to the endometrium.

The tendency toward recovery in senile endometritis is not marked; indeed, the disease is prone to persist in spite of all treatment. When it does persist and contributes largely toward the production of the ill health of the patient, vaginal hysterectomy may be resorted to if the patient's condition demands and will justify such a procedure.

In all, I have extirpated the uterus in cases of senile endometritis six times—five times by the vaginal route and once by the supravaginal route. In two cases the endometritis was associated with procidentia, which furnished the chief indication for hysterectomy; in one case there was chronic sepsis, due to absorption from the uterus; in one case the appendages had been extir-

2. Medical Gynecology, p. 500

pated because of gonorrheal salpingitis and the endometritis was distressing and incurable, the patient being an invalid. In the remaining case the uterus was extirpated under a mistaken diagnosis, as I believed I was dealing with a case of cervical cancer. These were aggravated cases of senile endometritis with grave complications, and the results of the hysterectomy were most gratifying.

In those cases in which there is atresia of the os and a resultant pyometra, great care must be exercised in effecting an entrance into the uterine cavity and in maintaining a patulous os. A medium-sized, blunt-pointed probe may be gently insinuated into the os, pushed into the cavity, and this followed by one of larger size, and a still larger one until an opening of sufficient caliber has been made to admit the passage of an elm tent. The dilatation of the os should be ample. After a few days of draining of the cavity, curettage or the treatment of the interior of the uterine cavity with the carbolic acid and alcohol may be resorted to.

When suppuration of the fallopian tubes or ovaries appear in the acute cases, hysterectomy and salpingo-oöphorectomy is, in my judgment, the proper procedure.

Original Articles.

ARTERIOSCLEROSIS DUE TO LEAD.*

FRANK S. BILLINGS, M.D.
CHICAGO.

The subject assigned to me in the symposium was "Arteriosclerosis Due to Metallic Poisons."

I have had no experience with the effects of other metals, and, therefore, confine my remarks to the toxic influence of lead.

MODE OF ENTRANCE TO THE SYSTEM.

Lead and its compounds are so commonly used by man that it is not surprising to meet with its toxic effects in the body. This occurs more frequently because with some individuals it gains easy access to the body.

Not only may it be taken into the body as a contamination of food and drink and doubtless from prolonged medicinal use, but it may also be taken into the alimentary tract from the hands soiled with metallic lead or from lead paints. Doubtless it may be absorbed through the skin, as frequent cases of poisoning have occurred from the use of lead hair dyes.

Cigarmakers sometime roll cigars on tinned plates which contain lead, and susceptible individuals are poisoned. Diamond cutters who imbed gems in an amalgam of lead, which can be molded in the fingers and facilitate the cutting of the stones, may suffer from lead poisoning.

There can be no question that some individuals are very susceptible to lead.

There is now in the Cook County Hospital, Chicago, a man who is suffering from lead intoxication, who came in contact with the metal in the following way: Once a week, in his bare arms, he carried the bars of lead solder, used to seal the locks of freight cars, to the several cars of a train. This brought his skin in contact with lead for a few minutes only once a week.

Within the last few weeks I have also seen a woman who showed a typical blue line on the gums, granular degeneration of the red blood cells, and complained of marked colic and constipation.

She washed the paint-smeared clothes of her husband, a house painter. I could not learn that she came in contact with lead in any other manner.

BLOOD CHANGES IN LEAD POISONING.

When lead intoxication produces the typical blue line on the gums, the intestinal colic and constipation, the anemia, the palsies and encephalopathy, we recognize it readily.

There can be no question that it also produces latent toxic effects which are not as easily recognized.

The interesting observations of Moritz,[1] White and Wilcox,[2] Grawitz,[3] Homel,[4] Schur and Löwe,[5] Rosin and Bibergeil,[6] Reitter[7] and others, of the presence of red blood cells showing granulations in persons suffering with lead poisoning are important.

With few exceptions, all observers agree to the constancy of the granulation of the cells of the blood in lead poisoning. Many workers in lead, who present no other symptoms, show this blood change.

The blood of animals fed on lead early exhibits the granules in the blood cells. Most observers look on the granules as of protoplasmic origin and degenerative in character. The granules disappear from the blood when the cause is removed.

Some individuals are more susceptible to this so-called basophilic granulation than others, and workers in lead whose place of occupation is less sunny and poorly ventilated suffer more than those in better hygienic surroundings. Basophilic granulation is by most observers considered of value in diagnosis, and the disappearance of the granules is a good prognostic sign.

EFFECT OF LEAD ON OTHER TISSUES.

There is abundant experimental and postmortem evidence that lead may attack practically all the tissues of the body.

Annino[8] fed lead to dogs, rabbits, rats and mice, and found that animals even of the same litter differ much in resistance. Lead soon appeared in the urine. Lead was also found in the fetus, which explains the tendency of women who suffer from lead poisoning to abort.

In the different tissues it was noted that the lead produced varied effects.

In protoplasm, cloudy swelling, fatty degeneration; vacuolization and granular atrophy and hyaline degeneration of the nuclei.

In the later stages, connective tissue hyperplasia. There was a decided tendency to hemorrhage and endarteritis, even to obliteration. He observed fatty degeneration of the muscularis and of the capillary endothelium.

Coene and D'Ajutolo[9] found that lead had first, a destructive action on parenchymatous tissues; second, on the blood and blood vessels; and, finally, a sclerosing action. This effect, they claimed, applied to all organs, but was most pronounced in the kidney.

Oeller,[10] in an article entitled "Ueber hyaline Gefässdegeneration als Ursache einer Amblyopia Sa-

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

NOTE.—The other articles in this symposium, by Drs. Thayer and Brush, Drennen and Dock, were published in THE JOURNAL September 10.

1. Deutsche med. Woch., 1901, vol. xxvii, No. 5, p. 5.
2. Amer. Jour. Med. Sciences, 1901, vol. cxxii, p. 266.
3. Deutsche med. Woch., 1899, No. 36.
4. Deutsch. Arch. of klin. Med., 1900, vol. lxvii, p. 357.
5. Zeitschrift f. klin. Med., 1900, vol. xl.
6. Deutsche med. Woch., 1902, Jan. 16-23.
7. Wiener klin. Woch., 1902, Nov. 20.
8. Ann. di. Chim. e di. Farmacol., 1894, vol. xx, No. 1, p. 59.
9. Ziegler's Beiträge, 1898, vol. iii, p. 449.
10. Virch. Arch., 1881, vol. lxxxvi, p. 329.

turnmia," found in the vessels of the eye endarteritis, hyaline degeneration, thrombosis and hemorrhage. He argued that similar changes occurred in the vessels of other organs, notably the kidney, in lead poisoning.

Stieglitz[11] found similar changes in the blood vessels, but most marked in the pulmonary circuit. Mairer found the larger arteries unchanged, but very characteristic lesions in the smaller vessels He described aneurismal dilatations chiefly in the vessels of the intestinal tract, and other observers have found the same changes in the vessels of the kidneys, the muscles, the nervous system, the liver, etc. Other observers confirm the findings of Stieglitz in reference to the involvement of the pulmonary vessels. The changes consisted of endarteritis, fibrous thickening of the intima, hyperplasia of the periarterial connective tissue, excess of nuclei and thickening of the media. The heart muscles showed fatty degeneration.

Charcot and Gombault[12] produced changes in the kidneys of animals very similar to the chronic interstitial nephritis associated with lead poisoning in man.

Coen and D'Ajutolo,[9] in their experiments on rabbits, found that lead produced in the kidney parenchymatous degeneration, glomerulitis, with hyaline degeneration of the blood vessels and finally interstitial nephritis. In the stomach, proliferation and degeneration of the cells of the glands, localized inflammatory changes in the arteries with endarteritis and perivasculitis in the submucosa. Similar changes in the vessels of the intestine, liver and muscles. The general sequence of changes noted by them were parenchymatous degeneration, blood-vessel changes, interstitial hyperplasias.

Prevost and Binet[13] made extensive experiments of the effects of lead on rats, rabbits and guinea-pigs. Nephritis could always be demonstrated microscopically.

The experimental evidence of the toxic effect of lead on the various tissues of the body is supported by numerous postmortem records.

Dickinson[14] reports that of 42 workmen having labor which exposed them to lead poisoning, dying from disease or accident in St. George's Hospital, 26 had granular degeneration of the kidneys, with the usual cardio-vascular changes. Again, of 45 men dying of granular degeneration of the kidneys, 10 were lead workers.

Leyden[15] relates a case with severe and widespread symptoms of lead poisoning.

The autopsy showed the typical granular kidney. The glomeruli were shrunken and fibrous; the afferent and efferent vessels and the tufts showed hyaline degeneration; moderate hypertrophy of the intima in some of the large vessels. The left heart hypertrophy and a full, sustained, radial pulse during life. Three other similar cases were reported with like findings.

Leyden calls attention to the fact that there is practically no general arteriosclerosis in these cases of nephritis due to lead poisoning. The arteries of the kidney are thickened by hypertrophy of the muscular coat,

Kussmaul and Maier[16] give the pathologic anatomy of chronic saturnismus This case they studied during life and postmortem Clinically, there was a typical chronic plumbism, with nervous symptoms, colic, etc.

Histologically, the connective tissue of the submucosa of the intestinal tract showed hyperplasia. The walls of the vessels were decidedly thickened, especially the adventitia of the arterial twigs, with narrowing of the lumen. There was a marked tendency to fatty degeneration of the muscular and glandular elements with decided atrophy. There was a slight and definite increase of the connective tissue surrounding the blood vessels of the spinal cord, brain and the sympathetic ganglia.

Von Schrotter[17] quotes a personal communication of Kolisko, who has made extensive observations of the arteries under the influence of lead. Kolisko says that the vessel changes consist chiefly of hypertrophy of the media. Preceding degenerative changes, as are usual in sclerosis, were not observed, and the intima is only occasionally the seat of hyperplasia.

Senator,[18] in the discussion of the relation of lead to chronic interstitial nephritis and the associated cardio-vascular changes, gives Lancereaux[19] the credit of first recognizing the importance of lead as a causative factor in nephritis. Ollivier[20] also recognized the importance of lead as a cause of nephritis. Senator also cites the experiments and conclusions, already quoted of Charcot and Gombault, Coen and D'Ajutolo; and the clinical and postmortem observations of Dickinson. In addition, he quotes Jacob,[21] who found 12 cases of granular kidney, of whom 8 were lead workers. Wagner[22] found lead as the cause fifteen times in 150 cases Senator was able to verify lead as a cause of the nephritis in 10 of 180 cases, and in 6 of these cases the clinical data were verified by autopsy.

Thomas Oliver[23] discusses lead intoxication, and believes the sclerotic changes of the kidney are secondary to an original degeneration of the epithelium of the tubules. The glomeruli finally become involved in the degenerative changes, and sclerosis ultimately occurs.

Gombault[24] says that lead poisoning, like alcohol, syphilis and gout, has an injurious effect on vessel wall nutrition, hence predisposes to degeneration and sclerosis.

Ebstein[26] discusses the relation of lead to gout. In 1,103 cases of lead poisoning, gout occurred in 103. He cites other observers giving the same result. In individuals predisposed to gout, even small doses of lead may cause an attack of gout.

He believes that an hereditary predisposition to gout must exist in order that lead may cause gouty symptoms.

Oliver[26] says that on experimental and pathologic grounds lead has a direct harmful influence on the kidney. The first changes are parenchymatous, the second interstitial, that is, cloudy swelling and fatty degeneration in the convoluted tubules. At the same time there occurs cellular proliferation in the labyrinth, about the afferent glomerular vessels, on the inner Bowman's capsule, and between the tubules. Then develops a true interstitial nephritis, with thickening of the walls of the vessels, described by Oliver as a mixed nephritis.

Von Jacksch[27] says that in lead intoxication there are always serious changes in the nitrogenous metabolism

11. Arch. f. Psychiatrie, vol. xxiv.
12. Arch. de Physiologie, 1881, 2d series, vol. viii, p. 126.
13. Rev. Med. de la Suisse, 1889, Nos. 10-11.
14. Dis. of the Kidney, part 2, p. 382.
15. Deutsche med. Woch., 1883, vol. ix, p. 185.
16. Deutsch. Arch. f. klin. Med., 1872, vol. ix, No. 5, p. 283.
17. Erkrankungen der Gefässe, Nothnagel's Sp. Path. u. Therap., 1901, vol. xv, No. 2, p. 82.
18. Nothnagel's Sp. Path. u. Therap., 1896, vol. xix, p. 244
19. Union Med., 1863, p. 513.
20. Arch. Gen. de Med., 1863, vol. ii, p. 530.
21. Deutsche med. Woch., 1886, p. 547.
22. Ziemssen's Encyclopedia.
23. Allbutt's System of Medicine, vol. iii, p. 983.
24. Arch. d. Phys., vol. v, p. 153.
25. Virchow's Arch., vol. cxxxiv, p. 541.
26. Lead Poisoning in Its Acute and Chronic Forms, Edinburgh and London, 1891.
27. Nothnagel's Spec. Path. and Therap., 1897, vol. i, p 297.

of the body, resulting in an increased production of uric acid. According to the newer theories of uric-acid formation, it must be supposed that under the influence of lead, there results an excessive destruction of nuclein containing substances. This toxic influence is, according to von Jaksch, a decreased oxidation.

CONCLUSIONS.

From the above opinions of the effect of lead on the blood vessels and on those organs which, when diseased, have an associated or resultant thickening of the walls of the vessels, we may conclude that lead may produce a disease of the blood vessels either directly or indirectly.

Directly, as shown by the numerous experiments on animals. Probably this is by the direct influence on the vessel of the lead in the circulating blood. Doubtless the walls of some of the larger arteries may be affected through the alteration in the nutrition, because of the primary toxic endarteritis, with the tendency to thrombosis and obliteration of the vasa vasora.

The undisputed fact that lead may cause gout, and the equally true proposition that in gouty individuals arteriosclerosis occurs early, may explain the influence of lead in producing arteriosclerosis in rare cases.

Experimental and clinical observations prove incontestably that lead will cause nephritis. This is usually the contracted kidney, which sooner or later has associated with it the thickened arteries and left cardiac hypertrophy.

Lead intoxication may lead directly and indirectly to arteriosclerosis.

The recognition of lead intoxication during life, by any of the ordinary symptoms or by the basophilic granulations of the cells of the blood, in an individual suffering with arteriosclerosis, with or without nephritis, would not, perhaps, permit us to say definitely that the lead was the sole causative disease factor. It would, however, be a rational therapeutic measure to safeguard the individual against further intoxication with lead in the treatment of the arteriosclerosis.

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THE RELATION OF ALCOHOL TO ARTERIOSCLEROSIS.*

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LITERATURE.

Most standard text-books[1] assert unconditionally the importance of the excessive use of alcoholic liquors in the production of arteriosclerosis. Standard treatises on the heart and blood vessels[2] are equally emphatic. In Nothnagel's magnificent "Specielle Pathologie und Therapie," Schrötter says, after reviewing the literature: "Alcohol is considered by practically all writers on arteriosclerosis as the chief cause or at least one of the most important causes of the condition." Yet Schrötter himself seems to be somewhat dubious regarding the evidence on which the belief is founded, and there are others, such as Duclos[3] and Ribberts,[4] who are yet more outspoken in their skepticism.

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

1. For example: Osler, Tyson, Strumpell, Wood & Fitz, Loomis-Thompson, and Krehl (in V. Mering).

2. For example: Huchard, Byrom, Bramwell, and Babcock.

3. Duclos: Du Systeme arteriel chez les alcoholiques. Paris, 1888.

4. Ribbert: Pathol Anatomie, 1902, p. 612.

CLINICAL RESEARCH.

1. I investigated first the question:

How many cases of arteriosclerosis not referable to syphilis or to advancing age are to be found among alcoholics?

At the Bridgewater State Farm and the Foxboro Asylum for Dipsomaniacs, I investigated 283 cases of the severest and most chronic forms of alcoholism, excluding those over 50 years of age and those who have had syphilis. A quart of whiskey daily for many years was a not infrequent history in these cases.[5]

Of the total 283 cases, only 18, or 6 per cent., showed arteriosclerosis, so far as could be ascertained by examination of the heart and peripheral vessels, and by questions regarding the functions of the kidney.[6] If the cases over 40 years be excluded also, the percentage showing arteriosclerosis falls to 1.4 per cent.

2. I next endeavored to determine in what proportion of cases of relatively early arteriosclerosis of the peripheral arteries alcoholism was present.

Out of the several hundred cases of arteriosclerosis seen by me at the Massachusetts General Hospital, 45 were under 50 years of age. Only 6 of these, or 13 per cent., gave any history of alcoholism.

POSTMORTEM EVIDENCE.

3. By the kindness of Dr. J. H. Wright of the Massachusetts General Hospital clinicopathological laboratory, and of Dr. F. B. Mallory, pathologist to the Boston City Hospital, I was enabled to examine the records of 656 patients, 95 of whom were under 50 years of age and with no history of syphilis, in which arteriosclerosis formed a part of the pathologic diagnosis at the autopsy. On looking up the clinical records of these 95 cases, it was found that in 57 cases, or 60 per cent., it is expressly stated that the patient took no alcohol. Regarding the remaining 39 cases, in the table given below, I have quoted the actual words of the record. It will be seen that in 8 cases excessive alcoholism is expressly stated to have been present. In 14 cases it is stated or implied that the amount of alcohol consumed was moderate, while in 5 cases the statement may be interpreted as an insignificant amount of alcohol. Subtracting these 19 cases we have left 20, or 21 per cent., in which the consumption of alcohol was excessive.

It will be seen from the table that 8 of the cases among those who took more or less alcohol, were found at the autopsy to have chronic nephritis as well as arteriosclerosis, so that if, as is usually believed, chronic nephritis is a cause of arteriosclerosis, these cases should be subtracted from those which might be supposed to be due to alcoholic excess. This would remove 4 of the cases in whose clinical record excessive alcoholism played a feature.

It should also be borne in mind that as most of these cases were taken from the records of the Boston City Hospital, and as that hospital is patronized very largely by those in whose history alcoholism is a feature, the possibility of a coincidence in the occurrence of alcoholism and arteriosclerosis can not be disregarded.

Finally, I will mention briefly the case of a well-known young Bostonian, who deliberately drank himself to death at the age of 36. For the previous ten years

5. I desire expressly to thank Dr. Charles A. Drew, Medical Director of the Bridgewater State Farm, for his assistance in securing data on these cases.

6. Patients whose arteries were merely palpable without being tortuous, hard or rough were not counted as cases of arteriosclerosis.

of his life he had been in the habit of taking one or two quarts of whiskey a day for about eight months in the year. At the postmortem examination particular attention was paid to the condition of the arteries, and they were found to be entirely normal.

CONCLUSIONS.

1. Only 6 per cent. of 283 cases of chronic and excessive alcoholism under 50 years of age showed any evidence of arteriosclerosis.

2. Of 45 cases of arteriosclerosis examined by me at the Massachusetts General Hospital, only 13 per cent. gave any history of alcoholism.

3. Of 656 autopsy cases of arteriosclerosis, only 95, or 14.5 per cent., were under the age of 50.

4. Out of these 95 cases under 50, in which arteriosclerosis was found postmortem, only 21 per cent., and if we exclude cases complicated by chronic nephritis, only 17 per cent. appear to have consumed alcohol in any notable excess.

The details of the autopsied cases may be seen from the following table:

TABLE OF POSTMORTEM AND CLINICAL RECORDS IN CASES OF ARTERIOSCLEROSIS.

Case.	Age in Years.	Pathologist's Diagnosis.	Previous Disease and Present Complications.	Amount of Alcohol Consumed.
1	30	Art.	Ch. nephritis	Five or six whiskies daily for last 15 years.
2	36	Art.		One or two wines daily; never to excess.
3	41	Art.	Phthisis	Moderate alcohol.
4	24	Sl. art.	Ch. nephritis	Alcohol moderate.
5	43	Sl. scl. of aorta.		Always hard drinker.
6	37	Art.	Phthisis	Four or five whiskies and four or five beers daily.
7	21	Sl. scl. of aorta.	Typhoid fever	Alcohol in moderation, but regularly.
8	35	Gen. art.	Ch. nephritis	Four or five whiskies before breakfast.
9	21	Sl. art.	Typhoid fever	One whisky every other day.
10	38	Sl. art.	Diphtheria, ch. nephritis.	Four to six beers daily; occasionally whisky.
11	31	Sl. art.		Two or three whiskies and four or five ales daily.
12	32	Art.		"Drinks considerably."
13	43	Sl. art.		Alcohol excessive.
14	30	Art. of aorta		Two glasses of whisky a week and two beers daily.
15	43	Art. aorta		Beer and whisky occasionally.
16	39	Art.	Typhoid fever	Half a pint whisky daily.
17	39	Art.	Typhoid fever	Occasionally whisky.
18	40	Art.		Alcohol to excess.
19	44	Ar	Ch. nephritis	Drank heavily of beer.
20	46	Art. of aorta		Alcohol to excess.
21	34	Art.		Alcohol to excess.
22	46	Art.		Two or three whiskies and two beers daily.
23	46	Art.	Aortic regurg.	Alcohol moderate, but steadily for years.
24	25	Sl. art.		Alcohol in excess.
25	33	Scl. mitral curtain and aortic arch.		Alcohol in great excess.
26	37	Aortic scl.		Alcohol for last 10 years.
27	24	Coronary scl.	Ch. nephritis, scar at fever.	Three or four beers daily; occasionally whisky.
28	42	Aortic scl.	Ch. nephritis	Alcohol to excess
29	43	Gen. art.	Phthisis	Four or five beers daily.
30	48	Gen. art.	Ch. nephritis	Alcohol considerable.
31	38	Gen. art.	Fatty deg. heart	Diag. "alcoholism" (acute). Amt. of alcohol not known.
32	20	Art.	Typhoid fever	Takes less than one drink a day (beer).
33	44	Gen. art.	Ch. nephritis	Occasional glass of ale, gin or whisky.
34	29	Gen. art.	Aortic insuf.	Four beers daily.
35	41	Art.		Rum, three glasses week, year around.
36	42	Art.		Two or three bottles of ale a day.
37	39	Art.	Typhoid fever	Drank lots of beer till year ago—four or five glasses a day—and "a certain amount of whisky."
38	40			No alcohol for last 13 years; before then 14 or 15 whiskies a week
39	41	Art.	Smallpox	Two or three beers daily; half pint of whisky a week, off and on.

In Cases 40 to 95 the record expressly states that the patient did not use alcohol.

Art.—Arteriosclerosis; ch.—chronic; sl.—slight; gen.—general; scl.—sclerosis; deg.—degeneration.

ANGINA PECTORIS AND ARTERIOSCLEROSIS.*

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In contrast to the many uncertainties relating to angina pectoris is the circumstance that in a large proportion of cases the attack is only an incident in the history of arteriosclerosis. Since Edward Jenner demonstrated postmortem disease of the coronary arteries, the association of a lesion of these vessels with the disease has been accepted as one of the best attested facts in cardiac pathology. Not that it has helped much to explain the mysterious nature of the pain of the attack, or all of the phenomena of the paroxysm. Pain in arteriosclerosis, as we see it in other parts, deserves a more careful study than it has yet received. In the head there is the association of migraine with arterial disease, the severe and characteristic headaches of arteriosclerosis and high pressure, and the agonizing pain in some cases of embolism of the cerebral arteries, more rarely in thrombosis. Abdominal pain is not often due to vascular disease, though there are cases in which, from the situation and intensity of the paroxysm it might rather be called angina abdominis than pectoris. There may be severe pain in lesions of the mesenteric arteries and in thrombosis of the iliac vessels in typhoid fever. It is in sclerosis of the arteries of the extremities that we meet with the most remarkable disturbances of sensation. The pain in embolism or thrombosis of the femoral or popliteal arteries is very intense, particularly at the site of the lesion. In the ordinary sclerosis, particularly of elderly persons, there may be, first, simple paresthesiæ, the numbness and tingling so commonly complained of; secondly, attacks of painful cramps, usually slight and nocturnal, or recurring paroxysms of extraordinary intensity and deserving the name of angina cruris more than intermittent claudication, which Walton has applied to it; thirdly, the pain, not always present, in intermittent claudication: fourthly, the paroxysms of pain with erythema, etc., the arteriosclerotic type of erythromelalgia.

But the pain in angina pectoris is *sui generis,* unlike in intensity any known variety, and while its association with coronary artery sclerosis is unquestionable, there is something additional, some other element for which, as yet, we have no explanation.

In relation to arteriosclerosis, there are four groups of cases of angina pectoris. First, the neurotic, in which in young persons all the symptoms of the disease may be present and death occur, and autopsy shows normal coronary arteries and neither local nor general disease of the arteries. Such cases are not common, but I have reported an instance in a young man of 28, who had had for years paroxysms of cardiac pain of the most agonizing form, who died in an attack.

Secondly, the angina pectoris of young men associated with syphilitic arteritis, aortic or coronary, or both. This is a very distinctive form, occurring usually in men under 35 years of age. There may be no general arteriosclerosis, but the lesion is either at the root of the aorta, or involves the sigmoid valves, or it may be confined to the coronary arteries. The anginal attacks, while severe, are sometimes relieved or even cured by the iodids. The paroxysms of pain may be the initial symptoms of aneurism of the first portion of the arch.

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Thirdy, the presenile cases, forming the great majority, in which the attacks are associated with coronary artery sclerosis as part of a widespread degeneration of the vessels. Hard work, mental more often than bodily, the stress and strain of modern life, excesses in diet and drink, are the factors most concerned, though why in individual cases angina should occur we can not say. There is another element, as yet unknown, since in only a very small proportion of cases of coronary artery sclerosis does angina occur.

Fourthly, the senile group. After 70 angina is a not infrequent manifestation, a sort of terminal event in the cardiovascular degeneration. Death often results from an attack, or there may be a series of paroxysms preceding a final breakdown.

THE TREATMENT OF ARTERIOSCLEROSIS.*

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To develop the subject of the treatment of arteriosclerosis in its principal bearings, it will be necessary first to subdivide the cases into etiologic categories, as follows: 1. Those due to toxic agencies in the blood, e. g., in chronic alcoholism, lead poisoning, diabetes mellitus, syphilis, gout, rheumatism and other infectious diseases. 2. Arteriosclerosis caused by the constant ingestion of an excess of either the carbohydrates or nitrogenous foods. 3. Cases dependent on constant hypertension, due to muscular overexercise, as in certain laborious occupations and violent competitive sports. 4. Aortic regurgitation, in which overfilling of the blood vessels is a concomitant; also exalted tension arising from ingestion of an excess of fluids, as in beer drinkers. 5. Cases due to senile degenerative changes.

With the two last-mentioned groups of cases I shall not deal at present writing, although many of the measures that will be recommended for arteriosclerosis originating in other ways tend to retard senile degeneration.

PROPHYLAXIS.

Prophylaxis should begin in early life, restraining enthusiasm, energy and pluck which lead to competitive efforts in the popular domain of athletics, and cripples the arterial system on which the individual must rely for work and usefulness in after life. Another consideration pertains to the regulation of the occupation, particularly during childhood and adolescence. On the detection of any discoverable, adequate cause for the arteriosclerosis, however, early in life the aim should be to counteract or overcome them, and at the same time bring into requisition certain hygienic measures for their favorable influence in improving the metabolic processes. Attention must be paid to the foodstuffs that furnish suitable products for both anabolism and catabolism. Oxidation, that most important chemical process in catabolism, by means of which decomposition of albumin, sugars and fats is accomplished with fixation of oxygen, is greatly favored by well-regulated, systematic muscular exercise. This is especially true of the fats, less so of the proteids. The maintenance of a complete nutritive equilibrium is a potent means of preventing those pathologic processes which inevitably result in various forms of degeneration among which arterial changes are apt to be earliest manifested.

GENERAL TREATMENT.

In existing arteriosclerosis, each sufferer must be minutely investigated as regards the extent of the arterial changes, the tension of the pulse, condition of the heart, digestive functions and eliminative power of the kidneys.

Perhaps the majority of cases are dependent on gout. At all events it may be regarded as the type of the causative conditions mentioned under one and two; and in the etiology of individual cases two or more of these factors may be present together. Thus the use or abuse of alcohol plays a not unimportant rôle in the arteriosclerosis of gouty subjects.

HYGIENIC MEASURES.

In this class (due, as above mentioned, to toxic agencies which, in turn, are often dependent on faulty metabolism, acting as irritants of the blood) nothing is so vitally important as a suitable diet and régime. There is, however, no special diet suitable for all cases of gout; no dietetic rules universally applicable. When the metabolic processes are abnormal they vary with the individual cases.

It is highly probable that certain individuals are proof against overindulgence in foods and alcohol. At least, in my view, the amount of aliment that can be ingested without apparent pathologic effects differs within almost inconceivable limits in different persons. On the other hand, when there is distinctly marked evidence either of gormandizing or mere overeating of either the carbohydrates or the more concentrated nitrogenous articles of diet, in gouty individuals we find that a careful regulation of the patient's dietary is obviously helpful. Such subjects, in addition to manifesting gouty features, are, as a rule, plethoric, robust and often inclined to corpulency, and a rigid system of living must be enjoined. A suitable and ofttimes a considerable restriction in the amount of food is a prime requisite. Both fat-forming and urea-producing foods must be lessened, as a rule.

It is highly probable that urea, which is so irritating to the kidneys, acts similarly on the coats of the blood vessels. Again, granular kidneys are a not uncommon concomitant of arteriosclerosis, and when present demand a special diet.

Per contra, spare subjects, whose general tone is low and who are afflicted with arteriosclerosis, require a more generous diet, embracing a liberal allowance of fat-producing foods.

Time and space will not permit me to enter into details concerning a podagric dietary, but broadly speaking, permissible articles of food are: Whole milk, eggs, butter, succulent vegetables, fruits (except strawberries, bananas and tomatoes) and farinacea.

Of animal substances, oysters, fowl and fish (except those that contain much protein, as salmon, mackerel, smoked herring, halibut, salt codfish, flounders, canned sardines, and the like) may be partaken of, while beef and mutton are to be employed, although cautiously. Mohr and Kaufman have shown that the nitrogen excretion is quite as good for the dark as the light meats. Respecting animal food, it may be said that it is beneficial rather than harmful if taken in moderate, suitable quantity.

In the gouty subjects, certain waste products, as uric acid and urate of soda, are retained in the system because too little fluid is taken to hold them in solution

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and insure their exit from the system through the natural channels of elimination—the kidneys. It is a misfortune that gouty subjects commonly fail to take water between meals. On the other hand, they should be urged to do so, thus favoring the elimination of effete products through the emunctories and obviating arteriosclerotic, muscular and arthritic changes.

Subjects of gouty manifestations must adopt an open-air life, coupled with regular, systematic muscular exercise, which increases the vigor and activity of the circulation, not only through the vascular system, but also through the lymph spaces and lymphatics. It thus becomes an effective means of forcing from the system the waste products. T. Lauder Brunton[1] has emphasized the fact that the motions of the diaphragm tend to pump the lymph out of the peritoneum and pleura.

The action of the heart, as Kronecker has pointed out, constitutes a sort of massage to the arteries, lungs and pericardium. At each systole the blood stream drives the internal layer against the middle, and the middle against the outer, so that any fluid lying between them will be driven onward into the lymphatics. *Per contra,* during the diastole, these layers will tend to separate from one another and draw fresh supplies of tissue juices from the vasa vasorum.

EXERCISE.

It follows that stimulation of the organic functions of respiration and circulation by systematic, wisely-regulated training will aid in the elimination of waste material and the maintenance of good, healthy nutrition of the thoracic organs and the outlying blood vessels.

In arteriosclerosis the vascular tension is abnormally high, although it varies in degree. Obviously, severe muscular exercise which induces and maintains a notable rise of blood pressure is inappropriate. *Per contra,* mild exercise produces a slight temporary rise of blood pressure, but it falls during its continuance, hence the latter form of exercise favorably influences the circulation by dilating the blood paths and thus lessening the peripheral resistance.

Naturally, it is during the earlier period of arteriosclerosis, or before the changes in the arteries induce markedly increased resistance to the blood stream in the peripheral vessels, that muscular exercise produces its most beneficial effects. As regards exercise in this disease, however, no hard and fast rule can be laid down.

MASSAGE.

In massage we also possess a measure that by its stimulating influence on the circulation through the muscles produces an effect similar to that of muscular exercise. Moreover, in this case, the heart is not called on to put forth extra exertion. Indeed, the blood pressure is lessened by the use of massage, so that the heart's work is correspondingly reduced.

While thus endeavoring to increase the elimination of the waste products through the kidneys, special attention should be paid to the subject of the quantitative estimation of the urea, the chlorids and other metabolic products. My own studies and observations on this head show that in 80 per cent. of gouty subjects the percentage of urea ordinarily contained in the urine is at least from 25 to 35 per cent. below the normal.

I have notes of 12 cases in which the daily output of urea had been on the average 200 grains, and under the influence of such measures as systematic physical exercise, massage and a liberal amount of simple pure water between the meals, the total daily excretion was greatly increased, even to the normal quantity in 3 of the cases.

If the alternate contraction and relaxation of the voluntary muscles could be properly maintained, the return circulation through the veins as well as the lymphatic current would not require the aid of massage. But unless a free circulation can be kept up by muscular exercise, carefully systematized, massage becomes imperative, since it is potent to bring about a rapid blood flow (three times more rapidly than the normal), thus preventing the deposit of micro-organisms, inorganic salts and other particles.

By massage, we not only stimulate the alternate contraction of voluntary and involuntary muscles that are accessible, but also those that are inaccessible, principally by reflex action.

The improvement brought about by this measure extends to the vascular system itself. Edgecombe and Bain have found experimentally that while massage produces an initial rise of blood pressure, this is followed by a decided fall. It was, however, found that severe massage and compression of the abdomen caused a rise of pressure occasioned by the dispersion of the blood in the splanchnic veins. Massage increases the flow of lymph in a striking manner. Now it is the function of the lymphatics to remove the effete matters from the tissues; they also take up the "superabundance of nutritive fluids not immediately required for the nourishment of the tissues." By remembering the principal causes of arteriosclerosis (before stated), it is clear that by a proper regulation of the séances massage becomes a most useful means of prophylaxis by stimulating the functions of the lymphatics, and it may exert a retarding influence in established cases. Finally, massage also exercises a beneficial influence on the glandular secretions and the nervous system.

In the disease under consideration, in which the arterial pressure is exalted, warm baths, which lower the tension both in the arteries and veins, are most serviceable. They also materially assist in the process of elimination of waste materials through the sweat glands.

I am fully satisfied that the agencies to which I have referred, namely, an appropriate diet, systematic exercise, massage and warm baths, are of major importance as compared with the medicinal treatment in the management of this class of cases in which poisons are circulating in the blood, and these in turn dependent on perversion of metabolism.

MUSCULAR STRAIN AS A FACTOR.

The cases dependent on overexercise or muscular strain are numerous. For this form of arteriosclerosis, the occupation is often responsible, and almost equally common are the instances occasioned by the abuse of the cardiovascular mechanism in competitive sports. While possessing the power of accommodation in a high degree, the mechanism may yet be overtaxed in young subjects and the basis be laid for sclerotic changes early in life.

In view of the voluminous testimony as to the injurious consequences on the heart and vessel walls of the diversified games indulged in under our modern civilization and the effects of the newer, strenuous life, it is encumbent on the medical profession to urge temperance in the matters of competitive athletics and strain, both mental and physical, without delay. It has been well said that infections and accidents barred, death generally comes through arteriosclerosis.[2] I hold it to be the

1. The Lancet, Oct. 12, 1895.

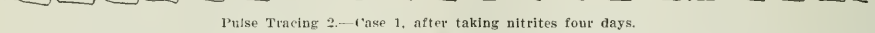
2. John L. Davidson, Canadian Practitioner and Review, Sept., 1901.

bounden duty of the medical practitioners, who have doubtless been vividly impressed with the increasing number of cardiovascular conditions due to the general tendency in the direction of overexercise, to utter a note of warning to the public, and particularly to those having in charge our universities and other schools of learning.

We may well ask ourselves, do we, as a profession, which is the natural teacher and guardian of the populace on the subject of physical training, manifest due solicitude for the young men of the present and future generations? In an age which furnishes numerous examples of young men who, measured by Cazala's rule, are threescore years of age, it may well be inquired, what are the causes of this decay? May not the chivalry and enthusiasm of the football field and other violent forms of competitive sports form one of the chief sources of racial decline?

In this group the important element of treatment is efficient prophylaxis. Many of these cases may thus be held in check, but I have never observed a complete subsidence of the arterial changes.

Pulse Tracing 1.—Case 1, before taking nitrites.



Pulse Tracing 2.—Case 1, after taking nitrites four days.

MEDICINAL TREATMENT.

It is not within the scope of this paper to discuss the treatment of the recognized secondary affections, such as fibrous myocarditis, cirrhotic nephritis and cerebral softening, but attention is called only to the medicinal treatment of the arterial changes. Individual cases, however, must be most carefully studied as regards the associated conditions, and these must receive due consideration. The principle symptoms of this disease are due to a reduction of the lumen of the vessels and loss of elasticity of the coats, owing to the sclerotic changes.

Pulse Tracing 3.—Case 1, after taking nitrites one week.

conditions that diminish the blood supply to the various viscera.

It may be seriously doubted whether the disease is ever arrested by medicine. We may, however, retard its progress to some extent and restore the normal rapidity of the blood current and lower the blood pressure by dilating the arterioles. The remedies employed for this purpose are nitroglycerin, the nitrites and potassium iodid.

THE IODIDS.

According to certain writers, the validity of the claims of the iodids has not been definitely shown, but they have long been lauded by others in the treatment of arteriosclerosis. Except in cases due to syphilis, the results are in no wise comparable in brilliance to those following the careful application of hygienic measures mentioned above, and the use of the nitrites. Billings says:[3] "The iodids that have been so commonly used I have no confidence in, excepting in syphilitic cases."

3 International Medical Magazine, May, 1895

It is difficult, however, to interpret the results obtained from the use of the iodids, since it not seldom happens that noticeable remissions in the arterial tension are seen during periods in which no special treatment is employed. We are sadly in need of reliable data that shall indicate their precise influence, more especially in diminishing the arterial resistance.

Obviously, the iodids are called for, and extended observations have shown them to be of decided value in cases showing a luetic taint. The use of nitroglycerin and the nitrites to relieve high arterial tension is a customary practice among clinicians. During clinical observations of the pulse, the palpating finger is sensible of variations in the tension, but it fails to convey precise knowledge as to the extent of the fall resulting from treatment.

I have appended a few spygmographic tracings which indicate the results of treatment with nitrites and nitroglycerin in the arteriosclerosis of chronic Bright's disease, as well as that associated with other conditions. A glance at these tracings will convey to the observer a better idea of the degree of lowering of the blood tension than is furnished by palpation of the radial and other accessible arteries. For the sake of clearness, brief notes[4] of three cases experimented on will also be given:

Pulse Tracing 4.—Case 2, before taking nitrites.

CASE 1.—R. F., aged 68 years, colored, weight 120 pounds, height 5 feet 2 inches, single, a patient in the Philadelphia Hospital. He had used beer, gin and whisky to excess since the twentieth year of life. His mother died of phthisis and his father of dropsy, following asthma. Patient had had acute rheumatism ten years previously and had been subject to renal asthma and palpitation for four years. The physical signs indicate a moderate degree of emphysema and cardiac hypertrophy; the arteries are cord-like and the tension high. The urine is of low specific gravity (1006), contains a small percentage of albumin, but no casts.

Strychnin, which had been administered for several weeks, was discontinued and a careful pulse tracing made. (See Pulse-tracing 1.) The following preparation, highly recommended by M. Huchard,[5] was then given: Sodii nitrite gr. xxx.

4. I am much indebted to Dr. Wm. E. Hughes, from whose service Cases 1, 2 and 3 were selected, for permission to make these observations.

5. New York Medical Journal, Oct. 24, 1903, p. 804.

potassii nitratis dr. 2 ss., sodii bicarb. dr. 5, aq. destil. oz. x, M. S. oz. ss. t.i.d.

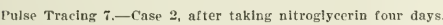
After the lapse of four days a tracing was taken (Tracing 2), and at the end of seven days another (Tracing 3).

A comparison of Tracing 1 with Tracing 3 will show that the height of the primary, ascending wave or upstroke is distinctly greater for the latter than for the former. This would indicate greater distension of the elastic walls of the vessels as the result of the use of the nitrites. Again, the dicrotic wave, which is scarcely noticeable in Tracing 1, is more prominent in Tracing 3,

Pulse Tracing 5.—Case 2, after taking nitrites one week.

and slight post-dicrotic waves are also observed. From this effect on the pulse tracing we may infer that more efficient propagation of the blood current to the capillaries is the result of the treatment. Unfortunately, the patient now voluntarily left the hospital and was lost sight of.

CASE 2.—W. H., aged 61 years, weight 135 pounds, height 5 feet 1 inch, a native American, admitted into the Philadelphia Hospital. He had smoked since his ninth year, and had been guilty of excessive indulgence in gin for a considerable period of time. The family history revealed nothing of etiologic importance. Patient had had diseases of childhood. At the



Pulse Tracing 7.—Case 2, after taking nitroglycerin four days.

age of 40 years, he fell from a building (32 feet in height); in this accident he sustained a fracture of the clavicle and several ribs, and at present his thorax is greatly deformed (dorsal kyphosis). Had rheumatism (subacute) in 1902, and also since then at intervals. In the spring of 1903 was troubled with dyspnea on exertion and malleolar edema.

The physical signs on admission show arteriosclerosis, combined with an aortic stenotic murmur and tense pulse, and moderately hard arterial walls. The nitrite (formula above) was employed. Tracing 4 was made prior to its use, and Tracing 5 after it had been administered for one week.

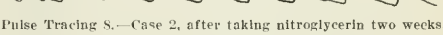
CASE 3.—G. B. T., native of United States, aged 42 years, widower, height 5 feet 10 inches, weight 150 pounds; occupation, trackman. The following is, in brief, the family history: Mother died of cardiac dropsy, father of kidney trouble; one brother of heart disease and another of pneumonia. Patient had had diseases of childhood, acute rheumatism in 1888 and at various times since then, also several bad attacks of la grippe. The patient had worked laboriously and used alcohol to excess for twenty years; there is no history of syphilitic infection obtainable. The illness for which he was admitted began two weeks previously as rheumatism of ankles, hips and shoulders.

The physical examination on admission indicates an existing

Pulse Tracing 6.—Case 2, after nitrites had been discontinued for two days.

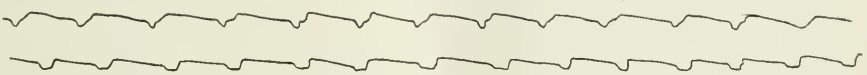
double valvular lesion, namely, mitral regurgitation and aortic stenosis. The arteries were palpable, moderately hard and quite tense, and the tension of his right radial appeared to be greater than that of the left. This is also shown in Tracings 8 and 9, the former being that of his right and the latter of the left radial artery. This patient had been taking drop doses of the tincture of aconite thrice daily.

At the end of one week of treatment with the nitrite solution, Tracing 10 (which see) was made from left radial, and indicated a decided modification of the tension as the result.[6]



Pulse Tracing 8.—Case 2, after taking nitroglycerin two weeks.

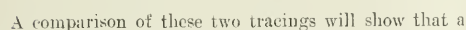
Without stopping to multiply instances, it may be further remarked that the results of these sphygmographic studies made clear the difference between various conditions described under the title of arteriosclerosis. Thus the blood pressure is not materially increased in many cases dependent on senile degeneration, and the same is true of those that arise in chronic diabetes and certain toxemias. Again, the nitrites whose action is so striking in lowering exalted tension are



Pulse Tracing 9.—Case 3, right and left radial arteries, after taking drop doses of aconite three times a day.

A comparison of these two tracings will show that a striking change was produced by the remedy, chiefly in the direction of the lowered blood tension. This was also appreciable to palpation at intervals. Tracing 6 was made two days after the nitrite was withdrawn in Case 2, thus showing that its favorable effects are not permanent.

The patient was now put on nitroglycerin gr. 1/100, increased to gr. 1/50 t.i.d., and at the end of four days



Pulse Tracing 10.—Case 3, left radial, after taking nitrites one week.

Tracing 7, which closely resembles the original tracing, was made.

After the lapse of ten days more, or a two weeks' course of nitroglycerin (gr. 1/50 q. d. during the second week) Tracings 7a and 7b were made.

While this remedy has considerably modified the original tracing, it exerted a less favorable influence by far than the nitrites (vide Tracing 5), although it is probable that the dose was not large enough.

strongly indicated and most effective in that category of cases in which there is an early and marked increase in the arterial pressure, and the heart as a consequence hypertrophied.

They are often found in association with disturbances of the metabolic processes (e. g., gout) and in the hyperplasia for which constant muscular strain is responsible, after removal of the cause. One further point remains to be emphasized: it is that in the most skilled hands sphygmographic records differ, "not only in different persons, but also on successive applications to the same person."

All instances treated either by the nitrites or the nitroglycerin in ascending doses, taught the practical lesson that while a favorable effect is exerted promptly by these remedies, persistence over long periods of time is a prime necessity, otherwise the improvement gained will be speedily lost.

6. The diagnosis of obscure aortic aneurism had been tentatively made during life owing to the differences in the pulse tracings on the two sides, but the patient subsequently died, and the autopsy did not show the presence of an aneurism

DISCUSSION

ON THE PAPERS BY DRS. THAYER AND BRUSH, DRENNEN, DOCK, BILLINGS, CABOT, OSLER AND ANDERS.

DR. ALFRED STENGEL, Philadelphia—The subject of arteriosclerosis presents itself to physicians in a somewhat different light from that in which it appears to the pathologist. In practical medicine we recognize it as a disease resulting from a number of causes and of importance as an intermediary condition that determines a great variety of organic diseases. It is of comparatively little importance to be able to recognize arterial disease when angina pectoris, interstitial nephritis, a high grade of chronic myocarditis, or some form of central nervous disease has developed. If we are to accomplish much in the treatment of the disease, it must be recognized at an earlier stage, and from this point of view two questions are of essential importance: The diagnosis by direct examination and the recognition of the etiologic factors. The causation is somewhat uncertain and notwithstanding the evidence brought forward by Dr. Cabot, I confess myself still convinced that alcohol is an important factor; other causes of importance are overexertion in athletics and in laborious occupations, chronic toxemias and infections. The importance of these latter conditions lies in the fact that they may be controlled to a certain extent, more at least than the habits of individuals. I have had occasion elsewhere to state that in acute infectious diseases, when the heart and blood vessels have suffered during the attack, a seemingly complete recovery may ensue, but subsequently under some stress or strain the dormant conditions in the vascular system again become apparent and advance progressively. The importance of this is that the convalescence of such diseases should be conducted with greater care than has been customary in the past. I remember the feeling of surprise with which I read the statement of a prominent physician speaking at a meeting of the British Medical Association to the effect that convalescence from typhoid fever should be considered to extend over the period of a year or longer, and that by the exercise of care during this prolonged period the end results of the disease could be obviated. The more I grow in experience of this disease, the more I become impressed with the soundness of this view. Overexertion, cares and strains of all kinds should be avoided for a very long period after all of the infectious diseases, but notably after typhoid fever. With regard to athletics, my experience extends over a period of some thirteen years, and I have become convinced that not rarely excessive and ill-directed physical exertion may lay the foundations for cardiovascular disease that may perhaps be dormant in the more active period of life, but becomes pronounced when the power of compensation begins to grow feebler with advancing age. Athletics must be controlled and properly directed if good and not harm is to come from such sports. With regard to the direct diagnosis of the condition, there are certain functional changes in the circulation, notably a sustained arterial pressure and a lengthening of the first heart sound, which are among the earliest physical signs. The diagnosis at a period when the disease has become well established and of an advanced stage is readily made, but the recognition in the beginning is generally difficult and often quite impossible.

DR. F. C. SHATTUCK, Boston—The multiplicity of the causes of arteriosclerosis has been brought prominently before us this morning, an illustration of the fact which age and experience brings home to us all—that causes in medicine are seldom single. A diseased state is generally the result of several factors, the relative importance of each not being always easy to measure. It seems to me Dr. Cabot has shown clearly that alcoholic excess is not alone and by itself a cause of arteriosclerosis. But he has not shown that it is not and may not be a contributing cause, perhaps potent. His statistics deal with a single class, pauper drunkards, men who have not led lives of intellectual activity or of mental or physical strain. Observation has led me to suspect that worry and the st[illegible]ous life, especially as we see it in business and some professional men, lead through defective metabolism to increased arterial tension and the widespread changes of arteriosclerosis. Statistics in absolute proof of this matter are not easy, if possible, to collect. In this class may not alcohol hasten and heighten arteriosclerosis? And is not this the class in which arteriosclerosis is oftenest seen? The men who tolerate alcohol best are not the brain workers and weight carriers. They are men who work with their muscles outdoors, or whose occupations, temperament and environment do not involve continued strain. The relation of climate to toleration of alcohol can not be ignored. In fine, we really know but little about the genesis of arteriosclerosis save that it is a matter of great complexity.

DR. WILLIAM KRAUSS, Memphis, Tenn.—The anatomic classification of this disease is fraught with difficulty. When you recall the amount of work which has been fruitlessly expended on differentiating between croupous and diphtheritic inflammation, you can understand what I mean. Dr. Welch has given us a beautiful lecture. He has shown us that essential arteriosclerosis is associated with changes in the intima whereby there is a division of the internal elastic lamina and a proliferation between the two layers. It was Thoma who pointed out that a giving way under pressure of the outer coats of the blood vessels is what calls for other means of getting contraction, hence there is a request for an overgrowth of connective tissue in the intima to overcome that dilatation. Etiologically we find the disease associated with causes that result primarily in the circulation in the body fluids of toxins producing parenchymatous degenerations in the solid organs, and it is not too much to assume that similar changes take place in the heart and vessels. This primary dilatation is not so much the result of increased pressure as of diminished resistance from injury to the elastic and muscular elements in the media. There may also be disease of the kidneys, and this brings up the practical inseparability of the two. For instance: Dr. Thayer mentions malaria as a cause, but malarial fever must be severe and of long duration to produce such grave changes, and in all such cases we have fibrosis in the kidneys. Severe malarial fever is also usually associated with temporary albuminuria, which permits the assumption of parenchymatous changes in the kidneys. I know a man who had yellow fever twenty-five years ago with suppression of the urine; that man can not drink alcohol to-day without raising his blood pressure to such an extent as to cause violent throbbing in his temples; these are the people in whom alcohol will produce changes in the blood vessels. There are great difficulties in the way of an etiologic classification, as attempted by Dr. Thayer, from histories of cases the subjects of which have left the hospital. With their present system of clinical clerks causes not heretofore recognized as factors in the disease may now be discovered. It is not the diseases so much as the pathologic changes in given cases, that have a bearing on the etiology. Certain irritants in the blood stream may produce inflammation in the intima and cause a proliferation resulting in intimal thickening; this may possibly be caused by the uninterrupted use of mercury as suggested by Dr. Drennen. When considering this problem of syphilis I should prefer to evade the lines laid down in the symposium and study syphilitic disease of the vessels as a whole. Then we can classify this with Heller's *aortitis luetica*, later gummatous changes from infection through the lymphatics in the periphery, and confined to the adventitia mostly and seen in smaller arteries, next the endarteritis obliterans, which occurs in still smaller vessels, and finally essential arteriosclerosis, which is more or less diffuse.

DR. CHARLES G. STOCKTON, Buffalo—I shall confine myself to two points and first reiterate the importance of a matter in relation to pain in the abdomen depending on arteriosclerosis which oftentimes is not suspected. Such a pain not infrequently occurs as the result of the disease of the heart muscle depending on arteriosclerosis; when abdominal pain does occur in such cases the disease will be found to be rather far advanced. I have seen a number of such cases and some of them I have reported. All probably have noticed the abdominal pain which occurs in those who have no palpable thickening of the arteries, but which depend on arteriosclerosis. In regard to the treatment, I do not think there is any doubt at all that the matter of treatment should be considered before changes

have resulted in the arteries, or before the arteries have revealed changes that direct our attention to them. Nevertheless I believe that when the gross lesions have appeared the condition is not absolutely hopeless, and I have pointed out that such cases are the ones the average physician will be called on to treat, for they make up a large gronp. Some years ago it occurred to me to place non-syphilitic cases who were able to lead lives marked out for them under proper management as to dietetics, exercise, medication, etc., and see what would happen. Naturally this group was not large, but it offered some encouragement. I will not go into the detailed histories of these cases, but I have in mind three who were under this treatment for from between five and seven years; they had marked arteriosclerosis and manifested renal lesions, and in one case there were certain suspicious central nervous symptoms. These patients are still living and enjoying better health to-day than when they came under observation. The plan of treatment was very simple and the same plan was adopted for all. There was a restricted diet, regulated exercise, the amount of fluid taken was regulated, as was the amount of alcohol, and finally was followed by the systematic use of baths that would have a tendency to dilate the arterioles and capillaries without producing a general relaxation. Instead of using the ordinary warm baths better results were obtained from short hot-air or vapor baths, not for their eliminative effect so much as for the purpose of opening up the capillary vessels. As to the use of drugs, I think that doctors differ as to the exact time when nitrites or nitroglycerin should be given. In my experience I have found it necessary to give these drugs frequently if I wish to obtain a uniform effect. It is far better to give them very frequently rather than two or three times a day. This rule applies to the use of any nitrite. I do not think the gentlemen need be alarmed when I say that nitroglycerin should be used every hour. It should be remembered that patients soon become tolerant of nitroglycerin. With regard to the iodids, I believe that without them we will not have successes in cases of arteriosclerosis. The long continued use of the iodids, the hot or vapor baths, nitroglycerin in frequent and proper doses, are all important in the treatment of arteriosclerosis in which so little stride has been made in therapeutics.

DR. S. J. MELTZER, New York City—Dr. Thayer drew his conclusions from the conditions of the radial artery, and one of his conclusions was that work, manual work, is the most essential factor in the production of arteriosclerosis. It is necessary to distinguish between general and local arteriosclerosis. The latter might be produced by local causes, among which we might mention (1) continued injury of a certain part, and (2) increased activity of that part. With increased activity of an organ there is a greater flow of blood through it, which is a potent factor in the production of arteriosclerosis. Now, in manual work both mentioned factors are operative in the production of a local arteriosclerosis in the vessels of hand and arm; there is continual injury and increased activity which might favor an early development of arteriosclerosis in the radial artery. But the presence of this localized arteriosclerosis alone can hardly be taken as an unmistakable indication of the existence of general arteriosclerosis. The same argument holds good for the reversed condition; the absence of a sclerosed radial artery is no proof of the absence of an arteriosclerosis elsewhere, and the absence of a sclerosed radial artery in syphilitics who have never done manual work is no proof of their not having extensive arteriosclerosis elsewhere in the body. With regard to alcohol, I wish to express great admiration for the straightforwardness with which Dr. Cabot has given us his results. Dr. Cabot has done much work on alcohol and his results led him to views which made him a *persona grata* in Massachusetts and elsewhere with men and women who are averse to the use of alcohol in health and in sickness. I am afraid that Dr. Cabot's assertion that arteriosclerosis in alcohol is a myth will be misinterpreted by this same unscientific class of public agitators. As to the correctness of his conclusions I have some doubts. He stated that in the autopsies the peripheral arteries were examined. He did not state that the arteries belonging to the splanchnic area were also examined. We have heard to-day, in the masterly paper on the pathology of arteriosclerosis, that according to Romberg and his school it is in the splanchnic area that arteriosclerosis is liable to occur. If that is so, and if Dr. Cabot has not examined the splanchnic area, his conclusions that alcohol does not lead to arteriosclerosis would not yet be well supported. I have a personal interest in that question. Two years ago, in a paper read in Boston, I went on record in favor of the use of alcohol in disease. I stated then that the effect of alcohol on the circulation is not to influence the blood pressure, but the distribution of the blood. Alcohol does not increase the blood pressure, but everybody knows that alcohol causes a dilatation of the cutaneous vessels. Now if these vessels are dilated while the blood pressure remains the same, there must be a compensatory constriction of the vessels somewhere in the body. I suggested then that this takes place in the vessels of the splanchnic area. And it is perhaps essentially in these vessels where alcohol causes sclerosis. In the above mentioned paper I stated that alcohol in health is sometimes a curse; alcohol in disease is often a blessing. In repeating it I would now state: alcohol in disease is often a blessing; alcohol in health is very often a curse.

DR. ROBERT H. BABCOCK, Chicago—The thoughts I had in mind have been so clearly presented by Dr. Shattuck that, as a matter of fact, he has taken the wind out of my sails. I should say, however, in regard to alcohol, that convincing as Dr. Cabot's statements appear to be, they impress me as not convincing in their refutation of the etiologic influence usually attributed to alcohol and as emphasizing the error likely to occur from the attempt to consider any one factor by itself. For example, the case he reported was of a young man who took a quart of whisky daily for ten years. Now, theoretically, that may be all right, but is it quite fair in estimating the influence of alcohol to draw conclusions from such a case? To be sure, whisky contains about 50 per cent. of alcohol, but there may be other forms of alcoholic drinks which may be more injurious than whisky. For instance, there are Germans who consume 25 to 30 liters of beer daily, and when our German confrères estimate the influence of alcohol in the production of arteriosclerosis they attribute importance not alone to the alcohol, but to other factors residing in the consumption of such enormous quantities of beer. These are the intake of excessive amounts of fluid and the large percentage of nutritive material contained in the beer. It is asserted by some, notably French writers, that alcohol in excess produces hypertrophy of the heart. The Germans, on the other hand, as Krehl, believe that such is not the case, that alcohol in concentrated form occasions not hypertrophy, but fatty degeneration, but that hypertrophy may result from excessive use of beer and this only in consequence of the large amount of nutritive material and fluid taken into the system. So I apprehend it may be as regards arteriosclerosis. There must be something else in addition to the alcohol if chronic alcoholism is to set up arterial changes. There is, I believe, an element of strain on the vessels which must be considered when individuals consume 25 to 30 liters of beer daily. It is particularly strain of an intermittent kind which has a causative influence, and in the consumption of large quantities of alcohol the strain exerted is of an intermittent sort. Dr. Welch emphasized the fact that arteriosclerosis may be endured for many years without shortening life. I desire to add that it is the individuals with arteriosclerosis who are thin who often reach advanced age; whereas, those persons whose arteriosclerosis is associated with corpulence are especially liable to be cut short in the prime of life from some of the visceral changes depending on or connected with vascular decay. In such persons we are apt to recognize hypertrophy of the heart and oftentimes sclerosis of the coronary arteries.

DR. F. R. WEBER, Milwaukee—I think that we have all come to the conclusion that the pathogenesis of arteriosclerosis in its various forms concerns itself primarily with changes in the arteriomuscular system and secondarily with changes in the intima. We must study simple parenchyma—protoplasm of

the muscle cell—and chemically consider its life nucleus and its receptors or side chains. These receptors partake of the characteristics of the aldehyde and amine groups. If we are to write the history of arteriosclerosis we must go back to simple chemistry, and to the action of nutrient and toxic agents on protoplasm. Living protoplasm has the capacity for intense chemic reactions, and Loew has made a clever attempt at the classification of toxic agents. 1. Agents acting by chemical substitution. Thus the phenols react easily with the aldehyde group, and others with the amine group. 2. Oxidizing agents like permanganate of potash, phosphorus, arsenic, etc. 3. Catalytic toxic agents like chloroform, ether, alcohol, chloral hydrate, etc., of no intense chemical activity and yet of large toxic power. 4. Protein bodies readily unite with bases, acids and alkalies. Lead may enter thus and organic life deteriorate. Sodium chlorid, potassium chlorid and many other salts are concerned in osmotic pressure. Barium chlorid, like adrenalin, has a direct action on the walls of the arteries and increases blood pressure. Administered experimentally for a length of time it produces obliterating endarteritis. In conclusion we mention toxic organic bases, especially toxins and proteins which react specifically with living protoplasm. A more complete system of toxicology as regards living protoplasm, and experimental work along these lines in laboratories of research, will solve the question of arteriosclerosis and aid in its prevention.

DR. BOARDMAN REED, Philadelphia—There is one point which has been overlooked in the consideration of arteriosclerosis, and that is the matter of the dosage of alcohol. Dr. Cabot has proved that large doses, a pint to a quart of alcohol taken daily by old topers, do not apparently cause an undue percentage of arteriosclerosis, and it seems to me that this is not incompatible with the views generally held that alcohol may at least indirectly produce that disease. It is probable, in my opinion, that when arteriosclerosis is produced, in persons who drink alcoholic beverages, it is indirectly and through the gastrointestinal tract. We know that alcohol is a poison to protoplasm and all the glandular structures, the liver, gastric glands, etc.; that alcoholic beverages in the usual doses have the effect of lowering the action of the gastric glands. Therefore, an injurious effect of alcohol on the arteries can be proved, since it is also an established fact that one way in which arteriosclerosis can be set up, is through toxins formed in the alimentary tract. Alcohol impairs digestion and thus indirectly causes arteriosclerosis, but, it is also known that when one drinks largely of alcohol in concentrated form, as in whisky or gin, less fermentation of putrefaction results than in the case of moderate beer or wine drinkers. All clinicians have noted that when a man is indulging largely in alcohol he takes but little food, and only a small amount of indican may appear in the urine. Therefore, may it not be concluded that the more usual indulgence in alcohol can produce arteriosclerosis through its effect on digestion? Whisky-soaked men may escape the danger in this form because they partake so sparingly of food. They live practically on alcohol, which is an antiseptic and present less indican in the urine, and less of the other products of a faulty metabolism than moderate drinkers. The large amounts of concentrated spirits poison them in other ways, but may tend less to the production of arteriosclerosis than wine and beer in the usual quantities.

DR. HENRY SEWALL, Denver—One of the most widespread applications of clinical observation in medicine to-day is to be found in the use of certain instruments for measuring the human blood pressure. These instruments are, for the most part, too one-sided or incomplete in their usefulness; they usually measure solely either the systolic or the diastolic blood pressure. I was very glad to hear Dr. Anders dwell on the physiologic function of the phases of heart activity, as a clinical register of arterial blood pressure and its variation, a thing that is so apt to be disregarded. The pulse seems to me to manifest two different characters, either of which may indicate the presence of arteriosclerosis: (1) a pulse of continuous high tension and incompressibility; (2) a pulse unaccompanied by any valvular lesion, which is hard and has a high tension at the acme of the pulse wave, but which almost collapses with diastole of the heart. Now, as regards the nutrition of the tissues in general and of the arteries in particular, what are the relations of systolic, diastolic and mean arterial blood pressure? The respective values of these physiologic phases of blood pressure probably have intimate relations both to the development and effects of the pathologic condition of arteriosclerosis.

DR. A. MCPHEDRAN, Toronto, Canada—I desire to correct a statement made by a previous speaker by pointing out that the consumption of alcohol *per capita* in Canada is reported to be less than in any other civilized country. As to the effects of alcohol on the arterial system, it is of interest to refer to a discussion which took place at the British Medical Association a few years ago in regard to an epidemic of neuritis among beer drinkers in the midland counties of England. It was found on investigation that the disease was produced by arsenic with which the beer was contaminated. Sir William Gairdner of Glasgow said that while whisky was much drunk in his city, he had never seen a case of alcoholic neuritis. It is evident that some accessory condition is necessary to enable alcohol to produce either neuritis or arteriosclerosis. It is worthy of note also that a variability in the vitality of tissue exists in different persons, and that to this may be ascribed the occurrence of disease in some while others escape. As to the effects of overstrain, it seems certain that a continual strain is much more injurious than an intermittent strain In the days when the British soldier had to carry his knapsack, and walk in a constrained attitude, aneurism was of much more frequent occurrence than now, when the utmost freedom of body is allowed.

DR. A. JACOBI, New York City—I should like to ask Dr. Thayer the ages of the patients who had typhoid fever and who later developed arteriosclerosis. Next: What can we do with those cases of arteriosclerosis dependent on syphilis? Here we use mercury and the iodids, and more or less successfully. That is why it strikes me as too sweeping to attribute some symptoms of arteriosclerosis to the use of mercury. I believe most of us use mercury and the iodids whenever we have such a case of arteriosclerosis of syphilitic origin. Dr. Welch said that one of the causes of hypertrophy of the heart was local obstruction; he said this when speaking of arteriosclerosis as a cause of myocarditis. We should not look for one cause in the production of cardiac hypertrophy; there may be a combination of circumstances and a number of causes working in the same direction. Among the cases are the following: There are the cases studied by Germain Sée, Virchow and others, of congenital smallness of large and small arteries all over the body, which cause a peculiar form of congenital chlorosis of women and sometimes men, which appears to depend on nothing but this original smallness of the arch of the aorta and the arteries in general; this may give rise to obstruction in the peripheral circulation. In connection with this condition there is frequently no hypertrophy. The heart may even be small, while at the same time the arteries are small or a heart of normal size, with the structure not absolutely normal; the muscle may be flabby and sometimes there is a fatty degeneration. In cases of pernicious anemia, where this condition is sometimes found, there is at work another cause. So I think it is well worth while to doubt in connection with many cases whether the contraction of the arteries or the local obstruction in the arteries would be by itself a sufficient single cause of the hypertrophy. It does not appear to be so.

DR. W. S. THAYER—I agree with Dr. Meltzer that one must make many reservations before applying figures which relate only to palpable radial arteries, to arteriosclerosis in general. As I have already stated, however, it seems to me probable—and I think most clinicians will agree with me—that changes in radial arteries sufficient to justify a note in the course of a routine ward visit, in individuals under 40 or 50 years of age, are associated in a considerable proportion of cases, with sclerotic changes elsewhere. Our figures and our conclusions, however, relate entirely to the palpability of the radial arteries.

DR. C. TRAVIS DRENNEN—I am grateful to Dr. Jacobi for what he has stated regarding the use of mercury in syphilis. The purpose of this paper was not to disparage the use of mercury, but to protest against the methods which are and have been commonly adopted by the profession at large for many years of administering mercury for practically many years without interruption.

DR. RICHARD CABOT—I think that we can not accurately determine the diastolic blood pressure with Stanton's modification of the Riva-Rocci instrument, but that we can measure it with an accuracy sufficient for the purposes for which the instrument is likely to be used. While I have not sufficient experience to take issue with the views expressed about competitive athletics, I should like to refer the gentlemen to the March number of the *Harvard Graduates' Magazine*, where there are some statistics of importance on the health of Harvard oarsmen. Rowing is a form of immoderate athletics, if there is any, but the heart and arteries in these statistics do not show changes confirmatory of what has been stated. I certainly agree with what Drs. Shattuck and Babcock have said regarding multiplicity of the causes of arteriosclerosis. The activity of alcohol as a cause acting alone I have not been able to perceive. Replying to Dr. Meltzer, at the Massachusetts General Hospital autopsies the splanchnic area was investigated and none of the changes referred to was found. I agree with Dr. Meltzer, alcohol is a curse in health, whether in large or in small quantities, and I act on that belief, but when one is making investigations or doing research work he must confess to what he finds. What I found was absolutely opposite to what was expected, and I gave the figures as I found them

THE RELATION OF CHEST CONTOUR TO LUNG CAPACITY.*

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Early in the history of medicine clinicians recognized that the shape of the chest varies in disease. Thus the emphysematous or "barrel-shaped" chest, the phthisical or flat chest, and the various unilateral deformities of pleurisies, etc., are mentioned under various names by eminent writers.

Apparently, however, the fact that the contour of the chest varied in different individuals not subject to disease was not recognized or was considered of no value until in the beginning of the last century, when Chomel[1] published the first work on thoracic diameters and insisted that diameters and not circumference were the true basis for estimating lung capacity. The next publication along this line was by Fourmentin,[2] who, working along the lines of Chomel, determined the "thoracic index," using the formula adopted by craniologists in determining the cephalic index, i. e.:

$$\frac{\text{Transverse diameter} \times 100}{\text{Dorsoventral diameter}} = \text{index}$$

This he found to vary for apparently normal individuals between 120 and 140, and states that whenever the index fell below or above these numbers the subjects were cachectic. He also, by means of a modified panagraph, obtained reduced tracings of the thorax, apparently being interested, however, in such abnormalities as pleurisies and tuberculosis only.

A few years later (1884), E. Maurel,[3] realizing that thoracic measurements are for the purpose of estimating lung capacity, using a cyrtometer for the purpose of making tracings of the chest contour, arrived at the following conclusions:

1. "Perimeter" is not a satisfactory basis on which to estimate lung capacity because for the ellipsoidal figures having an equal perimeter the ones whose diameters most nearly approach an equal value, contains the greatest area.

2. The method of estimating capacity by means of anterioposterior and transverse diameters is more accurate than by means of the perimeter.

3. The most accurate method is by means of the contour area as taken by the "cyrtometer," i. e., the graphic representation on cross-section paper ruled in sq. cm., of a shape of cross section of the chest.

Maurel, also, by using the thoracic index, confirmed the finding of Fourmentin regarding the average index

Since this time numerous observations have been made by clinicians and anthropologists as regards the two diameters of the thorax, but it remained for E. O. Otis[4] to determine their average measurements. These he gives as 7.3 inches ((18.5 cm.) for the anteroposterior and 9.6 inches (24.3 cm.) for the transverse diameter.

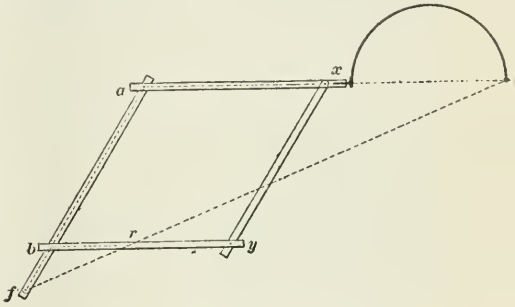

Fig. 1.—The chest pantograph.

In 1897 Hutchinson,[5] from measurements of enlisted men, determined the average index of the chest. Instead, however, of using the index of Fourmentin he adopted the less cumbersome method of dividing the smaller (dorso-ventral) diameter by the larger (transverse) diameter. By means of this formula he determined the average index to be 0.725. Contrary to the usual belief, however, he makes the following unique assertion:

1. The tubercular type of chest is not a flat chest, as is usually taught, but one tending toward the round or barrel shape, basing his conclusions on the indices of the few but well-selected cases of tuberculosis, the measurements of which he was able to obtain.

2. The round type of chest is an undeveloped chest, because of the following considerations:

a A study of comparative anatomy shows that the higher we rise in the scale of mammalia, the more the transverse diameter increases at the expense of the dorso-ventral.

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. Chomel: Mensuration du thorax. Gaz. de Hop., Paris, 1828-9, vol. i, p. 213.

2. Fourmentin, Emil J. J. F.: Etudes precises sur les deformations de la poitrine avec applications a la pleuresie et a la phthisie. Indices thoracique. Paris, 1874. No. 411

3. Maurel, E.: Mensuration de cage thoracique. Bull. de la Soc. d. Anthropometrie d. Paris, 3 S., vol. x, p. 345, and De la Cyrtographie Stethometrie et Stethographie Bulletin de Therap., etc., Paris, 1887, vol. cxiii, p. 450.

4. Otis, E. O.: International Med. Mag., vol. iii, p. 85.

5. Hutchinson, Woods: Some Deformities of the Chest in the Light of its Ancestry and Growth. THE JOURNAL A. M. A., vol. xxix. Sept. 11, 1897, p. 512.

b The growth of the human thorax both during gestation and childhood shows a corresponding increase of the transverse at the expense of the dorso-ventral diameter.

As one reviews the literature of the subject of the thoracic indices or contours, he is struck by the frequency of reference to lung capacity, but still more striking is the paucity of observations on capacity and the utter lack of data showing the relation between either indices or contours and capacity. The object of the work intended in the present paper is to determine, if possible, if there is any relation between contour areas, contour indices and lung capacity.

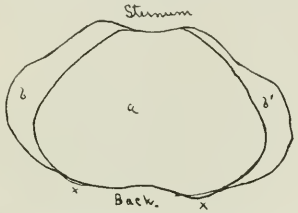

Fig. 2. Superimposed tracings at expiration showing the difference in area between the broad and deep chests. The broad chest is a tracing representing the contour of the chest of one of the oarsmen of the U. S. Life-saving Crew at Evanston. (Note the prominent latissimus dorsi muscles x and x.) The tracings of the deep chest is of an individual of sedentary habits.

METHODS.

The data consists of observations made on 119 individuals (male), students of medicine in the medical department of Northwestern University.

Observations.—The observations consist of:

1. Thoracic diameters.

a Dorso-ventral during inspiration and expiration.

b Transverse during inspiration and expiration.

2. Contour areas (chest pantograms) taken at the end of inspiration and expiration.

3. Contour index determined by the formula of

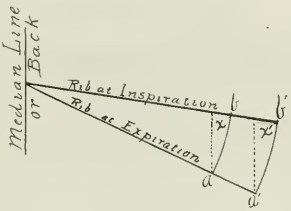

Fig. 3.—Illustrating geometrically the influence of increased linear dimension on relative expansion. The greater the breadth or depth the greater the expansion in the dimension in question on inspiration.

Hutchinson: dorso-ventral diameter divided by the transverse diameter.

4. Lung capacity.

The Apparatus.—The diameters were taken with a pair of calipers (pelvimeters), a description of which is unnecessary. The lung capacity was obtained by means of the wet spirometer.

The contour-areas or cross-sections were taken by means of the chest pantograph of Hall[6] (Fig. 1). This instrument consists of a modified artist's pantograph; the modification consisting of a semicircular brass rod attached to the distal angle (x) of the rectangle of the pantograph for the purpose of encircling the body; the brass rod being so attached at x as to permit of its rotating through an arc of 180 degrees, and so permits a tracing of the opposite side of the body.

The apparatus is attached to a table fitted at one side with a back-rest at right angles to the edge of the table. The patient, being stripped to the waist, is then seated beside the table on an adjustable stool, with his back squarely against the back-rest, and the tracing-point (T) of the brass rod then placed against the side away from the table. The subject having been told to

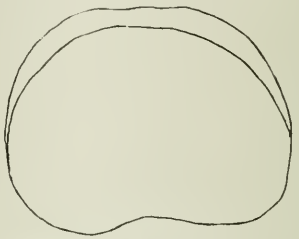

Fig. 4.—Tracing showing the contour of a round-chested (high index) individual, a druggist. No athletics. Note the evenness of the contour.

rigidly maintain his position, is instructed to exhale. The tracing-point is then swept rapidly but accurately across the back to the opposite side, then turned through an angle of 180 degrees, and swept along the front of the chest until the point from which the tracing was started is reached. A sheet of cross-section paper having been placed under the recording point (r) of the pantograph, this gives a tracing of the thorax in expiration. If a tracing of the thorax in inspiration is desired, the patient is instructed to inhale to his full capacity, and the tracing-point is again swept back to the opposite side, i. e., the one against the table. Since the patient is against the back-rest all the time, it is not necessary to retrace the contour of the back. The cross-

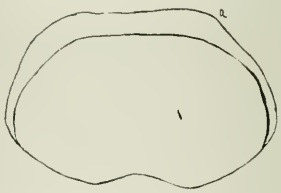

Fig. 5. Tracing showing the contour of a broad-chested (low index) individual, an athlete (pitcher in baseball team). Note the prominence of the right pectoral muscle (a).

section or ordinate paper used was ruled in 2 mm. squares, and the pantograph was so arranged that the figure was reduced to one-fifth the original size, so that one square = 1 sq. cm.

This gives one a tracing which is of a convenient size for use and for filing. It seems pertinent to the subject to call attention to the fact that one acquires at a single observation the following data: 1, The accurate configuration of the thorax at any desired level; 2, the area at expiration and inspiration; 3, area expansion i. e., the difference between area of inspiration and expiration; 4, diameters, both dorso-ventral and transverse; 5, diameter expansion for both dorso-ventral and

6. Hall, W. S.: The Chest Pantograph, THE JOURNAL A. M. A., Feb. 28, 1903, vol. xv, p. 567, and The Evaluation of Anthropometric Data, THE JOURNAL A. M. A., vol. xxxvii, Dec. 21, 1901.

transverse; 6, countour index or the ratio between the dorso-ventral and the transverse diameter.

THE EVALUATION OF THE DATA.

Instead of using the method of averages for evaluating measurements, the median value was obtained by the Hall-Quetelet[7] method, the median value being "that value which is so located in the whole series of observations of a single measurement of any group, that there are as many below it as above it, i. e., that the number of values which it exceeds is equal to the number of values which exceed it."

TABLE 1, CLASS 1, SMALL CHESTS.

No. of Individual.	Height, Standing.	Height, Sitting.	Dorsoventral Diameter at Expiration.	Dorsoventral Diameter at Inspiration.	Dorsoventral Expansion.	Transverse Diameter at Expiration.	Transverse Diameter at Inspiration.	Transverse Expan.	Lung Capacity.	Contour Area at Expiration.	Contour Area at Inspiration.	Contour Expansion.	Thoracic Index.
1....	181	92.5	17	20.5	3.5	27	31	4	3400	630	714	114	.661
2....	173.5	90.5	16	20	4	27.5	30	2.5	3700	565	680	115	.666
3....	174	91.7	14	19	5	32.5	37	4.5	2500	470	545	75	.703
4....	173	90	17	19.5	2.5	27	29.5	2.5	3700	655	735	80	.661
5....	178.8	93.3	17	21.7	4.7	27	30	3	3770	509	633	124	.723
6....	.....	91	16.5	19.5	3	26	28	2	3000	493	595	100	.696
7....	177.2	93.2	15.1	18.5	3.4	28	31	3	3860	495	560	65	.596
8....	175	92	17	21	4	26	29	3	4200	550	645	95	.724
9....	172.3	85	16.5	19.5	3	24.5	27	2.5	2980	525	605	80	.722
10....	171	90	15	21	6	28	31	3	4000	565	720	155	.677
11....	168.5	90	16	18.5	2.5	23.5	25.5	2	3400	515	595	80	.725
12....	173	92	16.5	20	3.5	25	28	3	3500	500	585	85	.714
13....	176	93.5	15.5	19	3.5	24	28	4	3200	500	575	75	.678
14....	175.5	94.5	16	19.5	3.5	26	27.5	1.5	3400	430	555	125	.709
15....	175	90	17	22.5	5.5	27	31	4	3400	595	710	115	.725
16....	167	90	17	19	2	21.5	26.5	5	3600	485	600	115	.717
17....	169	86.5	15.5	18.5	3	26.5	28.5	2	2800	440	525	85	.652
18....	170.4	87.5	16.5	20	3.5	25.7	28	2.3	3560	490	610	120	.714
19....	171	86.6	15	18	3	25	27	2	2750	455	560	105	.666
20....	172	89	15	18	3	25	27	2	3170	460	590	130	.666
21....	182	93	17	21.3	4.3	26.5	30	3.5	4170	590	695	105	.725
22....	180	93	16	20	4	25.5	28	2.5	3950	510	600	90	.714
23....	179.5	90.5	17	21	4	27.5	29.5	2	3560	450	560	110	.711
24....	175	92	14	19	5	26	28	2	2490	510	610	100	.678
25....	167	86	14	19.5	4.5	25.5	28.5	3	2950	425	580	155	.684
1....	186.7	96.5	17	21	4	24	27	3	4280	575	670	95	.777
2....	170	89	16.5	20.5	4	24	26.5	2.5	3300	455	530	75	.773
3....	169	84.5	14.5	19	4.5	23.5	26	2.5	3000	455	535	80	.730
4....	180	96	15.5	22	6.5	25.6	27	1.4	2900	525	630	105	.811
5....	161	84	15.5	20	4	25	26	1	3230	345	415	65	.769
6....	168.5	90	16.5	21	5.5	25	27	2	3570	455	520	65	.777
7....	181	87.5	16	21	5	23	27	4	3100	430	520	90	.777
8....	170	88	17	21.5	4.5	23.5	28	4.5	3350	525	630	105	.767
9....	171.5	90	17	20.5	3.5	24	27	3	3400	445	550	105	.759
10....	181	91	16.5	22	5.5	25.5	30	4.5	3970	540	680	140	.733
11....	172.5	90	16.5	21	4.5	24	27.8	3.8	3300	515	600	85	.755
12....	182.5	92	17	22	5	26.5	28.5	2	3900	460	565	105	.772
13....	170	91.6	14.5	19.5	5	23.5	26	2.5	2630	380	510	130	.730
14....	167	86.8	16	19.5	3.5	25	26.5	1.5	3200	510	620	110	.736
15....	169	89.1	17	20	3	21.5	24	2.5	2500	435	550	115	.833
16....	170	88	17	21.5	4.5	24.5	26.5	2	3100	490	625	135	.811
17....	184	93	17	23	6	26.5	28.5	2	3700	600	735	135	.807
18....	179	91	16	21	5	24	27	3	4300	425	515	90	.777
19....	172.2	93	17	20.5	3.5	26	28.5	2.5	4000	520	635	115	.788
20....	172	89.5	16	20	4	24.5	26	1.5	2800	450	530	80	.769
21....	181.6	93.5	17	22.5	5.5	24.5	27.5	3	3940	565	700	135	.818
22....	172.4	91	15	20.5	5.5	24	26	2	3600	480	620	140	.788
23....	183	92.5	16.8	20.5	3.8	24	26.5	2.5	3150	465	555	90	.773
24....	175	94.5	17	20.5	3.5	24.7	28	3.3	3490	560	690	130	.731
25....	179	91	15.5	21	5.5	25	27.5	2.5	2800	490	595	105	.763
26....	167	85	16	20.5	4.5	25.5	28.5	3	3200	555	635	80	.732
27....	155	81	16.5	20	3.5	22.5	24.5	2	2930	460	520	60	.814

The data was first transferred to cards, each card giving all the measurements of an individual. Then to determine the median value of any measurement the two extremes are found. Thus, for example, it is found that the height of 116 individuals varies between 152 cm. and 192 cm. This gives a difference of 40 cm. between the shortest and the tallest individual of the series.

Dividing the series into ten groups, with a difference of 4 cm., we find the following:

152—156	160—164	168—172	176—180	184—188	192
1	2	6 16	35 23	16 11	2 1

7. Quetelet: Anthropometrie ou mésure dés different facultés de l'homme, Bruxelles, 1870.

Since there are 116 measurements in the series, it is necessary only to determine the fifty-eighth measurement to obtain the median value.[8] This is obtained by the formula:

$$M = a + d\left(\frac{\frac{(n\ 1)}{2} - l}{m}\right)$$

M = Median value.
a = minimum value of median group (the group containing the median value.)
d = difference between groups
n = total number of observations.
l = sum of observations below the median group.
m = number of observations in the median group.
Substituting

$$M = 168 + 4\left(\frac{(116 - 25}{35}\right) = 170.6$$

TABLE 2, CLASS 2, MEDIUM-SIZED CHESTS.

No. of Individual.	Height, Standing.	Height, Sitting.	Dorsoventral Diameter at Expiration.	Dorsoventral Diameter at Inspiration.	Dorsoventral Expansion.	Transverse Diameter at Expiration.	Transverse Diameter at Inspiration.	Transverse Expansion.	Lung Capacity.	Contour Area at Expiration.	Contour Area at Inspiration.	Contour Expansion.	Thoracic Index.
1....	171	87.5	17.5	20	2.5	29	32	3	4500	615	780	165	.625
2....	175	92.5	18	22	4	28.5	31	2.5	4350	610	705	95	.705
3....	156	92.5	18	20.5	2.5	26.5	30	3.5	3600	505	640	135	.683
4....	170	87.5	18	20.5	2.5	26	30	4	3400	625	735	110	.683
5....	178	92	18	22	4	26.6	31	3.4	3950	510	625	115	.709
6....	175.5	93	18	20.5	2.5	26.5	29	2.5	3650	495	620	125	.707
7....	180.4	94.4	18.5	21.5	3	28	30.2	2.2	3700	600	695	95	.712
8....	170.5	87.5	17.3	21	3.7	26	29	3	3700	500	670	170	.724
9....	171	90.5	19	24	5	27	33.5	6.5	4000	610	755	145	.716
10....	172.5	88.5	18	21.5	3.5	28	32	4	3600	505	595	90	.671
11....	173.5	93.5	17.8	20.5	2.7	25.5	31	5.5	3450	510	610	100	.661
12....	177	88.7	17	21	4	28	29.5	1.5	3450	545	660	115	.711
13....	181	92	19	23	4	30	33	3	3800	640	745	105	.697
14....	172.5	89.7	18	20.5	2.5	25	28.5	3.5	3250	430	550	120	.719
15....	167	86	18	20.5	2.5	27	29	2	3700	455	660	105	.707
16....	175	90	18.5	20	1.5	26	28	2	3200	490	575	85	.714
1....	180	91.2	18	21.5	3.5	27	29.7	2.7	3800	606	680	74	.728
2....	170	87	17.7	19	1.3	26	28.2	2.2	3920	495	655	160	.730
3....	181.5	94.8	18.5	21.5	3	26	28.5	2.5	4350	610	690	80	.754
4....	170	89	19	22	3	26.7	28.5	1.8	3600	563	672	110	.772
5....	166	86.5	17.5	21	3.5	23	28	3	3900	515	630	75	.750
6....	172	92	18.5	21.5	3	26	28	2	3600	640	730	90	.760
7....	172.5	90	19	22	3	24	25.5	1.5	2700	445	500	65	.862
8....	185	95.8	17.5	21	3.5	25.7	28	2.3	3000	420	535	115	.756
9....	162	83	17.5	20.5	3	24	27.5	3.5	2650	460	545	85	.745
10....	171	89	18	24	6	26	28	2	3450	625	705	80	.857
11....	172.5	89.5	18	22.7	4.7	26.5	28	1.5	2800	545	665	120	.812
12....	176.5	90	17.6	22.7	5.1	24.3	27.6	3.3	3200	400	525	125	.822
13....	173	93.5	19.0	22.5	3.5	27	31	4	3200	540	690	150	.728
14....	166.5	90	17.5	21	3.5	24	27.5	3.5	2700	560	655	95	.763
15....	180	92.8	17.3	24.8	6.5	27.3	29.3	2	4250	525	685	160	.813
16....	165	86	19	24	5	28	30	2	2800	430	555	125	.800
17....	168	91	17.5	20.5	3	22	25.5	3.5	3400	515	585	70	.804
18....	176	91.8	17.5	21.5	4	22.5	27	4.5	2630	515	605	90	.770
19....	174	91	19	22.5	3.5	27	29	2	3500	620	715	95	.775
20....	178	92	19	23	4	27	30	3	4280	640	720	80	.733
21....	168	88.2	18	20	2	25	27	2	3400	540	635	95	.740
22....	172.5	90	17.5	21	3.5	24.5	27	2.5	2900	475	560	85	.777
23....	167	91.5	18	22	4	24.5	30	5.5	3980	430	525	95	.733
24....	168.4	90.2	17.5	21	3.5	24	27	3	3780	585	645	80	.777
25....	163	85	18.5	25	6.5	27	30	3	3700	560	650	90	.833
26....	170.5	88	18.5	22.5	4	26.5	29	2.5	4200	620	705	85	.775
27....	178.5	90	17.8	22	4.2	25.3	29	3.7	3500	550	635	85	.758
28....	175	91	18.5	22	3.5	27	28.5	1.5	3800	515	635	120	.772
29....	172.5	90	18.7	23.5	4.8	27	30	3	3960	550	690	140	.783
30....	174	93.7	18.5	23	4.5	27	30.5	3.5	3300	489	625	145	.754
31....	180.4	94.5	17.5	20.5	3	25	27.5	2.5	4140	515	590	75	.745
32....	166	88.5	17.5	20.5	3	24.5	27	2.5	3290	495	585	90	.759
33....	181	93	19	22.5	3.5	27.5	30	2.5	2750	547	647	100	.750
34....	177	94.5	19	25	6	25	29	4	5200	610	730	120	.862

In arranging the cards, they were first divided into three classes according to size; that is, according to the length of anteroposterior diameter. Those having a diameter falling between 14 and 17 with a median value of 16.863 cm., were called small-chested (Class 1). Those whose dorso-ventral diameter fell between 17 and 19 (median value 18.143) were called medium-sized (Class 2), while those whose anteroposterior diameter was over 19 (median value 19.454), were called large chests (Class 3).

This in further calculation throws out of considera-

8. For a full discussion of the subject of median values the reader is referred to an article by W. S. Hall in THE JOURNAL A. M. A., vol. xxxvii, Dec. 21, 1901.

tion the element of size which must be eliminated before area and capacity may be compared with contour.

TABLE 3. CLASS 3. LARGE CHESTS.

No. of Individual.	Height, Standing.	Height, Sitting.	Dorsoventral Diameter at Expiration.	Dorsoventral Diameter at Inspiration.	Dorsoventral Expansion.	Transverse Diameter at Inspiration.	Transverse Diameter at Inspiration.	Transverse Expansion.	Lung Capacity.	Contour Area at Expiration.	Contour Area at Inspiration.	Contour Expansion.	Thoracic Index.
1....	170	....	19.5	22.8	3.3	25.8	28.5	2.7	3400	475	589	114	.705
2....	175	....	20	25	5	30	33	3	5400	628	798	170	.757
3....	171.2	....	21	23	2	29.5	30.5	1	4000	642	715	73	.754
4....	178	95	21.5	25	3.5	28	33	5	4150	700	876	176	.757
5....	177.3	88	22.5	24.5	2	31.3	34.5	3.2	4100	720	858	113	.710
6....	174.5	92.7	20	23.8	3.8	27	31.5	4.5	3800	715	884	169	.755
7....	167	89	20	22.5	2.5	31	34	3	4000	800	916	116	.662
1....	175	....	20	25	5	23	27.5	4.5	4800	639	816	177	.909
2....	172.5	....	19.5	24	4.5	26	29.5	3.5	4600	663	815	152	.813
3....	170.3	....	23.5	26	2.5	32.5	34	1.5	3300	540	628	88	.765
4....	166.8	....	20	23	3	24.7	26.5	1.8	3700	610	699	89	.868
5....	163.6	....	20.7	24	3.3	28.8	31.4	2.6	3800	672	794	122	.764
6....	172.5	89	21	22.5	1.5	27.5	29.5	2	2600	670	745	75	.762
7....	180.5	94	24	28	4	31	33.5	2.5	3940	695	751	146	.834
8....	180	96	20	27	7	27	34	7	3500	595	798	203	.794
9....	165	87.2	19.8	21.5	2.7	26.8	28	1.2	3200	600	676	76	.762
10....	177	90.5	20	23	3	25.5	28.5	3	3350	515	623	113	.807

Each class was then subdivided into broad and deep chested by means of the contour indices, i. e., those chests in Class 1 whose index fell between 0.596 and 0.725 (median value 690) were called broad, while those whose index fell between 0.780 and 0.833 (median value 0.773) were called deep. The same divisions being made for classes 2 and 3, it was found that the median index of the broad chests of Class 2 was 0.698, while that of the deep chest was 0.783. A similar subdivision of Class 3 showed the median index of the broad chest to be 0.728, while that of the deep chest is 0.808.

TABLE 4.—THE RELATION OF CHEST CONTOUR TO LUNG CAPACITY.

OBSERVATIONS.	Class 1. Small Chests.		Class 2. Medium Chests.		Class 3. Large Chests.	
	Broad.	Deep.	Broad.	Deep.	Broad.	Deep.
Contour index = D. V. Insp. / Trs. Insp.	.690	.773	.698	.783	.728	.808
Contour area at expiration	501 sq. cm.	479 sq. cm.	540 sq. cm.	535 sq. cm.	669 sq. cm.	611 sq. cm.
Contour area at inspiration	612 sq. cm.	587 sq. cm.	658 sq. cm.	646 sq. cm.	802 sq. cm.	734 sq. cm.
Contour expansion	111 sq. cm.	108 sq. cm.	118 sq. cm.	111 sq. cm.	133 sq. cm.	123 sq. cm.
Dorsoventral diameter at expiration	16.5 cm.	16.9 cm.	18.0 cm.	18.4 cm.	20.6 cm.	20.9 cm.
Dorsoventral diameter at inspiration	19.9 cm.	20.9 cm.	21.3 cm.	22.4 cm.	23.8 cm.	24.4 cm.
Dorsoventral expansion	3.4 cm.	4.0 cm.	3.3 cm.	4.0 cm.	3.2 cm.	3.5 cm.
Transverse diameter at expiration	26.3 cm.	25.0 cm.	27.5 cm.	24.5 cm.	28.9 cm.	27.3 cm.
Transverse diameter at inspiration	28.8 cm.	27.0 cm.	30.5 cm.	28.6 cm.	32.1 cm.	30.8 cm.
Transverse expansion	2.5 cm.	2.0 cm.	3.0 cm.	2.1 cm.	3.2 cm.	3.0 cm.
Lung capacity	3415 cu. cm.	3366 cu. cm.	3700 cu. cm.	3450 cu. cm.	4121 cu. cm.	3679 cu. cm.

CONCLUSIONS.

A study of the results tabulated above shows the following:

1. For chests of the same size, those having low indices, i. e., broad chests, have a greater contour-area (cross-sectional area) both in expiration and inspiration, than do the deep chests A glance at the superimposed tracings (Fig. 2) makes this plain. If the area of the deep chest be represented by (*a*) the area of the broad chest must be represented by a+b+b′, i. e., the areas at the sides.

2. Of still more importance, however, is the fact that the broad chests have an area expansion greater than that of the deep chests. That the increase is small is true, but the uniformity with which the broad chest shows the greater area of expansion shows beyond question that the rule is a general one.

3. For the broad chests the greater expansion is in the transverse diameter, while the deep chests have their larger expansion in the dorso-ventral diameter This is contrary to the statement of Hutchinson that the greater expansion of the broad or "bellows" type of chest is in the anteroposterior diameter.

Inasmuch as the ribs move upward and outward and upward and forward during inspiration, it is readily seen that every centimeter added to either diameter increases its capacity for expansion. Thus in Figure 3: if the point a is elevated to the point b, it must pass outward a distance of x, but the point a′ in being raised to the point b′ must pass outward a distance of x′, necessarily greater than x, by construction.

4. Since lung capacity is a measure of volume expansion, it should follow that if the broad chests have a greater contour area and contour expansion, they should have a greater capacity. The figures of the table prove beyond a doubt that the broad chests have a greater capacity, not for one size only, but for all sizes

That lung capacity (volume expansion) is the real criterion of resistance to tuberculosis has only a negative proof (persons with deficient expansion being more prone to develop tuberculosis) is conceded; yet one can not but feel justified in concluding that the person with a broad chest, with its uniformly attendant increased capacity, has the better chance of resisting the inroads of tuberculosis. With this fact in view, one can not but add his plea to that of Hutchinson, for some means to develop the thorax in the transverse diameter.

SUMMARY.

1. By means of the contour index chests may be divided into broad and deep, having low or high indices, respectively.

2. For broad chests the greater expansion is in the transverse diameter.

3. For deep chests the greater expansion is in the dorso-ventral diameter.

4. Broad chests have a greater cross-sectional area, both for inspiration and expiration, than deep chests.

5. Broad chests have a greater area expansion than deep chests.

6. Broad chests have a greater capacity (volume expansion) than do deep chests.

7. Broad chests having uniformly a greater capacity would seem to offer greater resistance to tuberculosis.

Chilblains a Tuberculous Affection.—A Danish physician, G E. Permin, publishes a communication in the *Ztft. f. Tuberkulose*, v. No. 5, arguing that erythema pernio, the common chilblain, is probably a tuberculous exanthem. The action of cold enlarges the vessels, and this affords the toxins the opportunity to get in their work. The stage of the pulmonary affection has no influence on the development of the complication.

MATHEMATICAL RELATIONS OF CERTAIN CHEST MEASUREMENTS.*

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During a recent investigation of "The Relation of Chest Contours to Lung Capacity," made by Dr. F. F. Malone,[1] in the physiologic laboratory of the Northwestern University Medical School, it occurred to me, first, that there should be a method of computing area expansion from the diameters; and second, that there should be a method of computing lung capacity from area expansion and thoracic length.

The chest contours were traced through the help of the chest pantograph, which I devised.[2] One of these contours is shown in Figure 1. The one chosen for this figure happens to represent a chest of unusually high index, i. e., an unusually deep chest. The inner line shows the contour of the chest at the end of the forced expiration, while the outer line gives the contour at the end of the forced inspiration.

The cross-sectional area or contour area of the chest at inspiration or at expiration may be easily determined by inspection. Each of the large squares represents 25 square centimeters, each of the small squares 1 square centimeter. The area expansion is the difference in area between the contour of expiration and that of inspiration. Extended observation has shown that the area expansion bears a very close relation to the lung capacity, as set forth by Malone.[1] Furthermore, that it is the most important measurement that can be made on the thorax, inasmuch as it is an index of lung capacity and of extent of mobility and of the symmetry of expansion.

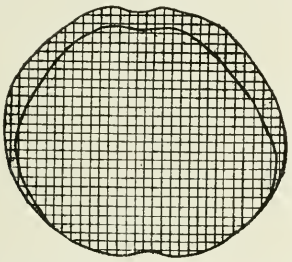

Fig. 1. Thoracic contour of R. B., 5, 7, '02.
Dorsoventral diameter, at expiration, D = 24.3.
Dorsoventral expansion, e = 2.3.
Transverse diameter, at expiration, T = 28.5.
Transverse expansion, e′ = 2.5.
Contour index, $I = \frac{D}{T} = .853$.
Mid-diameter, $\frac{D+T}{2} = 26.4$.
Radial expansion, $\propto = \frac{e+e'}{4} = 1.2$.
Area expansion, $E = \pi \propto \left(\frac{D+T}{2} + \propto\right) = 104.4$.
Length of thorax, L = 30.2.
Lung capacity, C = L × E = 3153 c.c.
Lung capacity, as measured, = 3100 c.c.

There are only a few appliances with which the area expansion can be directly determined, and most of these, as in the case with the chest pantograph, while simple in construction and not very bulky, require a considerable amount of practice to acquire the accuracy necessary in such observations and are better adapted for use in laboratories and large dispensary and hospital clinics than in the private office of the practitioner.

It can hardly be questioned that the contour expansion or area expansion and the lung capacity are, next to the condition of lung tissue, the most vital points to be determined in an examination of the chest. But both of these determinations require apparatus not always convenient for the general practitioner to have in his private office.

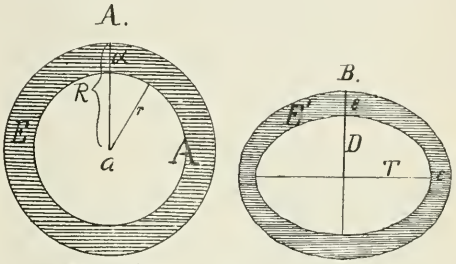

Fig. 2.—Let A equal area of large circle, R equal radius of large circle, a equal area of small circle, r equal radius of small circle, E equal area of shaded ring: ($E = A - a$), $\propto$ equal the difference of radii: ($\propto = R - r$). To find the area of the ring (expansion) in terms of $\propto$ and r:

(1) . . . $A = \pi R^2$
(2) . . . $a = \pi r^2$
(3) . . . but $R = r + \propto$
(4) . . . $\therefore A = \pi (r + \propto)^2 = \pi (r^2 + 2r \propto + \propto^2) = \pi r^2 + 2\pi r \propto + \pi \propto^2$
(5) . . . but $E = A - a$
(6) . . . $\therefore E = \pi r^2 + 2\pi r \propto + \pi \propto^2 - \pi r^2 = 2\pi r \propto + \pi \propto^2$
(7) . . . $\therefore E = \pi \propto (2r + \propto)$

In the elliptical figure (B) a very close approximation to the area can be obtained by using half the average of the two axes (D and T) in place of the radius (r). The mid-diameter equals the average of the axes, $\left(\frac{D+T}{2}\right)$; and the mid-radius equals half the mid-diameter, or $\frac{D+T}{4}$. Substituting this mid-radius for the radius (r) in equation (7) we obtain the simple formula:

(8) . . . $E' = \pi \propto \left(2\frac{D+T}{4} + \propto\right) = \pi \propto \left(\frac{D+T}{2} + \propto\right)$.

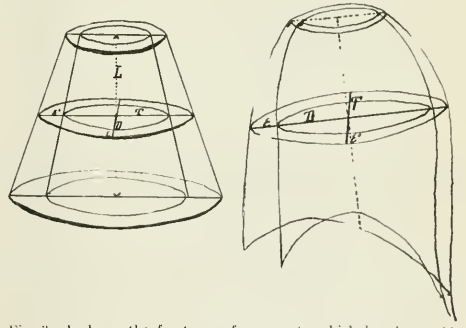

Fig. 3. A shows the frustrum of a cone to which has been added a certain volume by the increase of the diameter. The added volume is equal to the average area of expansion, taken at the mid-height, multiplied by the altitude, or length. But the average area expansion, $E = \pi \propto \left(\frac{D+T}{2} + \propto\right)$, and the altitude equals L.

Fig. 3.—B. The similarity of the mathematical conditions of the chest to those of the geometric figure just described is apparent in the figures. The area expansion at the nipple plane approximates the average area expansion, whose determination one can easily make. The length, L, may be established by experiment. Note that the act of inspiration adds something to the length as well as to the lateral dimensions.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. Malone: The Relation of Chest Contours to Lung Capacity. See preceding article, page 783.

2. Hall: The Chest Pantograph, THE JOURNAL A. M. A., Feb. 28, 1903, vol. xv, p. 567.

It is my object to set forth briefly an accurate and simple method of determining both area expansion and lung capacity with the help of steel calipers or of the obstetrician's pelvimeter.

TO DETERMINE THE AREA EXPANSION.

Note that in Figure 1 the area expansion is distributed around the front and sides of the chest. This is due to the fact that in the use of the chest pantograph the back of the subject rests against a fixed support. This naturally throws all of the expansion of the dorso-ventral forward. If the tracing has been made in such a way as to distribute the expansion evenly all around the contour of expiration, it would have been quite as accurate and would have given the same area expansion, but the latter would have appeared as a complete ring rather than as a crescent.

Let us compute the area of a ring between two concentric circles of unequal radii. Figure 2A shows two such circles. The expansion area represented by the shaded ring E equals the difference in area of the two circles (E=A—a), which we see from the mathematical reasoning (see description of figure) equals the product of three quantities very easily measured. (E=π times α times $(2r+\alpha)$.

The contour of the chest, however, approaches an ellipse rather than a circle in its outline. Let us adapt the method to the ellipse. This adaptation, given under Figure 2B, shows that the area expansion between the ellipses is equal, within a very close approximation, to the product of three quantities, which, in turn, are determined by making three simple measurements, namely: 1, the dorsoventral diameter, D; 2, the transverse diameter, T, and third, the average radial expansion, α.

The formula: $E=\pi\alpha\left(\frac{D+T}{2}+\alpha\right)$.

Let us apply this simple formula to actual measurements of the human chest, and thus put it to a practical test. The accompanying tables give the results from the chest measurements of 119 normal men, classified as to size into three classes, each class being subdivided into broad-chested and deep-chested groups on the basis of the contour index. The contour index is obtained by dividing the dorsoventral diameter at expiration by the transverse diameter at expiration, according to the formula of Hutchinson.[3] The broad chests, therefore, have lower indices than the deep chests. The values given in each column represent the median values rather than the averages. The advantages of the median value over the average are set forth in my paper on the "Evaluation of Anthropometric Data."[4]

Applying the formula to the value in the first column, one must first determine the value of α. This being the average radial, expansion is obtained by taking one-half the average expansion of the two diameters, or one-fourth the sum: $\alpha=\frac{e+e'}{4}$.

Therefore the radial expansion, $\alpha=\frac{3.4+2.5}{4}=1.475$.

The mid-diameter, $\frac{D+T}{2}=\frac{16.5+26.3}{2}=21.4$. The area expansion may be very easily obtained from these values: E = 3 1416 × 1.475 × 22.875 = 106 sq. cm. One may simplify the multiplications without appreciably modifying the results by using approximate factors: E = 3 1/7 × 1.48 × 22.88 = 106.5 sq. cm., which differs from the first result by only .5 sq. cm.—far within the necessary error of observation.

Note that the area expansion as given in the table, E, is 111 sq. cm. This was determined graphically by the chest pantograph, and the error of observation has a range of not less than 10 sq. cm., so that the area expansion, as determined by the method above described, is quite as reliable as that determined by the pantograph.

MATHEMATICAL RELATIONS OF CERTAIN CHEST MEASUREMENTS.

OBSERVATIONS.	Class 1. Small Chests.		Class 2. Medium Chests.		Class 3. Large Chests.		Average.
	Broad.	Deep.	Broad.	Deep.	Broad.	Deep.	
Contour index = $\frac{D}{T}$ =	.630	.773	.698	784	728	808	
Contour area, at expiration	501 sq. cm.	479 sq. cm.	540 sq. cm.	525 sq. cm.	609 sq. cm.	611 sq. cm.	
Contour expansion in area (E)	111 " "	108 " "	118 " "	111 " "	133 " "	123 " "	117.3
Dorsoventral diameter, expiration (D)	16.5 cm.	16.9 cm.	18.0 cm.	18.4 cm.	20.6 cm.	20 9 cm.	18.55
Dorsoventral expansion (E)	3.4 "	4.0 "	3.3 "	4.0 "	3.2 "	3.5 "	3.566
Transverse diameter, expiration (T)	26.3 "	25.0 "	27.5 "	26.5 "	28.9 "	27.3 "	26.91
Transverse expansion (E)	2.5 "	2.0 "	3.0 "	2.4 "	3.2 "	3 0 "	2 633
Lung capacity (C)	3445 c.c.	3366 c.c.	3700 c.c.	3150 c.c.	4124 c.c.	3679 c.c.	3627
Radial expansion, $\alpha=\left(\frac{e+e'}{4}\right)$	1.475 cm.	1.500 cm.	1.575 cm.	1 525 cm.	1.600 cm.	1.625 cm.	∫ Brd. 1.55 ∖ Deep 1.55
Mid-diameter = $\frac{D+T}{2}$	21. "	20 95 "	22.75 "	22.45 "	24.75 "	24 10 "	22.73
Area expansion, $e=\pi\alpha\left(\frac{D+T}{2}+a\right)$	106.5 sq. cm.	105.5 sq. cm.	121.0 sq. cm.	115.0 sq. cm.	132.5 sq. cm.	131 5 sq. cm.	118.2
Thoracic length index = $\frac{C}{e}=\frac{C'}{e'}$	32.3 / = 31 65 31.0 ∖	31 9 / = 31 5 31 1 ∖	30.6 / = 30.95 31.3 ∖	30.0 / = 30 5 31.0 ∖	31.0 / = 30.95 30 9 ∖	28.0 / = 2895 29.9 ∖	30.7
Length of thorax	32.8	32.4	32.3	32 0	32.5	30.4	32.3
Height sitting	91.0	90 8	90.3	90.9	91.0	89.1	90.32

It may be interesting to note in this connection that the average area expansion as determined by the pantograph—117.3—differs from the average—118.2—as determined by the calipers and the formula by only .9 sq. cm., a very close approximation on 119 individuals. (See column of averages.)

To apply the formula to the individual case one may take the measurements as given in Figure 1. The mid-diameter equals 26.4, the radial expansion 1.2, the area expansion equals 3.1416×1.2×27.6=104 sq. cm. An inspection of the figure shows the area expansion is more than 100 and less than 110. The determination by calipers is quite as accurate as that by the graphic pantograph method.

TO DETERMINE THE LUNG CAPACITY.

The usual method to find the lung capacity is to direct the subject to fill the lungs to the maximum, then exhale as much as possible, forcing the air into the spirometer, where it is measured. During the act the thoracic wall changes from the position of forced inspiration to that of forced expiration, thus decreased in cross-sectional area to the extent of the area expansion.

3. Hutchinson: Some Deformities of the Chest in the Light of Ancestry and Growth, THE JOURNAL A. M. A., Sept. 11, 1897, vol. xxix, p. 512.

4. Hall: The Evaluation of Anthropometric Data, THE JOURNAL A. M. A., Dec. 21, 1901, vol. xxxvii.

A study of Figure 3 will make it evident that lung capacity, C, is equal to the increased volume of the chest in inspiration, i. e., to area expansion, E, times length ($C=E\times L$).

One can measure the distance between any two landmarks accessible on the surface of the thorax, but, having measured it, he is unable to affirm that it is equal to the average length. The difficulty of locating landmarks which may be accepted as the limit of chest length led me to the use of an indirect method which, it is hoped, will lead to satisfactory results.

The final object is to find lung capacity without the use of the spirometer. The laboratory, however, is supplied with a very accurate water spirometer. Lung capacity is not, then, an unknown quantity. It is chest length that is the unknown quantity in the simple equation: $C = E \times L$. Then $L = \frac{C}{E}$.

Let us call L the thoracic length index, and apply the formula to the values in the table. The table gives two values for area expansions—E, found by the graphic method with the pantograph; E, found by the mathematic method with the calipers. Inasmuch as both of these are subject to a certain range of error, and we have no means of knowing which is the more accurate, we will arrive at more reliable results by using both values in turn to determine the thoracic length index, and finally adopting the average.

In the first column this average length index is 31.65 cm. Note from the table that the values vary within a very narrow range, and that the average for the 119 men is 30.7 cm.

At the time the data was collected (1902) the thought of taking thoracic length had not occurred to me. The height sitting was taken, however, and is shown in the table. The average for the 119 men is 90.52 cm. In order to get an idea of the length of the thorax of these men, the height sitting and thoracic length was measured in nine men taken at random. The thoracic length was measured from the middle of the clavicle downward along the ventral wall of the thorax to the middle of the tenth rib, where it joins its costal cartilage. In the nine men thus measured the thoracic length was 35.7 per cent. of the height sitting. Taking this per cent. of the height sitting for the thoracic length (calculated), it gives us the values recorded in the table.

This calculated thoracic length serves the purpose of showing that there is a definite relation between the thoracic length index and the measured thoracic length.

The average thoracic length index for 119 men is 30.7 cm. The average thoracic length (calculated) is 32.3 cm. These averages differ by 1.6 cm. If the thoracic length were taken from the lower surface of the clavicle to the upper edge of the tenth rib at the junction with its cartilage, the resulting thoracic length would approximate the thoracic length index within a few millimeters in every case.

It must be evident from the above that if one can establish landmarks on the surface of the chest for giving him the thoracic length, he can determine lung capacity by multiplying this factor by the area expansion.

The method for finding this is shown above. As a preliminary step I would suggest the following method:

1. Estimate area expansion as shown above and express it in square centimeters or square inches.

2. Measure the thoracic length from the lower margin of the clavicle at its middle to the upper margin of the tenth rib at its junction with its cartilage, expressing the measurement in centimeters or in inches.

3. Multiply the two values thus obtained, and the product will be the approximate lung capacity in cubic centimeters or cubic inches.

Applying this method to the case of R. B., whose contour is shown in Figure 1, we obtain 3,153 c.c., while his lung capacity as measured by the spirometer was 3,100 c.c. This is a much closer approximation than one would expect usually to find. If one can by this method get within 100 or even 200 cubic centimeters of the lung capacity as measured by the spirometer, the value of the method will be demonstrated, as the lung capacity in general varies beween 2,900 c.c. and 5,500 c.c.

SUMMARY.

1. In the calipers (pelvimeter) one possesses an instrument with which he can determine accurately the area expansion in any cross-section of the chest.

2. To determine the area expansion, E: 1, Measure the dorsoventral and the transverse diameters at expiration and at inspiration: 2, calculate the mid-diameter at expiration ($\frac{D+T}{2}$); 3, calculate the radial expansion during inflation of the lungs ($\alpha=\frac{c+c'}{4}$); 4, multiply together the following three factors: π (3.1416) times the radial expansion times the sum of the mid-diameter and the radial expansion: $E = \pi \times (\frac{D+T}{2}+\alpha)$.

3. The radial expansion for broad chests is not greater than for deep chests, the average for each being 1.55 cm. in the 119 men here discussed.

4. To determine the lung capacity, C: 1, Estimate area expansion, E; 2, measure thoracic length, L (from the lower edge of the clavicle at its middle to the upper edge of the tenth rib at the junction with its cartilage); 3, multiply these two facts together for the approximate lung capacity ($C=E\times L$).

5. The landmarks for thoracic length may have to be modified as a result of subsequent tests.

A CASE OF CORTICAL HEMORRHAGES FOLLOWING SCARLET FEVER.*

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The following case of hemiplegia developed in a boy during convalescence from scarlet fever. The basis of the cerebral symptoms was a markedly hemorrhagic encephalitis focal in the parietal lobes. The reaction is histologically characterized, aside from large areas of hemorrhage and a few superficial or meningeal areas of frank suppuration, by a tremendous proliferation of phagocytes. The phagocytes for the most part contain blood corpuscles and dilate or supplant the pial and adventitial meshes. In places, the phagocytes occupy the space of lost brain substance which has undergone acute fatty degeneration:

CLINICAL HISTORY.

G. N., an American boy of 5 years, was admitted to the

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South Department of the Boston City Hospital, Dec. 13, 1902, with a few hours' history of vomiting and sore throat.

The boy was well developed and nourished and only moderately prostrated. The roof of the mouth was slightly reddened. The tongue was moist, red and coated, and the papillæ at the tip were somewhat enlarged. The throat was congested. The tonsils were large and red. On both tonsils and uvula was some exudation. The heart was slightly irregular in action, and a rough blowing systolic murmur was heard at base and apex, transmitted a short distance into the axilla. The face was flushed, with a pale zone about mouth. The trunk showed a fresh punctate eruption, which was especially marked in axillæ and groins. Other findings were negative or irrelevant.

The diagnosis of scarlatina was made and the patient isolated. The disease proceeded as usual, and convalescence was setting in apparently without interruption when, on Jan. 14, 1903, while the patient was up in clothes, a slight limp was noted in walking.

Once at play the child had a violent contraction of the flexors of the right thigh, which abated after a half minute. Early the next morning there were three more attacks, which were terrifying to the child, but painless. These night attacks were attended by involuntary passages of urine.

January 16 at about 10:30 a. m. was another attack associated with dull pain in the right knee. The attack lasted about five minutes and consisted of regular contractions and relaxations of the flexors of the right leg, at intervals of about ten seconds. A second attack occurred about 2:15 p. m. the same day, in which all the muscles of the right side were affected except those of the face. As the symptoms persisted chloral was given; three minutes later the attack ceased. Afterward it was found that the right arm was paralyzed and the pain and tactile senses were much impaired. There was no loss of consciousness or any further disorder that day.

On January 17, the fourth day of the cortical symptoms, the child was wakened at about 9 a. m. by a violent contraction on the right side of the body, still sparing the face. The contractions were relieved with chloral. At 4:50 p. m. the patient was again aroused from sleep by contractions of the right side, this time involving the face. Chloral was again given, with relief. After subsidence of the attack the whole right side remained paralyzed. The child now took food with difficulty. The sphincters were paralyzed.

The notes of the next ten days follow:

January 18.—Rectal feeding. Sleeps most of time. Dull and apathetic. Pain sense in whole right side completely lost.

January 19.—About 9:30 a. m. he had another attack involving all muscles of right side, including face. Lasted about a minute; uneonscious after attack.

January 20.—Apparently unconscious all day. Does not arouse when rectal feedings are given. Sleeps most of the time.

January 21.—Somewhat brighter. Asked for water and played with toys about an hour. Then went to sleep and slept rest of day and all night.

January 22.—About 8:30 a. m., while sleeping, mouth became closed firmly, and child grew cyanotic and almost pulseless. Mouth pried open and color returned. Nose found to be occluded with crusts. Child emaciating. Heart irregular. Lungs and abdomen negative.

January 23.—Unconscious most of time. Emaciation marked. Ptosis on right side. Right corner of mouth droops.

January 26.—Paralysis as before. Pain sense on right side lost, diminished on left. Râles on both sides of the back.

Gradually failed. Râles more numerous. Expelled all feedings. Died January 28, 7:10 a. m.

The temperature, which had fallen to normal January 10, less than a month after admission, became 101 degrees F. the morning of the 14th and remained elevated till the 20th. From the 20th till death the temperature remained normal or was slightly raised.

For the observations here recorded we are indebted to Drs. T. B. Cooley and H. H. Smith, assistant physicians to the South Department of the Boston City Hospital, and to Dr. J. H. McCollom, resident physician to the South Department, we are obliged for kind permission to report the case.

SUMMARY OF CLINICAL FINDINGS.

The case may be summarized as follows: Scarlet fever of moderate severity in a boy of five years. Convalescence interrupted about five weeks after onset of fever by cerebral symptoms, fatal two weeks later (seven weeks after admission). The contractions and sensory symptoms began in the right leg and advanced during four days to affect the whole right side, including the face. The contractions were sharply defined (at one time alternating regularly with relaxations at intervals of about ten seconds) and limited in duration (a few seconds). Paralysis of the affected limbs ensued. During the last week the child was in the main unconscious (masking symptoms on left side).

ANATOMIC FINDINGS.

Fairly well developed, poorly nourished white boy, without rigor. A very few livid spots on back. Scaling on the under surface of toes, on serotum and under finger nails. Skin in general harsh to the touch and over calves feels almost like goose skin. Pupils equal; not dilated. No edema. Extremities symmetrical. Very little superficial fat of abdomen.

Peritoneal Cavity.—Surfaces smooth and dry. Appendix crook-shaped, retrocecal, points towards spleen, 11 cm. long. Mesenteric lymph nodes distinct.

Pleural Cavity.—Left clear; right shows a few firm adhesions in front. Surfaces normal.

Pericardial Cavity.—Normal.

Heart.—Weight, 100 gms. Measurements: Tricuspid valve, 5.5 cm.; pulmonary valve, 4.5 cm.; mitral valve, 5.5 cm.; aortic valve, 4 cm.; left ventriele, 1 cm.; right ventricle, 2 mm. Slight amount of subpericardial fat. Myocardium firm, red, without fat in teased preparation treated with acetic acid. Endocardium, valves and coronaries normal. Contents cruor clot and fluid blood.

Lungs.—Anthracosis slight. Postmortem congestion on both sides, most marked on the right. Peribronchial lymph nodes normal. Bronchi normal.

Spleen.—Weight, 30 gms. Capsule pale bluish, of usual tenseness. Substance brownish red; not pulpy. Malpighian bodies unusually distinct. Trabeculæ evident.

Gastrointestinal Tract.—Normal. Pancreas.—Normal.

Liver.—Weight, 560 gms. Nut brown, with a somewhat accentuated mottling. Areas central in the lobules, somewhat darker than the peripheral areas. Consistence normal or slightly decreased.

Gall Bladder.—Normal.

Kidneys.—Weight, 110 gms. Strip well. Stellate veins of cortex injected. Cortical substance translucent reddish gray. Pyramids darker than cortex, with well marked radial injection. Fresh specimen shows no fat when treated with acetic acid. Glomeruli seen in sand granule form. Ureters normal.

Adrenals.—Unaltered. Bladder and Genitalia.—Normal. Aorta.—Normal.

Brain.—Weight, 1,275 gms. Dura of normal thickness and tenseness, not adherent to calvarium. Pia over vertex and occiput lifted by clear fluid, which leaks away in amount estimated at from 30 to 40 c.c. The parietal lobes on both sides of the great fissure show a number of coin-sized, reddish areas affecting an area which could be covered by the palm of the hand, circular or oval in shape, with well marked, finely irregular borders, with a very few fine points of injection, disconnected from the main area. Shade of red was usually pink, but on the right side the areas were darker and the tissue about the veins in the sulci had assumed a slightly greenish tint. On section these areas proved to be the external aspect of almost exclusively intracortical hemorrhages, varying in appearance from groups of puncta cruenta to soft, grumous, red brown lesions extending in some places into the white matter.

The finely irregular border was observed throughout. The pial vessels seemed intact. There was no lesion of pia beyond the slight discoloration on the right side mentioned above. Ventricles showed a normal amount of fluid. Rest of encephalon showed no lesion.

Spinal Cord.—No lesion evident to the naked eye.

The autopsy was performed at the South Department, Boston City Hospital, by one of us (E. E. S.) during the pathologic service of Dr. F. B. Mallory, to whom we are indebted for suggestions.

SUMMARY OF ANATOMIC FINDINGS.

Desquamation of skin after scarlatina. Organs and tissues in the main showed little gross evidence of lesion. Fresh and pigmented hemorrhagic lesions in the cortex of both parietal lobes, with edema of overlying pia mater.

MICROSCOPIC FINDINGS.

Cultures from both lungs, the liver and the spleen showed abundant growths of the *Staphylococcus pyogenes aureus*. The lung cultures were pure. The liver showed beside aureus, a bacillus of the colon group which was not farther worked out. The spleen showed beside aureus, a few colonies of streptococcus. Cultures from the meninges and from the hemorrhagic areas beneath the pia mater remained sterile.

The histologic examination of the organs of the trunk was in the main negative. A section from right lung in the area of most marked postmortem congestion showed a cellular exudate of focal character, rich in polynuclear leucocytes and in bacteria both inside and outside the cells. These bacteria were largely staphylococci but there were a few rather long chains of streptococcus-like forms, and some short, slender bacilli. The organs were in the main well preserved. It is probable that the case can be interpreted as one of scarlet fever with a terminal aureus septicemia, complicated with or derived from a bronchopneumonia.

Pieces from various portions of the brain (both at the foci of hemorrhage and at a distance) and from the cord, were fixed and stained for general histologic work, for bacteria, for neuroglia, and for fat.

Numerous pieces were examined which showed no evidence of a lesion which could be regarded at first sight as infectious. Consider, for example, the data of the following description of findings in the lesion of the left parietal lobe.

(*a*) The meshes of the pia mater cerebri and of the tunica adventitia of the majority of the short medullary arteries of the cortical system are filled with countless phagocytes. In places beneath the pia adjacent to the larger foci of hemorrhage the phagocytes fill several oil immersion fields with here and there a stray bundle of connective tissue fibers. About some of the arteries there has occurred loss of substance and replacement with fluid containing phagocytes and the stromata of blood corpuscles. The phagocytes are large, well-rounded cells of two to three or more times the cubical capacity of adventitial cells lying in situ. The nuclei of the phagocytes are in the healthy cell, constantly oval and vesicular with a more or less prominent central nucleolus. The perfectly oval nuclei are likely to be slightly eccentric in the cell. When the cells had ingested blood corpuscles or (more rarely) other cells of the blood series, the intrinsic nuclei showed a slight contraction and apparent condensation of chromatin. The nuclear membrane may fold in the major axis. In the highly vacuolate examples or in cells stuffed with blood corpuscles, the nuclei are applied closely to one, are of the cell contour, and are crescent shaped or cap shaped. The elongate character of the nucleus is preserved to a late stage in the series of changes and is observed even where the cell body was breaking up. There are some cells apparently of this series with round, deeply stained, slightly ragged nuclei and a slight rim of protoplasm, which may form the regressive stage of phagocytes which for some reason have not taken up inclusions. But in the majority of cases the regressive changes in the nuclei and the fragmentation of the cell bodies ensue on the stuffing and vacuolation of the cell bodies. It is impossible to say whether chemical or mechanical changes play the higher part here; descriptively speaking, the mechanical factors would seem sufficient to bring about the destruction of these cells, which are nourished alone by a fluid containing many kinds of detritus. Cells of this series are often caught in mitosis and in this condition are, as a rule, found just outside the muscularis of an artery.

The nerve cells near the phagocyte masses are extensively modified, mainly by edema. There are many collections of fatty detritus demonstrable by the Marchi method and by Scharlach R. in frozen sections. Many of the phagocytic cells have taken up fatty detritus in rounded masses, forming a positive picture of the vacuoles seen in general stains. Some of the larger (Betz) cells of the region have undergone another type of degeneration. By the Nissl stain this type of degeneration is not demonstrable, but by neuroglia and fibrin stains a characteristic picture is obtained of cells variously shrunken and of ragged or punched out but sharp contour, in which the nucleus is opaque and the cell body contains numerous deep blue dots or rounded masses of a mainly peripheral distribution. These dots are smaller and less angular than the normal tigroid bodies, but of somewhat the same distribution, sparing the shrunken remnant of axis-cylinder. They run out as far as the dendrites can be traced and seem to impart to the dendrites a pliable character, whence they readily stay in bent positions somewhat like glia-fibrillæ. Such cells are usually found remote from normal tissue and are, as a rule, surrounded by phagocytes of the usual type as described above. The phagocytes occasionally occupied niches in the periphery of these cells, but we should be unwilling to regard the condition as a true or essential neuronophagia. Occasionally, beside such a dotted cell, a true satellite cell is found, such as accompanies many normal nerve cells. These cells also are to all appearance inactive. The process must be regarded as peculiar, but of no great significance in point of frequency. The more frequent regressive change in the nerve cells in such conditions is probably edema and fragmentation with fatty degeneration and more or less rapid solution.

Near the phagocytic areas there is but slight evidence of change in the glia cells. A few show enlargement of the cell body (the nuclei here is as a rule spheroidal), but there is no evidence of mitosis or of new fibril formation.

Aside from the adventitial changes related with the production of the phagocytic cells, no important alteration is notable in the vessels.

(*b*) In some regions, notably in the uppermost portion of the right parietal lobe opposite the arachnoidal villi, the lesions described under (*a*) are complicated with a frank suppuration in the pia and attached villous system. In the lymphatics and free in the meshes of the fibrous envelopes of the arachnoidal villi are dense collections of polynuclear leucocytes enclosed in a fine, even mesh of fibrin. The lymphatic clefts in the pia contain granular coagulum and in their walls are fairly numerous polynuclear leucocytes. In the looser tissues beyond and especially internal to these clefts are numerous phagocytes of the usual type; some of them contain polynuclear leucocytes. The tissues beneath the pia consist of deep masses of phagocytic cells, with here and there vessels lying almost free. A short distance inward there are few polynuclear leucocytes to be seen, and the phagocytes contain fat or blood globules exclusively.

(*c*) By the Marchi method a rather selective degeneration is demonstrable in both upper motor systems, more marked in the system arising from the left hemisphere. In the cord there is an axonal degeneration of the anterior horn cells (Nissl method) and a corresponding selective fatty change in many of the anterior roots. There are also other diffuse isolated fiber degenerations less easy to reconcile with the systematic changes. No myelin degenerations are demonstrable by the Weigert method.

SUMMARY OF MICROSCOPIC FINDINGS.

The findings microscopically were: Early broncho-

pneumonia, due to the *Staphylococcus pyogenes aureus*. Purulent infiltration of foci in the parietal pia mater and overlying arachnoidal villi. Hemorrhages in the cortex and extensive development of cells phagocytic for polynuclear leucocytes, blood corpuscles and fatty detritus, in meshes of pia and in adventitia of short arteries of the cortical system. Phagocytosis, associated with solution and fatty change of neighboring nerve tissues. Peculiar dot-like necrosis in some nerve cells, which assume the glia stain. Fatty changes in associated motor systems and early changes (axonal degeneration) in the lower motor systems.

REMARKS.

The conception of encephalitis has suffered from a dearth of adequate descriptive work. The systematic treatment has, therefore, not kept pace with that of inflammation in other tissues. For example, it was possible to say in 1886 that we can as yet present no unitary picture of processes which culminate in brain softening, if we except those which result from vascular changes.[1] Yet in 1904, in the latest systematic treatise on encephalitis, we hear that recent distinctions of encephalitis into various forms are erroneous, and that all these phenomena can be produced by any appropriate inflammatory agents, among which are numbered the organisms of meningitis and of influenza, embolism, aseptic trauma, corrosive substances and heat.[2] It is probable, however, that further study will make clear a difference in the effects of members of this series of agents.

There are several characteristics of the lesion produced in the brain by bacteria or their toxins which serve to obscure the issue by drawing attention, on the one hand, to the vascular system, and, on the other hand, to the neuroglia. Thus a recent triadic division[3] of encephalitis into, 1, purulent; 2, hemorrhagic; 3, hyperplastic, is based on the predominance in the histologic picture of suppuration, diapedesis and hemorrhage, or secondary glia-cell changes. It is, however, probable that all these pictures may be produced by identical agents. The omnipresence of the meningeal and adventitial phagocyte has contributed toward a false unification of the pictures of bacterial and those of mechanical origin.

Herein we have sought to bring out the predominance of hemorrhage and phagocytosis with destruction of cortical tissue, the focal effect of meningeal suppuration in a case of subinfection with the aureus during convalescence from scarlet fever. The case is one of cortical hemiplegia caught in process, and brings out the now frequently exemplified inflammatory origin of this disease.

1. Bernhardt in Eulenburg's' Realencyclopädie, 1886, pp. 54-135.
2. Friedmann in Flatau, Jacobsohn, und Minor, Pathol. Anat. d. Nervensystems, vol. I, 1904, p. 498.
3. Ziehen: Encephalitis Haemorrhagica Acuta, in Encyclopädische Jahrbücher, vol. vi, 1896.

Venereal Diseases and the General Practitioner.—Professor Neisser of Breslau has recently published an appeal to the general practitioner to perfect himself in the diagnosis and treatment of venereal diseases. The idea that a specialist is required for them is absurd, he thinks. Venereal diseases, more than all others, belong in the domain of general practice, and medical students should be trained to differentiate and treat them. If every medical graduate were trained in the early recognition and means of aborting these affections, this would prove the most important forward step in the prophylaxis of venereal disease. Neisser's article was published in the *Medicinische Woch.*, v, No. 15.

THE STARVATION OPERATION FOR MALIGNANCY IN THE EXTERNAL CAROTID AREA.

ITS FAILURES AND SUCCESSES.*

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The present status of the starvation plan of treating malignant growths in certain regions adapted to it anatomically may, with entire truth, be said to be that of an untried plan, to all intents; and the chief reason for the present paper is to call attention to this fact, and to ask for it the justice of a thorough study, to corroborate or to overturn the views of its originator, as the results may warrant.

That the method is still practically untried, so far as the great body of the profession is concerned, has two reasons, both quite obvious. The first of these is the fact that, except in my Gross prize essay, I have never yet written on the subject. Indeed, to-day's paper may accurately be said to be the first public presentation of this subject that I have made. Repeated illnesses and the rigorous demands of professional work to the limit of my strength may, I hope, be considered a sufficient explanation. The subject is to me so fascinating that I would gladly devote to it further years of my time. I ask those who have tried this plan, or who may do so hereafter, to send me their data, whether good or bad in outcome. These will be published, when in sufficient amount to be worth while; and meantime, by means of articles in various journals, let us hope attention will be drawn to the plan.

It has been said that two reasons exist for the lack of a reasonably fair trial. The second one is the obvious discouragement of the surgeons of my own surgical society, that of New York City, for of late none of them has, at least to my knowledge, been using it. The explanation is quite plain. Reference to the detailed records in the Gross prize essay will show that but ten of our members have tried the plan, and in each instance where the final result was obtained, the case was one of cancer and not sarcoma. This is quite a remarkable fact (of course, merely the result of chance) and an unfortunate one; for in all these cases there was only a shrinkage of varying extent from little to much, for a brief period, not always stated but probably always inside a year; for these people were invariably cachectic and far advanced in cancer before being subjected to this, a last chance. Now, since in none of these was the disease stayed very long in its advance, apparently these surgeons and others, hearing of their results, have assumed that in sarcoma the period of life gained would be equally small; but have not, however, tested this assumption practically. Let us hope that the truth may soon be known, and at the hands of many operators the world over. The method at least deserves this.

By reference to my own detailed cases anyone will observe how much more favorable are the results with sarcomata than with carcinomata; and the minute anatomy of either of these tumors readily explains why this should be so.

A priori: Cancer spreads chiefly through its lymphatics; and control of the arteries does not necessarily affect the lymph channels very radically. Sarcoma, on the other hand, spreads chiefly through and along its vas-

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

cular system; and shutting off most of its blood therefore directly opposes the spread of the sarcomatous growth.

In several instances I have recorded and shown patients with starved and shunken sarcomatous tumors, long past the three-year period, which Volkmann suggested as one after which with some degree of certainty we may claim a cure. Two cases are specially striking on the published list—both subperiosteal round-celled sarcomata of the lower jaw, a variety and a situation which Butlin, certainly an able authority, considers hopeless, however handled, and whether excised or not.

But for those who purpose repeating my own work, attention should be called to an essential step in the technic in lower-jaw cases. This is, in addition to the usual double excision of the entire external carotid (for safety done at different dates), to tie the inferior dental artery and its mylohyoid branch, just as this artery is about to enter the inferior dental canal. Also, to cut out an inch or more of the inferior dental nerve, thereby making sure that if the tumor should at some future time resume growth, this nerve being thus treated, of course on both sides of the neck, such growth would be and remain comparatively painless. It does not add more than a few minutes to the length of the operation after completing the external carotid excision, to deepen the wound toward its front, behind the ramus, until the inferior dental vessels are exposed; forcibly lifting the ramus by a sharp retractor, which also holds it immobile during the necessary dissection beneath it, is a step which aids the ease of work. In one of my reported cases I trephined the ramus to come down on the vessels and nerve; but in the other instance found it easy to find them as just detailed and without any trephining.

The reason it seems wise to control the inferior dental vessels in the lower-jaw cases is that this branch of the internal maxillary anastomoses quite freely, if indirectly, with the internal carotid, at higher points along its course.

Here should be mentioned the fact that orbital growths, or growths likely to be reached by any branches of the internal carotid, are plainly beyond hope by the starvation plan, and in fairness this point should be considered; otherwise this new plan would be attempted, as, indeed, I know of instances, in entirely hopeless fields. In a general way the lower in the external carotid area is the growth the greater are the prospects of its success. Of the twenty-nine ways in which the external carotid system can anastomose with outside systems, the internal carotid furnishes twenty-one, the subclavian seven, the innominate one. Our chief enemy, then, is the internal carotid.

The main channels within the external carotid system for such communication are three, viz., the terminal two, i.e., internal maxillary and superficial temporal, and the occipital. The former two, starting in the substance of the parotid gland, meet and mingle with the deep or internal carotid circulation in seventeen ways; the occipital with the subclavian in five ways. Since these three branches of the external carotids account then for 22 out of a total of 29 outside anastomoses, it is plain that they are our chief sources of danger and should receive our particular care; also that it would be almost impossible to starve a tumor of the parotid gland area. If Wyeth's suggestion of supplementing vascular excision by some plastic injection is to be tried, these three are the branches which require it at our hands. The normal flesh, however, requires *some* blood in order to live, and with these three branches plugged, shutting off twenty-two of the twenty-nine possible anastomoses, I have seen, in a few cases, slight sloughing follow—as an edge of the ear, or an inch or so of the skin of the face. The cancer, if soft, will regularly slough in such circumstances, which is, of course, desirable; and it should be trimmed away where dead to avoid a foul odor, septic absorption, etc.

The report of the few cases where injection has been extensively tried is not very satisfactory. However, this, like the vascular excision, is a wholly new field, and early mistakes were made as to material used, amounts injected, etc., all of which have been fully and honestly reported in the essay. It seems to me, however, that it is so advisable to cut off by this simple and quick way the seventeen undesirable anastomoses coming from the two terminal branches, that the weight of argument is greatly in favor of it. Generally, therefore, I inject the distal end of the external carotid where it enters the parotid gland, thus plugging and rendering harmless this nest of enemies. And since I have ceased to plug the occipital also, I have seen no sloughing of normal flesh. Depending on the location of the growth, I now plug either the occipital or the external carotid end, but not both. It has been determined in various ways that forty-five minims of the fluid is, in the adult, entirely safe; but much more, apparently, would not always be so. This, too, is the proper dose for the occipital, when that is chosen to be obstructed. Because it is so small a vessel, it simplifies injecting the occipital to tie the external carotid just beyond where it is given off, and then to inject this carotid closely proximal to the occipital, which thereon, of course, receives the heated fluid. The best material proves to be a mixture of hard white paraffin one part, white vaselin, nine parts. This hardens at 108 F., too high a thermal point to make it likely that any subsequent fever could melt it out, and is introduced at 120 F. With moderate dexterity and speed the injection can be completed, at this heat, before the paraffin solidifies, becoming opaque and white.

Whoever contemplates trying the injection, of course supplemental to excision of the external carotid, must remember never to take this step until he has first made absolutely certain that there is a regular bifurcation of the common into the external and internal carotids; for the anatomic arrangement which is the rule in the dog also constitutes the most frequent anomaly in man, namely, that the *internal* carotid, on its way to the brain, gives off branch after branch, which practically correspond in order and distribution with those normally arising from the *external* carotid; which last artery is, in such a case, either non-existent or is insignificant in size.

If the operator, taking a normal bifurcation of the common carotid for granted, proceeds to operate as usual, and finally to excise what he mistakenly supposes to be the external carotid, no harm is done except that he has substituted for the trifling risk of external carotid excision (certainly well below 5 per cent.) the mortality of internal carotid ligation, which Wyeth figures at 40 per cent. But if the operator proceeds to inject the upper end of his artery, supposing he is about to plug thereby the internal maxillary and superficial temporal, he will cause instant death by plugging, instead, the circle of Willis, and the vessels of the respiratory area of the brain.

This peril, like many in surgery, ceases to be a danger as soon as it is recognized. It will be plain that

the ordinary test, whereby the operator makes sure that he has the external carotid under his finger, namely, observing whether controlling it stops the pulse over the zygoma, and where the facial crosses the body of the lower jaw, is deceptive, supposing the commonest anomaly, just mentioned, to exist. For the pressure on the internal carotid, giving off later the superficial temporal, facial, and the rest, will, of course, stop their flow. However, no mistake as to the carotids can be made, providing the surgeon, before proceeding further, takes a minute for dissection, enough to convince himself that the common carotid divides in the usual way, or does not so divide. Hence it is well to begin this operation by exposure of the common carotid, and thence proceed upward, rather than to come down on the external carotid branches as the first step, and commence tying them off.

It is well to throw a ligature as soon as possible about the external carotid close to its origin, thus having it under instant control; but it will be found best not to tie it early, for then its branches, bloodless and reduced to mere threads, are with more difficulty found.

When finally the ligature is tightened and the vessel divided, its distal end should be made to take a dive, so to speak, beneath the twelfth nerve, the stylohyoid and the posterior belly of the digastric muscles, and reappearing above these structures its stump can with greater ease be followed to the parotid gland, and here injected if thought best.

When first I began to study this field of work, I carefully preserved all veins and venous plexuses, at the cost often of much vexatious delay in dissection. This was only one of various mistakes which later experience corrected, but which can not be discussed in a paper of this length. My idea was that greater anemia would result if the veins and venules were left to carry off by force of respiratory chest-action any remaining blood in the tumor; and temporarily this is a fact. As Dr. Bristow pointed out, however, when a long time later possibly remaining anastomoses are endeavoring to form new arterial supplies, they will have more difficulty in so doing if there is an absence of veins to carry away such blood. Hence the plan now thought best contemplates the simpler step of sacrificing all blood vessels as radically as possible, whether arterial or venous.

One further point in technic, too important to be omitted, is to do the first of the two external carotid excisions always on the sound or less diseased side first. This rule, the reverse of what one would naturally do, is based on painful experience. If the surgeon operated first on the side primarily controlling the malignancy, often during the regular period of waiting for recuperation between operations (two to three weeks, commonly), there will be a noticeable shrinkage of the mass. This starts a most unwise belief in the patient's mind that he is now on the highroad to recovery, and that there is no real need for operating on the other side of his neck, to which step he looks forward with dread. He shares a common belief that surgeons cut just for the pure joy of cutting, and here is, he thinks, a peculiarly atrocious instance in point. His cancer has evidently begun to go away, and why should not he take the hint and do likewise? He does; and either never returns, or does so too late from weakness due to a rapid recurrence of growth activity to render justifiable any further intervention whatever.

If, however, the operation is first performed on the carotid of the sound side, no shrinkage, of course, results to deceive him. Realizing that the starvation plan with its duplicate operations is his only hope, he abides by his surgeon's advice, and at the proper time again submits to the knife. And now, though very likely not permanent, the shrinkage will, at least as a rule in sarcoma, be of such considerable duration as to justify what has been done.

If permitted on one side only, an external carotid excision is simply a waste of time; and this is equally true as to even a ligation of both without vascular excision.

This refers, of course, to control of malignancy. But on the contrary, ligation of both external carotids renders wonderfully safe many face and mouth operations, otherwise perilous from shock due to hemorrhage; and in my opinion this step will soon come into regular employment before such otherwise bloody work. Curiously enough, Butlin (and most other authorities on malignancy) in no instance advises ligation before the usual extirpation of a tumor. Apparently, he still entertains the old fear as to hemorrhage following ligation of the external carotid—due to the lack of an internal clot here, because of the numerous branches—a fear wholly groundless. This ligation, in experienced hands, has practically no mortality. Indeed, the entire extirpation of these arteries, when not complicated by masses of diseased and adherent lymph nodes, is surprisingly safe. It is also the testimony, I believe, of all those who have tried it, that carotid excision is not especially difficult.

CONCLUSIONS.

In conclusion, I think there can be little dissent from the following propositions:

1. The starvation plan, in sarcoma, has in some instances effected permanent cures—that is, shrinkages—not otherwise possible; but it is not asserted that such may always be expected. Since, however, this plan is admittedly a *dernier ressort,* any percentage, however small, of such permanent checking of malignancy is a victory not otherwise possible.

2. In both sarcoma and carcinoma, the knowledge on the part of the patient that by this method he has one more chance, though all other plans have failed, and the growth be beyond excision, restores his courage and cheerfulness and puts aside the imminence of despair. As a surgeon has phrased it, we substitute in such a case, instead of the certainty of death, once more the uncertainty of life.

3. Even in cancers, we can be reasonably sure of a few weeks longer life, sometimes up to a year, otherwise impossible when other plans have failed. At first thought, if it should prove but a month or two of gain, we might question whether it be worth while. But in my experience patients are grateful for even a short respite; and the decision is for them to make, not for us, as to whether it is worth while. Given a man of wide business interests, for example, a few weeks longer in which to stave off the inevitable, may mean everything to him in the orderly winding up of his affairs.

4. Again and again I have found the resultant shrinkage of tumors to give promptly the greatest relief to suffering, and permit the patient to cut down or stop the large doses of morphin formerly demanded. This important point has also been observed by other operators.

5. Given a growth of the region under discussion, excessively vascular perhaps, and too large to be cut out, in several recorded instances (one of them, the first of

all, nine years ago) this operation has so shrunken the mass and so deprived it of blood as to permit, after a short time, an extirpation of the tumor, partial or complete, not otherwise possible.

Within the past month a letter has been received from Dr. J. Chalmers DaCosta covering exactly this point. I quote from it by permission. A patient from Texas with carcinoma of the face had been seen by two distinguished Philadelphia surgeons. The growth was then too extensive to be excised, and hence operation was declined by them. Dr. DaCosta performed the carotid excision on both sides last winter. "The subsequent shrinkage was gradual, but certain," he writes; "masses of fibrous tissue were developed about it." A few weeks later he was able to perform an apparently complete removal of this cancer. His concluding words express the idea under discussion, and which represents, it may be, as practical a value to us as any in this starvation work, namely: "This use of the operation, bringing, as in this instance it did, an at first inoperable growth into the range of operation, seems to me a very important and interesting phase of the matter."

DISCUSSION.

Dr. A. T. Bristow, Brooklyn, N. Y.—I have performed this operation eleven times on six patients, the twelfth operation being done by my assistant, Dr. Campbell. In only one of these cases was the disease sarcoma, and in this case the patient died a short time after the second operation; therefore, I can not speak from experience of the curative value of the operation in this class of cases. All the remaining cases were carcinomata, four occurring in the upper jaw, springing from the antrum. One case was an epithelioma of the lip, which had involved the lower jaw and was inoperable. In all these cases I noticed that the pain of which the patients complained ceased after operation. Shrinkage of the tumor also took place, and there was much diminution in the discharge from the cancerous mass. One of my cases was alive at the end of a year. Another I kept under observation for four months. The disease at this time was stationary. Judging from my own experience of two sudden deaths occurring one shortly after the operation and one in a case not here included, but done by Dr. Campbell at St. John's Hospital, I am obliged to come to the conclusion that there is a risk attached to this procedure which is out of proportion to the dissection. We constantly, particularly in cases of tubercular adenitis, make dissections of the neck which are far wider and more extensive, yet there is no mortality in these cases. All my cases suffered from respiratory failure when the stump of the vessel was made to take the dive beneath the hypoglossal nerve. They all recovered, but the case which my colleague lost died at this point in the operation from complete failure of respiration. I am inclined to think that interference with the superior laryngeal by the traction may bring about pneumogastric inhibition. The operation is sometimes easy, sometimes very difficult, and, of course, should only be resorted to in cases inoperable by ordinary methods.

Dr. Dawbarn—I am sorry Dr. DaCosta is not here, as he was, at my request, the first surgeon to practice this method. As Dr. Bristow has said, and I agree, there is a sudden and complete cessation of excessive pain after external carotid excisions for malignancy, and in many cases the patients will be very thankful for a few weeks more of life, and without pain, in which to settle up his affairs. I have referred in my paper to one personal case where such a decided shrinkage took place that an operation was made possible. As to the question of mortality, although I have done the operation about 60 times, I find it very difficult to estimate mortality. We must remember that this operation is always done as a last resort in cachectic subjects, often with masses of diseased and adherent glands over the carotids, and it is a choice between this attempt and a coffin. Simple, uncomplicated ligation of both external carotids may be said to be devoid of mortality; certainly it is well below 1 per cent. in skilled hands; and excision of both these arteries in non-complicated cases, with a fair degree of vital power remaining, should not, with skillful work, result in more than 5 per cent. of mortality.

THE INFLUENCE OF THE ADIPOSE TISSUE WITH REGARD TO THE PATHOLOGY OF THE KNEE JOINT.*

A. HOFFA, M.D.
BERLIN.

Disturbances of the knee joint caused by the adipose tissue have already been described in some cases by Johannes Müller as lipoma arborescens, and by König as lipoma solitarium. The former disease is determined by the exuberant growth of fat villi, sometimes to such an extent that they fill up the joint and cause an expansion of the capsule. Schuchardt was the first to show by his microsopic researches that these conditions had nothing to do with tuberculosis of the knee joint.

The lipoma arborescens is no real tumor like the lipoma solitarium of König, which varies from the size of a cherry to that of a walnut and is generally situated on the median side of the joint, with a pedicle reaching into the joint itself. König thinks these tumors originate in the subsynovial fat tissue, and compares them in this respect to the lipoma subperitoneal. They have been removed by König, Volkmann and others, and are supposed to result from some trauma of the synovial membrane effecting a slit through which the parasynovial and retrosynovial adipose tissue escape into the joint. These tumors are certainly not all real tumors, and I would rather class them as an inflammatory fibrous hyperplasia of the articular adipose tissue, which, according to my experience, is an important factor in causing disturbances of the knee joint. I first came across this hyperplasia of the fat tissue some years ago on incising a knee joint for the sake of extirpating the detached meniscus, as I thought, which, however, was intact, and subsequently a great many similar cases were diagnosed by me beforehand showing this hyperplasia of the fat tissue beneath the ligamentum patellæ quite typical.

The sound knee joint presents the following anatomic conditions: Under the ligamentum patellæ the synovial membrane shows two plicæ alares and a plica synovialis patellaris. The former consist of fat tissue with a coating from the synovialis, which stretches from the front margin of the tibia like a fat lobule into the joint, and even sideways beyond the ligamentum patellæ. From the central summit of the plica alaris originates the plica synovialis, which is composed of fibrous fat tissue inserted at the fossa intercondyloidæ. A sagittal section of the knee joint shows this fatty tissue situated like a wedge between the patella, femur and tibia. While the upper part adheres to the ligamentum patellæ, the lower is separated from it by the intervening bursa infrapatellaris profunda and joins the meniscus, also being connected to the periosteum of the front part of the tibia. I have dissected a large number of normal knee joints and always found the above conditions from early childhood upward, the growth of the adipose tissue varying individually, sometimes cachectic individuals showing a larger growth than fat persons.

A section of this fat tissue shows an extensive delicate network of fibrous strings interspersed with fat lobules,

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

the surface being covered with a single layer of endothelial cells and small villi, increasing in number from the central parts toward the surface. These villi consist of a delicate fibrous tissue covered with endothelial cells showing slight vascularity.

This normal adipose tissue is liable to grow and to produce a hyperplasia inflammatoria, even after slight trauma of the knee joint occurring chronically, and can then be felt as a pretty hard mass of fat on both sides of the ligamentum patellæ, similar to a lipoma. These growths, I found, differ widely from the normal adipose tissue as regards size, color and solidity.

The growths that I have removed have often been larger than an egg, and, beside the normal color, they show a reddish-yellow tinge, indicating hemorrhages. I have also come across regular blood clots enclosing the above-mentioned villi when the operation was performed immediately after severe attacks of pain. The adipose tissue is much more solid than you usually find it on account of the strong fibrous tissue. A section shows very markedly a network of these solid strings enclosing the enlarged lumina of blood vessels. My assistant, Dr. I. A. Becker, has described the histologic details of these cases, and I shall only give you a short summary of our investigations.

In the beginning of the process, beside centers of cellular infiltration, there are found fibrous tissue cells, leucocytes and perivascular cells, with endothelial cells winding along the surface of the increasing number of villi. The blood vessels are filled and extravasation into the surrounding tissue has taken place.

Later on you see the inflammatory process marked by granulation cells, which gradually take the place of the fat tissue, forming fibrous strings and showing the residues of hemorrhage, sometimes with pigment cells and even extensive necrosis, so that after a time the endothelial cells are joined immediately to the fibrous tissue without any intervening fat.

This process is characteristic of an inflammatory hyperplasia of the adipose tissue interspersed with strong fibrous strings, and is generally caused by some trauma, either a fall on the knee or some other hurt, such as a sudden jerk, etc. The hemorrhage must be considered as primary, followed by inflammation and exuberant growth of the villi, which are liable to be crushed between the tibia and femur, and this strangulation of the villi regularly makes the patient consult the doctor, showing symptoms quite similar to those of floating bodies of the joint.

The pain is felt quite suddenly on the median side of the joint; the knee can either not be bent or the patient is not able to stretch it. Hemorrhage into the joint itself may have taken place, but this is not generally the case. After a time an atrophy of the quadriceps muscle is more or less developed, and there is a typical swelling of the knee joint on both sides of the patella, especially in its lower part, where the ligamentum patellæ insert, which is often raised by this growth, showing pseudofluctuation. The patient should be examined standing and both knees compared. There is no discharge into the joint, whose power of motion is generally unimpaired, only presenting a slight crepitation, very different from that of arthritis.

DIAGNOSIS.

The diagnosis of these cases is not difficult, and they can be separated from the cases of derangement interne, of separation of the meniscus or of floating bodies. Separation of the meniscus causes the patient to localize the pain exactly within the joint cleft; floating bodies may be determined by Röntgen rays, while in our cases there is perhaps just a slight indication of a shadow within the otherwise clear space between patella, femur and tibia. In all my twenty-one cases which I have observed within the last year and a half, except the first, where a separation of the meniscus was diagnosed, I was able to confirm the diagnosis made beforehand by a subsequent operation.

These observations have also been made by other surgeons, but mostly accidentally while operating for floating bodies or other disturbances of the knee joint. Thus König, in the festive paper for the celebration of v. Esmarch's eightieth birthday, mentions having cured an officer by extirpating one of these villi.

Similar cases have been published by Herhold and Lauenstein, the latter's case being complicated by a fracture of the patella; also Börner, Martens and the American surgeons, Painter, Goldthwait and Ewing, have published observations similar to these.

TREATMENT.

Operations on these cases should be undertaken after the other methods, such as massage, compression, etc., have been used without success, by an incision on the median side of the patella. Of course, asepsis is a *conditio sine qua non*, and I have always followed König's "golden rule," to avoid bringing my fingers into contact with the joint and only to work with as few sterilized instruments as possible.

The result is generally very satisfactory, as the disturbance caused by these growths is removed, together with their extirpation, and the operation, carried out under the necessary aseptic conditions, is without danger.

For the first twenty-four hours after the operation I mostly use a small sterilized gauze strip as a drain to the joint. After eight days the sutures are removed and the patients may walk about, movements and massage being soon applied. The full use of the leg is secured in from six to eight weeks.

I can certainly recommend this operation, especially in such cases where other appliances have been resorted to in vain, and I have been able to remove very severe symptoms and definitely heal my patients by this method.

TWINE IN LIEU OF THE ELASTIC LIGATURE FOR PERFORMING GASTROENTEROSTOMY.*

J. W. DRAPER MAURY, M.D.
NEW YORK CITY.

During the past winter two innovations have been practiced at the surgical laboratory of Columbia University. They consisted in the carrying out of suggestions[1] made in a previous communication from the laboratory, to-wit: First, that gastroenterostomy might be successfully practiced with the use of a triangular instead of a quadrangular stitch; and second, that the material for inserting the stitch might be twine instead of the elastic ligature.

Weir objected to the technic as originally devised by

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

1. As has before been stated, the original impetus for this investigation, as in the case of so many others, was furnished by Dr. Robert F. Weir. I take this opportunity to thank him for many helpful suggestions and for unfailing encouragement.

McGraw, because he feared that the patency of the opening might be affected by bridges of tissue establishing themselves between the margins of the slit. He said that if a method could be found by which the elastic could be made to "punch out," it would seem to be ideal. Two students of the Columbia Medical School finally perfected the stitch. They were Messrs. Kussler and Thomas, and they should receive full credit for their important part of the work. They demonstrated that if the elastic ligature is placed in the form of two juxtaposed squares,[2] it will with certainty punch out as large an opening as is embraced by the elastic. They operated on a pig, and produced a very perfect specimen of enteroenterostomy, as shown in Figure 1. This specimen was removed after the pig had lived for six months.

It having been shown in a great number of trials on dogs that this stitch would invariably produce a large

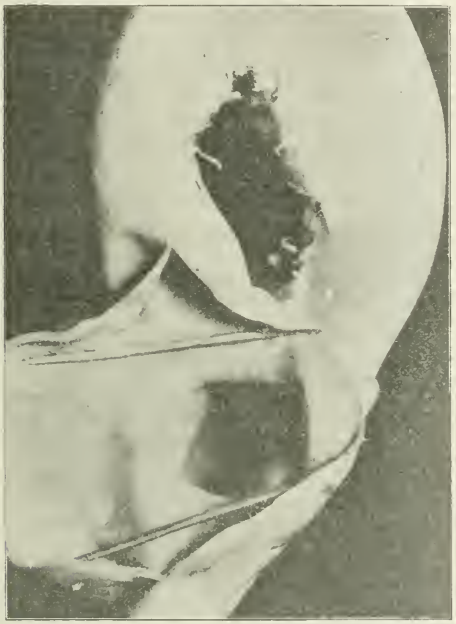

Fig. 1.—Enteroenterostomy in pig. Elastic quadrangular stitch.

and commodious opening—these specimens having been demonstrated before the American Society of Clinical Surgery, at its recent meeting in New York—this part of the work was considered completed.

Three months ago cord was substituted for the elastic ligature, and the triangular stitch was used in place of the square. Thirteen dogs were operated on, the stomachs of all of which are on exhibition in the scientific exhibit. The series is a small one, but it is consecutive.

Photographs of three of these specimens, taken by Dr. Edward Leaming, instructor in photography at Columbia University, are herewith presented.

Figure 2 shows an enteroenterostomy. Figures 3 and 4 represent gastroenterostomy. Figures 2, 3 and 4 depict specimens from dogs, Figure 1, as before stated, being from a pig. The gut of this animal more nearly resembles that of man and affords, therefore, more satisfactory experimental results.

The stitch has been inserted in a simple circle, as in McGraw's technic, string, however, being substituted for elastic. In the single specimen obtained, a satisfactory, although not a wide opening was made. The advantage of the triangular stitch appears to be that the zone of necrosis can be carried as far from the main line of pressure as may be desired; in other words, the

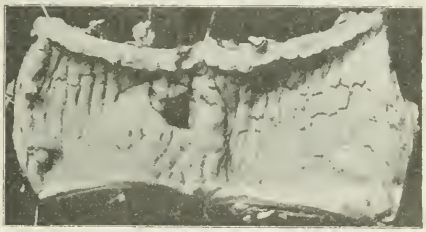

Fig. 2.—Enteroenterostomy in dog. Twine triangular stitch.

principle of the triangular stitch differs from that of the single stitch method, in that the operator using it has complete control over the lateral size of the opening, as well as over its longitudinal dimensions. Thus the triangular stitch enables one to increase the size of the two dimensions, whereas the width of the McGraw is a constant factor not subject to change.

There has been a doubt in the minds of a great many surgeons as to whether the McGraw elastic will cut through. Enough operations on dogs have been performed at the surgical laboratory to confirm Dr. Mc-

Fig. 3. Gastroenterostomy in dog. Twine triangular stitch. Shows mucosa of gut and serosa of stomach.

Graw's contention, if, indeed, this were necessary, that, properly inserted, the elastic will always cut through.

But if it can be shown, as it appears to have been by these thirteen consecutive successes of the twine triangular ligature, that twine will cut through as efficaciously as elastic, its advantages over this material can not be overestimated. In the first place, a bit of twine is always at hand. In the second place—and this is most important—it does not deteriorate, as does the elastic, with age. Even if the elastics be obtained directly from the manufacturer at Detroit and be pro-

2. Medical News, Sept. 12, 1903.

tected from free access to air, either by being placed under water or by being folded carefully in paper, they, like every other rubber article, deteriorate and lose both their elasticity and their strength. It does not appear that the life of an elastic ligature exceeds six weeks or two months, and under unfavorable conditions, this period may even be reduced. Furthermore, the twine is much easier to introduce than the elastic, this fact being evinced by the varieties of complicated needles which have been made to facilitate the passing of the

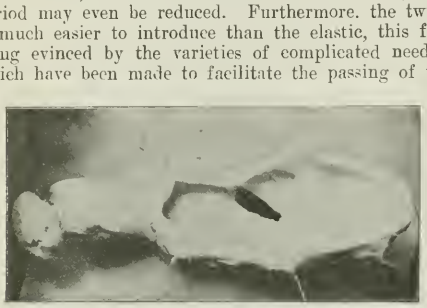

Fig. 4.—Gastroenterostomy in dog. Twine triangular stitch. Shows mucosa of gut and serosa of stomach.

elastic ligature. Any large needle will carry the twine.

It may reasonably be felt by some that enough work has not yet been done in an experimental line to demonstrate positively the efficacy of the twine ligature. This may be true, but I beg to state that there are at the scientific exhibit the stomachs of two dogs operated on during the afternoon of June 2 in the presence of Dr. Powers and Professor Weir. Three and one-half days

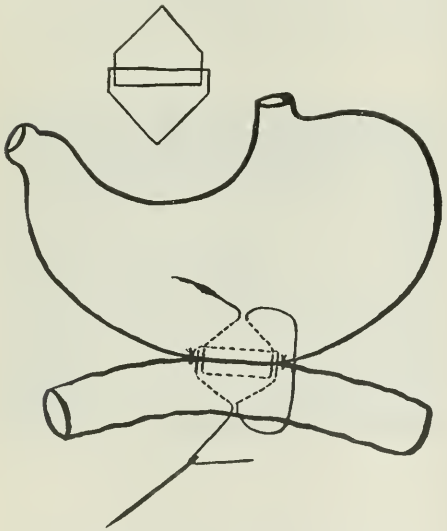

Fig. 5.—Showing plan of twine triangular stitch.

later these dogs were killed, and the openings were found to be complete. The twine had cut through as rapidly as if it had been elastic. In one the stitch had sloughed out and was detached. In the other it was barely adherent to the margin of the fistula. In point of time, then, and in certainty of action, if anything may be judged by a small but consecutive series, the twine is at least the equal of the elastic.

The method of inserting the twine in triangular form will now be described in detail. Figure 5 shows the outline of an intestine and a stomach. This chart is one that Dr. Weir has had made, and has kindly lent to me. Two Lembert stitches are placed to mark two angles of the triangle. The third stitch, or apex, is represented on the stomach above and on the gut below. In the lower right-hand corner of the diagram, the stitch has been represented without the viscera. It is to be noticed that it looks like two little houses, one right side up and the other upside down, placed on each other. This fanciful relation is, of course, changed as soon as the apices are brought together. The dotted lines in the diagram mark the area of twine which is within the lumen, and show how the Lembert stitches guide in inserting it. There is no difficulty at all in putting this stitch in if one simply remembers to weave the twine from one viscus to the other, completing first one triangle in the gut and stomach, then *vice versa*.

We have not followed Dr. McGraw's technic in placing a posterior row of Lembert stitches to unite the stomach and the gut, because all our gastroenterostomies have been done on the anterior surface of the stomach, and the reinforcing stitches have been put in later. Lembert stitches are certainly necessary in this technic. It does not appear to matter whether they be interrupted or continuous, although we have usually employed the former. It has been shown to be practical to make the triangle in the stomach somewhat larger than that in the gut.

As previously intimated, no complicated needle is necessary to introduce the twine. The one in use at the laboratory has been made from an ordinary steel bobbin, which was broken off at the required length and ground to a point.

After the insertion of the twine, which always should be too strong to break with the hands (braided fish line serves the purpose well, although we have used the ordinary white commercial twine), a row of Lembert stitches is so placed as to encircle the region of the triangle. The stitches first introduced serve again as guides for this procedure.

The introduction of the twine can be accomplished in less than a minute and a half. Like every other stitch, it requires a little study and practice, but it is not a complex technic.

It is a pleasure to state that without the untiring assistance of Mr. Gordon, the student assistant at the laboratory, this work could not have been brought to its present stage, and I take this opportunity to thank him for many invaluable suggestions.

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THE DEFECTS OF THE MURPHY BUTTON, WITH SUGGESTIONS OF IMPROVEMENTS IN THE OPERATION OF GASTROENTEROSTOMY.*

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It is not proposed in this article at all to decry the merits of the well-known Murphy button, for it is conceded by everyone that by this admirable mechanical device, abdominal surgery has been largely advanced in the

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

last decade. Since its introduction by its distinguished inventor, however, an enormous experience as to its value as well as to its demerits has been acquired, of which it is well from time to time to take stock.

In the earlier anastomoses between intestine and intestine or intestine and stomach, or between the gall-bladder and intestine or stomach, the usually employed incision demanded in its best digested form an opening which experience showed in a gastroenterostomy and in an enterocnterostomy should be at least two and one-half inches long to prevent its subsequent closure, and to complete the operation it was requisite that the edges of the applied gut and stomach, as in a gastroenterostomy, for instance, should first be sewn together and then the opening was to be rendered more secure by a second outer row of special sutures to bring and to keep together the apposing peritoneal surfaces. This took considerable time, and the mechanical button much simplified the technic and materially diminished the duration of the operation, and particularly so, if one avoided, as Murphy said should be done, using any sutures of safety to hold together the peritoneal surfaces peripheral to the button. Many surgeons even now, however, do not trust entirely to the button itself for peritoneal union, but resort to the employment of these additional safety sutures; indeed, I may say from personal experience and from observation, that the majority of surgeons known to me resort more or less frequently to these safety sutures, and naturally with a corresponding sacrifice of rapidity of the operation. These safety sutures are from time to time found to be of additional necessity by virtue of the tendency of the puckered-up intestine or stomach, when tied to the cylinder end of each half of the button, to protrude beyond the button edge when the halves of the button are crowded together. This puckering-up and surplusage of tissue is much obviated, I have found, by using Carle's method, who, after the introduction of the button halves, sutures the extra long part of the intestinal or gastric incision with one or two Lembert sutures and leaves thus a smooth edge about the button shaft.

All the earlier mechanical devices used in a gastroenterostomy, beginning with Senn's plates and Abbe's rings, and other contrivances continued along that same line, up to and including the Murphy button, had one merit of some little moment attached to them, and this was that until dissolved, if they were soluble, or dislodged, if they were not—they held the stomach and intestine in a more or less broad splint that protected the intestine from hanging so dependently from traction or from gravity action that kinkage at the suture point would likely ensue. This kinkage, with the tendency of the spur on the other side of the intestine to act as a valve, as Keppler has shown, accounts for many cases of obstruction of the biliary and pancreatic secretion at the gastroenterostomy opening, which in turn produced the so-called vicious circle, with its upward regurgitation of these secretions into the stomach. In this kinking, let me make it clear, that not only does the intestine take part in its production, but also the stomach, particularly if it is dilated, hence the various suggestions of suturing adjacent portions of the small intestine to the stomach is of little or no avail in obviating this difficulty. Furthermore, the circularly punched-out opening in the anastomosed parts when a Murphy button of 27 mm. in diameter has been used in a gastroenterostomy, has, in my judgment, very materially aided in preventing the closure of the artificial opening thus made, and in some seventy cases in which I have employed the button, in only one have I known this closure of a gastroenterostomy opening to have taken place. Mayo and others have recorded a few instances, but compared with the multiple employment of the button this closure is but seldom encountered.

There is another mishap of more frequent occurrence in using the button, and that is the occasional escape of the button into the stomach, where it may be recognized by an *x*-ray picture and yet be borne without distress by the patient, or it may beget symptoms demanding a gastrotomy for its relief. To prevent this complication, I several years ago, as may be known to you, suggested the addition of ⅛-inch to ¼-inch flanges to be placed on two sides of the intestinal half of the button. This has worked well, for in some thirty-three cases where it has been employed by me, in but one, and that quite recently, did the button slip into the stomach.

All who have had some experience in gastric surgery must admit that comparatively often the button does not come out in spite of long waiting and patient and thorough investigation of the fecal discharges. Carle estimated that about 78 per cent. of the buttons were retained in the intestinal canal and were probably harmlessly lodged in the sulci of the large intestine. Of late the *x*-ray has aided the surgeon in tracing the missing machine.

Another disadvantage to which I will now refer is a somewhat unexpected one, and is due to the inevitable possibility of imperfection in the manufacture of the button. It has been well emphasized by Murphy himself that the buttom should be well made. I have seen the pawls, or the little projections that hold the telescoped buttons together, made of separate pieces and simply riveted or soldered to the main cylinder. This is an error, and the best manufacturers make this part and the cylinder itself out of one piece of metal; but even this does not always protect the button from separating unduly. Futhermore, the coiled spring contained in one of the halves of the button, and which is thought to be of service in keeping up the pressure as the tissues progress in their sloughing, may, rarely it is true, escape from its attachment and get loose, making an intestinal puncture possible. I have had three instances in the last two years of such accidents; one when the catches became loosened, having been soldered, probably; in the other two the wire escaped its fastening. In the latter case the buttons were made by manufacturers endorsed by Dr. Murphy himself as proficient in their make.

An additional defect is worth calling attention to, as it may explain some of these mishaps. The corroding action of the gastrointestinal secretions on the metal of the button, is nearly always seen on all buttons, retained more than, say, three weeks. The nickel-plating will be found to be gone, and if one uses—as at one time we did at the Roosevelt Hospital for economy's sake—the button several times after it has been cleaned, polished and renickeled by the maker, decided evidences of corrosion will be seen about the openings of the button. This is fairly well exhibited in the accompanying Figure 1, the button in this instance having been used three times. This corrosion may account in some cases for the slipping of the catches and the escape of the wires. In my first case, when the button, made by a noted surgical instrument maker in New York, was used in a gastroenterostomy, some nine months later the patient underwent gastrotomy for persistent painful gastric symptoms, and the button was found in the stomach separated into its two halves; no pawls or catches were to be found. The second case was a gastroenterostomy with a button

made by an endorsed manufacturer in Chicago, with my flange added to it. The operation was done in a state neighboring to New York, and the patient wrote me later that on the twenty-ninth day the lower half of the large button came away. On the thirtieth day a small spring was passed in a defecation. On the sixty-seventh day the intact enteroenterostomy button passed; but up to 144 days, when last reported on by him, the other half of the large button had not appeared, and an *x*-ray examination failed to detect it. He, however, did not have from this supposed retention any untoward symptoms. He said his stools had been carefully watched.

A third case has recently occurred where the button was passed the thirty-fifth day after a gastroenterostomy, in a complete form, but the wire spring had become loosened at one end, though still held by the grip of the button.

A lesser accident, that only impairs the technic and does not affect the patient, is one that can be easily avoided. Twice I found after suturing each half of the button in the intestine and in the stomach respectively, that I could not force the male into the female cylinder, and that I had to rip out the imperfect half and put in a better one in one case, and in the second I had to take out both halves and put in other ones. The imperfection in the buttons in these cases had been brought about by the pressure of a rather wide-holding forceps flattening out the round of the cylinders, so that they would

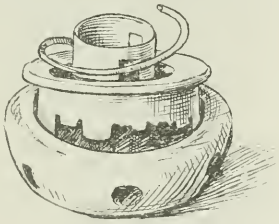

Fig. 1.—Showing corrosion of button and loosening of the wire spring.

not telescope. Care in employing finely-pointed catch forceps has prevented any recurrence of the difficulty.

With the objection that both surgeon and patient feel at leaving within the body a metallic device with the imperfections that are inseparable from any mechanical contrivance, it is not to be wondered at that many surgeons of distinction here and abroad have recently reverted to the previously cast-off simple method of incision and suture, or that others have tentatively tried to create new procedures of operation. For my own part, I confess I am yet on the fence. While the button has served me well in many cases, yet I feel uneasy in longer using it, and have in four cases lately tried to overcome still further its tendency to escape into the stomach by attaching in each of these instances the smaller enteroenterostomy button (which I always use to prevent the establishment of the vicious circle) to the flanged gastroenterostomy button by means of a stout but loose piece of silk, or preferably braided silk and linen fishing line, leaving the ends of the knot three or four inches long to hand down in the intestine. By this procedure I hoped to secure, by the intestinal peristaltic action, a certain amount of tugging or traction by the lower button, which usually separates first, on the upper one. I have resorted to this expedient in five instances; one of them was operated on four days ago[1]; in one, death resulted in forty-eight hours from pneumonia, but in the other three everything went on happily, though I noticed that in one case, where the buttons were retained nearly forty days, that the silk had become quite friable: Asbestos thread or fine rubber cord—not taut, however—might be employed. Fishing line worked well in one instance. See Figure 2.

The use of the oblong button has lately been applied to gastroenterostomy by Murphy and by Blake, but it does not appeal to me. It gains a larger opening, with the greater risk of lodgment in the stomach and increased amount and variety of mechanical contrivance. I look with more hope to the elastic ligature suggested by McGraw of Detroit. I have not used this procedure, for, as given to us by him, the resulting opening is not longer than that made by the incision and not wide enough in my judgment to be sufficient guard against closure.

I had determined to imitate the punching-out of the Murphy button by cutting out a round piece of the stomach and intestine and then completing the gastroenterostomy by the usual suture, when I made a suggestion to Dr. Maury of the surgical research department of the

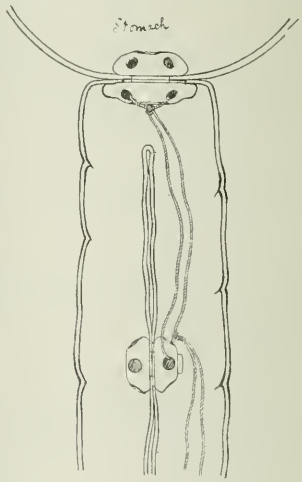

Fig. 2.—Showing the flanged button and thread tractor attached to the enteroenterostomy button.

College of Physicians and Surgeons of New York, to see if he could, on animals, contrive an elastic suture so as to bring about a decidedly large opening in all diameters. This he has been able to effect, at first making a quadrilateral opening, and more lately a satisfactorily-sized triangular opening by a rapidly-introduced suture of twine applied by a technic even simpler than that presented by Dr. McGraw.[2] I believe we may anticipate a useful result to abdominal surgery from his investigations. I shall certainly try the method in an early case

1. On the sixteenth day both buttons were discharged with the silk attachment unimpaired.

2. As described and illustrated in the preceding paper.

Identity of Meat Poisoning and Paratyphus.—The clinical course of poisoning from meat and of paratyphoid varies, as the former is more acute, the latter subacute, but otherwise Trautmann announces that they are merely varying forms of an etiologically single infectious disease. His communication issues from the Hamburg Institute of Hygiene and is published in the *Zeitschrift f. Hyg. und Infkr.*, xlvi, No. 1.

EXCISION OF THE ULCER-BEARING AREA IN GASTRIC ULCER.*

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PHILADELPHIA.

Rash, indeed, would be the surgeon who advocated operation in all cases of gastric ulcer; but more rash would be he who practiced excision of the ulcer-bearing area in all cases operated on. I wish it distinctly understood that it is only in certain well-selected cases that the proposed operation has, or may ever have, an accepted place in surgery. We are all agreed that 25 or 50 per cent. of the cases of ulcer of the stomach may be cured by medical means. These will usually be the cases of acute round ulcer found in females under the age of 30. They are also frequently found in connection with chlorosis, and it has been found that, as a general rule, they heal under medicinal treatment. It has also been learned that the chronic ulcers, usually found in males past the age of 40, are the ones which interfere seriously with the mechanism of the stomach and have to be treated very largely by mechanical, rather than chemical, means. It has still further been found that gastroenterostomy, valuable as it is, and the operation preferred by a majority of operators, here and in other parts of the world, has its distinct limitations.

Pyloroplasty, which was practically the first of these operations on the stomach, is infrequently practiced at the present time, unless we accept the operation of Finney, assuredly the best of its kind. The objections to the Heineke-Mikulicz operation are, first, that it is dangerous to practice in open ulcers where the stomach walls are friable; second, the opening that is left (pylorus) is on a higher level than the rest of the organ, and the stomach muscle in its weakened condition is not able to lift up the gastric contents and propel them through the enlarged outlet. The Finney operation undoubtedly possesses an important advantage over the Heineke-Mikulicz procedure, as it permits drainage in the natural position and will probably always overcome even narrow strictures. The objection to it, however, is that it is not the best operation in open ulcers, inasmuch as the contents of the stomach must still pass over the ulcer or ulcers in order to reach the duodenum. Gastroenterostomy, though favored by a majority of operators, has been shown not to relieve all cases of hemorrhages, as Kocher and others have reported deaths after gastroenterostomy which apparently for a time had been entirely successful. Neither does it prevent perforation, as there have been many such cases reported after gastroenterostomy. It does not, nor do any of the methods in well-established use, prevent cicatrices forming after the ulcers. These result in stenoses, and possibly cause further trouble in the stomach.

The operation of excising the ulcer-bearing area is especially indicated in cases of multiple ulcer. It will be found not only that the acute, round or perforating ulcer is multiple in many cases, but experience gathered in the last few years indicates that chronic ulcer is more often than otherwise multiple. This has been insisted on by Mayo and others. Moynihan states that it has been rare to find a chronic ulcer that was solitary. If an ulcer is found at the anterior portion of the pylorus, one is very apt to be found directly opposite on the posterior surface. Owing to the fact that ulcers are so frequently multiple, the operation of simple excision of the ulcer, which I was disposed to think favorably of four years ago, and advocated, is sometimes inadequate and must be supplemented by a gastroenterostomy; otherwise it will fail. Excision of one ulcer does little good if others are left behind. Another reason for excision of the ulcer-bearing area is the fact that malignant transformation frequently occurs in cicatrices left after gastroenterostomy, or any other operation which does not remove the lesions, but allows them to remain as a perpetual menace to their host.

Some years ago Hauser estimated that 6 per cent. of all ulcers of the stomach resulted in carcinomata at some future time, while Doyen thought that a very much larger percentage underwent malignant change. I think we now have sufficiently accurate information to warrant us in saying that a large per cent. of all gastric ulcers undergo carcinomatous change.

Perhaps the very best information that we have on this subject is furnished from Rochester, Minn., where out of 157 cases of cancer of the stomach operated on by the Mayo brothers it was found that in 60 per cent. of them there was a well-marked history of previous ulcer, although sometimes years elapsed between the benign and malignant condition. When one remembers the fact that the topography or geography of ulcer and cancer is practically the same—that is to say, 80 per cent. of all ulcers are located in or near the pylorus, and about the same per cent. of carcinomata are found in the same region—one is led to the conclusion that ulcers more often degenerate into carcinomata than has hitherto been thought probable. Another reason why excision of the ulcer-bearing area may be done to advantage at times is the fact that gastric and duodenal ulcerations so often coexist. For this information we also owe more to Mayo than any one else. He has found that in 12 per cent. of his operative cases the ulcers were in the duodenum, and in 88 per cent. in the stomach. Moynihan states that he has practically never found a case of duodenal ulceration that was not accompanied by one in the pyloric portion of the stomach. All agree that when duodenal ulcer exists, gastric ulcer is almost sure to be present.

When we remember that duodenal ulcerations are far more likely to perforate than gastric, then I think it will be admitted that this is a strong plea for removing not only the pylorus, but the upper part of the duodenum, in such operations. This can be very easily done, inasmuch as Mayo has shown that duodenal ulcers are in all instances limited to the first two and a half inches of the duodenum. Further, all will admit that a pylorectomy, rightly done, leaves the stomach in a better condition for future usefulness than a simple gastroenterostomy, because, however well the gastroenterostomy may be done, whether it be by the excellent methods which have been demonstrated here to-day, or by any other method whatsoever, so long as the pyloric end of the stomach is patent a certain amount of the gastric contents will pass through the pylorus, cause irritation and lead to future trouble. On this account Mayo has been compelled to reoperate 6 per cent. of his 271 gastroenterostomies, and of those reoperated and subjected to excision of the ulcer-bearing area all were completely relieved—a cogent reason why this operation should be done.

TECHNIC.

As 80 per cent. of gastric ulcers are found very near the pylorus, and nearly all that produce symptoms are

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

so situated, it would seem that practically all the ulcer-bearing area could be removed by doing a simple pylorectomy. One would not be apt to make a mistake in diagnosis and do this operation when not indicated, simply for the reason that ulcers in other regions are usually latent and do not give symptoms. Moreover, when the stomach is exposed one will nearly always be able to decide where the ulcers are by observing the milk-like opacity of the peritoneum, by a puckering of the coats of the stomach, by dense adhesions, or all combined. We should remember that ulcers situated about the lesser curvature are far more apt to perforate than those about the greater curvature (122 to 16). Instead of removing only the immediate pylorus, it is better, therefore, to make the incision obliquely, so as to remove at least one-half or more of the lesser curvature.

The pyloric end of the stomach can be removed in either of the two accepted ways, according to the case and fancy of the operator. The second method of Billroth is, I think, to be usually preferred. After the stomach and duodenal ends have each been permanently closed by double rows of sutures, a posterior gastroenterostomy is made. The control of hemorrhage and suturing are made easy by the use of suitable clamps. They also absolutely prevent escape of either gastric or duodenal contents. The straight clamps used by Moynihan in doing gastroenterostomy, or the curved ones of Kocher, are admirably adapted to the purpose. They should be covered with rubber tubing to prevent too great injury to stomach and bowel. Both the pylorectomy and gastroenterostomy should be completed in an hour.

The probable mortality of this operation should not exceed 10 per cent. William Mayo has performed it seven times without mortality. Were the mortality twice or thrice as great, it would still seem a perfectly justifiable procedure, as the mortality of ulcer under strictly medical treatment is at least 25 per cent., as admitted by nearly all medical authors, while Debove and Rémond place it at 50 per cent. (including secondary deaths from anemia, consumption, etc.). The operator will not choose this method in advance if the case seems to be a simple one, which will presumably yield to gastroenterostomy; but if, after entering the abdomen and carefully examining the stomach, he encounters conditions making the latter operation appear doubtful in its results, if not actually futile, then the more radical and ideal procedure should be carried out. The conditions warranting the major operations are, to recapitulate: 1, Multiple ulcers; 2, both gastric and duodenal ulcers; 3, threatened perforation of either; 4, repeated and dangerous hemorrhages; 5, a distinct tumor in patients past middle life, where the diagnosis between benignity and malignity is at best problematical.

Every one with experience knows how difficult, almost impossible, it is, in many instances, to make a differential diagnosis between ulcer and carcinoma. In such cases we should assume malignancy, actually existing or threatened, and perform a pylorectomy. It is here well to recall the brilliant results of Mayo (thirteen operations, with one death), Kocher, Robson, Murphy and Moynihan, in their resections of the pyloric end of the stomach for cancer. If it can be done, as Murphy states it was in 189 cases, by seven operators, with a mortality of 15 per cent., then, surely, a less grave operation, because less tissue is sacrificed, in better subjects, should give more favorable results. If there be the same relative difference between pylorectomy in malignant and non-malignant cases, and surely there will be, as there is in gastroenterostomy, then the mortality following pylorectomy in non-cancerous patients should not be more than one-third what it is for cancer, or 5 per cent. The Mayos had even a greater difference, or nearly four to one, as following gastroenterostomy in malignant cases their mortality was 23 per cent., whereas in their benign series it was but 6.

Billroth's and other statistics of pylorectomy for cancer compiled prior to ten years ago are of little value, and can not be accepted now, any more than statistics of operations for cancer in other regions. Billroth, for instance, admitted a death rate of 23 per cent. following his operations for cancer of the breast. To-day we feel that from 2 to 3 per cent. is more than an average, and 5 per cent. should represent the outside mortality for the most radical breast operations. The difference in stomach operations is noticeable from year to year, let alone from decade to decade, and the prohibitive mortality of twenty years ago for all operations on this organ has been succeeded by a definite but small mortality, and in almost every case is less than the medical treatment of former times.

That excision of the ulcer-bearing area can be done with less mortality than follows the strictly medical treatment of this protean affection (gastric ulcer), with its hemorrhages and anemia of to-day, perforation and subphrenic abscesses of to-morrow, to say nothing of probable stenosis and more than possible malignant disease in after years, is not, I think, much longer to be seriously questioned.

DISCUSSION

ON PAPERS BY DRS. MAURY, WEIR AND RODMAN.

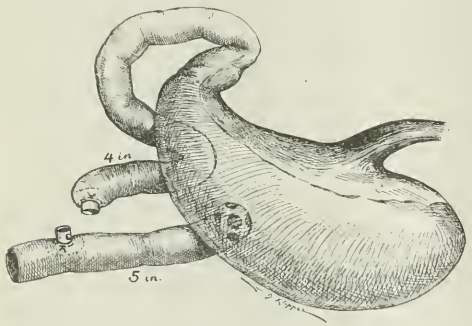
Dr. A. J. Ochsner, Chicago—My discussion will be limited to the McGraw ligature, but will not refer to the end results of gastroenterostomy or enteroenterostomy by means of the McGraw ligature, because my earliest case is not yet one and a half years old. When these cases have been done for a number of years, I think it will be wise to consider them and to speak about the ultimate value of the McGraw ligature. It may be that after a number of years we shall find that our present experience as regards the immediate results will have been of no value whatever. My experience covers 86 cases in which I have made use of the McGraw ligature; 68 of these cases were operated on at the Augustana Hospital, where I had the opportunity of following them closely, while the others were operated on in various places, and I have not been able to follow them carefully. The only ones that will be utilized in these remarks are the 68 operated on at the hospital. Of these, 19 were for carcinoma of the stomach. Simple gastroenterostomy was done for the relief of obstruction of the pylorus caused by the presence of carcinoma, and of these three died. I should say, however, that the three would have died had I not used the McGraw ligature, but simply explored them and closed the abdominal cavity again. I would not have operated by any other method. The reason that I did use the McGraw ligature was because in my early experience I had used it in a number of cases which formerly I had closed without making an anastomosis. Notwithstanding this fact, they lived for a considerable length of time, and some are still alive. Gastroenterostomy furnished drainage which enabled the patients to build up again, and in some of them it stopped the rapid progress of the carcinoma. There were 12 cases of benign stricture of the pylorus due to a healed ulcer, and all recovered. For acute ulcer of the stomach which had not entirely healed, which by its presence had either given rise to obstruction of the pylorus or to severe hemorrhage, and therefore indicated a gastroenterostomy, there were 33 cases, and 32 recovered. One died at the end of the third week, probably from a thrombus of the pulmonary, but no autopsy was permitted. The patient died suddenly, apparently after having fully recovered. One enteroenterostomy was made for a carcinomatous obstruction of the

splenic flexure of the colon, which recovered. Two entero-enterostomies were performed on one patient, who died. This patient was very much depressed and never recovered from her depression. She was so emaciated that, had it not been for the use of the ligature, I would not have done the operation at all. I did a cholecystocolostomy for a carcinoma involving the common duct, a hopeless case, in which the gall bladder should simply have been opened, but instead of this I made an anastomosis by means of the McGraw ligature. The operation was unsatisfactory; there was a thick-walled colon and a thin-walled gall bladder. In the intestinal cases there were 67, with 5 deaths, and of these 3 were due to carcinoma and 1 to accident, a thrombus, and one to the very greatly depressed condition of the patient. My mortality in gastroenterostomy has been smaller with the use of the McGraw ligature than with any other method. The peculiar point about the gastroenterostomy with the McGraw ligature is in the fact that the patients show practically no shock. It might be supposed that the reason for the absence of shock was in the fact that it is possible to do this operation with great rapidity. In all abdominal work you have shock where you do a lot of manipulating. While an assistant, I observed that certain surgeons constantly had frightful shock on the day following operation, and, on observing the conditions under which these various patients with similar conditions had been operated on, I found that those in whom the shock was very severe were the ones in whom there had been a great amount of manipulation. My method is so simple that it is practically impossible to manipulate the abdominal organs unnecessarily, and this is the reason why the Murphy button has given such good results in comparison with the needle and thread. If you have to sew for half an hour you are likely to do a lot of mischief outside of the operation itself.

Dr. William J. Mayo, Rochester, Minn.—I am glad to note that Dr. Weir believes with me that the button has done a great work. He hesitates to give it up and comes out with a new device in which he uses a small button to lead the big button down, a sort of bait. Supposing one button drops on the inside of the stomach and the little button is in the intestine, what would the connecting string do? In one of the first gastro-enterostomies ever done the patient died from inanition because the opening was made low down in the ileum, throwing the greater part of the small intestine out of use. Any one who goes into this question carefully must be convinced that the anterior operation, by being compelled to go down on the small intestine on an average about twenty inches, is not so good an operation as the posterior method, with a high jejunal opening. It may be said that the difference of a few inches will not matter, but I believe that it is important. We know that secondary jejunal ulcers, because of the acid gastric secretions being turned into the intestine through the gastroenterostomy opening, have occurred almost entirely with the anterior operation. In the posterior operation the mucous membrane is better able to protect itself, and when it has occurred with the posterior operation it has been when a long loop has been formed. As to the Murphy button, I must say that nearly all I know about gastrointestinal surgery has been taught me by this button, and I have given it up with regret. I still use it in certain cases of gastrectomy where sufficient suturing has already been done. As to Dr. Ochsner's method of doing gastrectomy and using a McGraw ligature to make the gostroenterostomy, I should have to think about it a few times before I could quite satisfy myself as to the safety of completely cutting off the little pouch of the stomach that was left and the intestine, even for the time needed for the ligature to cut through. It is, however, a quick method, and that is what we need in cases of gastrectomy for cancer, but the Murphy button is just as speedy and gives an immediate opening. I would say that the McGraw ligature has no particular place in surgery of the stomach, except in a few cases of carcinoma, in which the anterior operation is preferred because one does not like to turn a stomach with a considerable tumor out of the abdomen, and in gastric cancer there is a great reduction of gastric juice, and, therefore, less danger of secondary jejunal ulcer. Ochsner's results, however, have been unexcelled. One can do gastro enterostomy very quickly with the simple suture after the posterior method. There is no reason why mere suturing should take more than from twelve to seventeen minutes, and our results have been more than satisfactory, and we prefer and practice it excepting in the exceptional case in which the saving of five minutes gained by the button or McGraw elastic ligature may be of great importance. As to Dr. Rodman's operation, I believe it is an ideal one, but we can not carry it out in all cases. We must say to ourselves that it is a good deal of an operation for a simple ulcer. Of course, there is danger of malignant degeneration, and if the pylorus is not completely closed there is a possibility of secondary trouble It may be said that if the gastroenterostomy is placed at the bottom of the stomach, primary vicious circle does not occur In some cases secondary difficulty has arisen, which has sometimes been due to food working through the pylorus. In looking for the particular group in which these secondary troubles took place, I found it was in those cases where the pylorus was more or less open. Food will pass from the pylorus into the proximal loop and then will have to pass with the bile over the top of the anastomosis, causing dragging and contraction. If simple gastroenterostomy is done in a case with an open pylorus enteroanastomosis should be done to prevent the latter sequela. We would think that a low point gastro-enterostomy would drain the stomach anyway, but intra-abdominal tension prevents gravity action, and muscular contraction carries the food out of the pylorus. I believe Dr. Rodman's operation is an ideal one and is indicated in a certain class of cases. I have done it seven times and the patients have recovered and stayed well.

Dr. John B. Murphy, Chicago—Dr. Weir coddled the button a little more than I would. It has more mechanical difficulties in its construction than he has stated and it is more frequently improperly made. It is a little difficult to get members of the medical profession, not to speak of manufacturers of surgical instruments, to appreciate the points in a perfect instrument. I have found that all kinds of metals have been used in the manufacture of the button, and have even known of the springs have been made of steel. You all know how long a steel spring would withstand the gastric secretions—just a few hours—before dissolved by the acid. This does not change the fact that the button is easily constructed; the brass, German silver and aluminum will answer all purposes, and a manufacturer is a criminal who makes them of other materials. He was very modest in his statment as to the number of times the button falls into the stomach, but how rarely it has caused trouble. I have used Dr. Weir's modification and have also had the experience of its dropping into the stomach. It subsequently was passed. The effect of every method of intestinal anastomosis must depend on certain elements: 1. Exact apposition at time of operation. 2. Continued apposition until organic union takes place. 3. All accomplished with the least manipulation. 4. Operation in the shortest possible time, as time means exposure and manipulation. 5. Union in healthy tissues. These are all easiest of attainment up to date by using the button. It was brought out by Dr. Ochsner that the performance of certain acts while the patient is on the table often causes death. The most important of these is excessive manipulation, and the operator who uses his hands and sponges too freely in laparotomies is a most dangerous one. I recently did a gastroenterostomy by suture, but it was not the easiest nor the safest method. One does not need to have a button to do an anastomosis, as it can be done quickly with suture in trained hands. The position of the anastomosis as brought out so forcibly by Dr. Mayo is very important, i. e., sufficient of the bowel on the proximate side of the obstruction must be removed. I believe many cases of vicious circle in gastroenterostomy have been due to the use of too long a loop (12 to 18 in. of jejunum) for either anterior or posterior fixation. In the posterior position the important point is the change of position of the stomach after relief of the obstruction, i. e., the stomach again resumes the vertical position, so the union should be three or four inches from the

pylorus and the button should be inserted in the jejunum from three to five inches from the ligamentum Treitze, never from twelve to eighteen inches below the origin of the jejunum. As to Dr. Rodman's method, it is admirable. In all cases of simple ulceration of the stomach without adhesion to the liver or gall bladder it seems to me it is the ideal operation, because it once and for all re-establishes practicably the union of the stomach with the intestine in almost its normal relation and avoids a secondary opening, but the question of mortality must be settled by the clinical test. As to the cause of contraction of the opening, it is due to excessive cicatricial deposit rather than to a re-establishment of pyloric patency. This is always true so far as intestinal contractions are concerned. As to the contraction in gastroenterostomy, it was supposed to be due to the cessation of the necessity for an additional opening. I recently had a case discrediting this theory: Two years after a button gastroenterostomy the opening admitted two fingers freely and the pylorus was patent. It seems to me there is still to be accomplished one modification, and that is the modification of closure of the pylorus or the first portion of the duodenum permanently in every case of gastroenterostomy without increasing the severity of the operation. This has not been done by a method which does not involve additional hazard. All methods so far increase the risk, and the ideal operation has not yet arrived, but I am looking for some one to bring it out. The Monprofit method of jejunal posterior gastroenterostomy with the button seems



the most simple and effective. It consists of division of the jejunum four or five inches from its origin and inserting half of the button in the proximal end. The other half is put through the open end of the distal portion and carried down for five inches, where a small incision in the lateral wall of the jejunum allows the cylinder to protrude. It is then coupled to the other half of the button in the proximal end of the jejunum, and the distal end is buttoned to the posterior wall of the stomach. This avoids vicious circle and is quickly performed.

DR. ROBERT H. M. DAWBARN, New York City—Dr. Weir's first objection to the Murphy button was his allusion to the special forceps which Dr. Murphy uses to hold it, and Dr. Weir states that it results in flattening of the button. For the past ten years I have used two corks instead of forceps, and the method is so simple I hesitate to mention it. The corks act as handles. If the first half is not drawn so tightly as you think, so that the button drops back into the intestine, the cork prevents it going any farther.

DR. L. L. MCARTHUR, Chicago—I have been doing some work along the same line as Dr Maury. It had seemed feasible to make an anastomosis by the use of the crushing forceps, much as Doyen did his closure of the intestine where resection and side-to-side anastomosis was to be made. I, therefore, crushed given areas and made a simple circular suture opposing these two crushed surfaces. I then thought to cut off the nutrition of the crushed area by an additional insertion of the suture, which should, by tightly drawing and constricting the crushed surface, shut off all possibility of circulation. In both of these efforts to get the anastomosis I failed. I have shown my failures to prevent others from wasting any more time in this way. Under certain circumstances traumatic in character, tissues are met with in which the mere apposition by suture of the neighboring intestine will be sufficient to repair the damage done. My specimens show that although no lumen can be made by opposing such crushed surfaces, the suture material employed to cut off nutrition penetrates and finally escapes into the intestine.

DR. A. PALMER DUDLEY, New York City—I recently operated on a case of cancer of the uterus, in which I attempted to do a hysterectomy, and the small intestine was so friable that while breaking up the adhesions it went into two parts. I inserted the button and waited nineteen days for it. About this time the nurse became careless and I was getting doubtful, when the patient developed a fecal fistula. Still missing the button, I probed a fistula and got a marked click. On further investigation I found the button and took it out through the same opening in which I had put it. I published a paper on this subject in the *Journal of Obsterics*, but apparently it has only been seen by a very few. I think I hold the record for putting in and taking out a Murphy button through the same incision.

DR. FLOYD W. MCRAE, Atlanta, Ga.—At the time Dr. McGraw read his original paper before this Section, some years ago, Dr. J. McFadden Gaston was presiding, and Dr. McGraw gave Dr. Gaston the credit for being the originator of this ligature. We are, therefore, doing Dr. Gaston an injustice by calling this ligature the McGraw. As to the gastroenterostomy, I wish to say that the most beautiful work I have seen is the operation which Dr. Mayo does with his modification as applied to this operation. I have seen him do it in thirty-five minutes.

DR. SAMUEL LLOYD, New York City—I performed a number of operations some years ago with the McGraw ligature and found that it acted very well and cut through rapidly, which is its chief advantage. I think rubber better than twine because it is more readily sterilized. Cutting off the pylorus is a subject which is worthy of more attention. I have done it several times without any difficulty. In a certain number of cases food may be given in twenty-four hours, and I think that in Dr. McGraw's original paper the time was referred to. Rubber has the advantage over twine in that it begins its action quicker and we can begin feeding more promptly. One great advantage in the McGraw operation is the use of the McClain needle. It makes a shell for the rubber and tearing and pulling are entirely obviated. You can determine the size of the opening with the McGraw ligature. I remember doing the McGraw operation in a benign case, one of kinking of the duodenum. A gastroenterostomy was done and the abdomen was found full of adhesion. Two years after operation I was obliged to open the abdomen again for intestinal obstruction which seemed to be high up. I suspected that the McGraw operation had been a failure and that I should have to make a new opening in the stomach, but on examination found that the original anastomosis admitted two fingers of my hand very readily.

DR. MAURY—Last fall we endeavored at the laboratory to follow up some suggestions made by Dr. Mayo relative to the closure of the fistula in the event and as a result of the pylorus being open. We closed the pylorus in the case of six dogs and inserted the usual McGraw elastic ligature. Within thirty-six hours all these dogs died. Their symptoms resembled those of tetany. The case reported by Dr. Oehsner has an important bearing on the relation of tetany to the gastric mucosa. As to Dr. Lloyd's remarks, I am not aware of his having had any information whatsoever as to the rate at which twine, if used instead of elastic, will cut through. If, as has been shown to be the fact at the Columbia laboratory, it cuts a complete opening before three and a half days, it must evidently begin to cut some time prior to that. As to sterilization, I believe it to be as easily accomplished with twine as with elastic, by simple boiling. Twine is easier to obtain and has the distinct advantage of not deteriorating with age.

Dr. Weir—The difficulties I have experienced occurred in buttons made by instrument makers who were indorsed by Dr. Murphy, hence the more likely to happen with less expert manufacturers. Dr. Rodman's suggestion is a scientific one and worthy of consideration. There is one point that Dr. Mayo brought out by inference and that is that the procedure is one only to be used where the gastroenterostomy or other procedure has failed. This should be strongly emphasized.

Dr. Rodman—One can complete a pylorectomy in any way that he pleases, either by the first or the second method of Billroth. Personally I should think it better to close it entirely. The principal claim for this operation is the fact that there is a large and unknown per cent. of cases of gastric ulcer which result in malignant change and that this is an increasing per cent. all will admit. It should only be resorted to in cases where it would seem that probably a gastroenterostomy would not prove successful as, for instance, where there were multiple ulcers. In those cases where the ulcer is large and where the tumor is accompanied by glandular involvement, as in a certain per cent. of benign ulcers, so that no one could possibly say that he was dealing with a benign condition, then I say it is certainly a rational procedure, for in such a condition we have to recognize and admit that there is a fair probability at least of malignant disease in men over 50. Every one realizes the fact that chronic ulcer of the stomach so often forms adhesions and takes in the lymphatic glands that it is not possible at the time of the operation to say that it is benign. Kehr and others have removed tumors that they supposed to be malignant which proved to be benign. I can not believe that the mortality can possibly be 30 or 40 per cent. It should not be followed by a mortality of more than 15 per cent. Even in malignant disease we realize that pylorectomy has reduced the mortality to less than 30 per cent. It must always be an operation followed by a somewhat heavier mortality than gastroenterostomy. Mayo did not believe it would be followed by a mortality as great as that. Gastroenterostomy has a mortality of 5 or 6 per cent. There is a difference, but it is not very great, and in favorable cases it seems to me that it may have an accepted place in surgery.

BORIC-ACID POISONING.

REPORT OF A FATAL CASE, WITH AUTOPSY.

CHARLES L. BEST, M.S.

CHICAGO.

From the Pathological Laboratory of the University of Chicago.

The opinion appears to exist that boric acid, even in large amounts, is entirely innocuous to the human body when applied externally to wounds, suppurating cavities, etc. That this is erroneous and that the surgeon must be on his guard against its too free usage, as it is not impossible for a fatal issue to ensue, is shown by the literature, in which five cases of severe intoxication and four deaths are reported in addition to the case at hand. These cases all resulted from the prolonged irrigation with saturated solutions of boric acid or the packing of large cavities with the dry powder.

Welch[1] reports his experience in the treatment of leucorrhea, in which he packed the upper third of the vagina with boric acid, allowing it to remain until liquefied, usually two to three days. This was repeated every seventh day. In three cases intoxication resulted, and are reported by him as follows:

Case 1.—Two hours after the first treatment the patient was found with the skin cool, pulse feeble, respiration weak, eyes sunken and dull and the mind unclouded but despondent.

Case 2.—Two days after the seventh treatment there was a marked depression of the nervous system and a pronounced acid discharge from the vagina. The skin of the hands, face and feet was swollen, became charred and finally exfoliated. All motion was very painful.

Case 3.—Two days after the seventh treatment the patient was found in a state of collapse, low spirited, the pulse feeble, the eyes sunken, the face dusky, and general weakness. There was great pain in the vagina, the mucosa of which was corroded, and much discharge from the part. Temperature, 97.6; pulse, 60. The symptoms did not subside for a week, in the meantime the patient being at times cold, hysterical and prone to melancholy. The skin exfoliated in branny scales. All three cases recovered.

Spencer,[2] after an operation for syphilitic necrosis of the ankle joint packed the cavity with one-half ounce of boric acid. This was repeated on the seventh day, and on the fourteenth nausea and vomiting set in, not yielding to treatment. Other symptoms were restlessness, insomnia, hiccough, weakness, emaciation, rapid pulse, some coryza, inflammation of fauces and pharynx, bronchitis, an acid discharge from the anterior nares and a well-marked papular erythema over the face, neck, arms and chest. The symptoms came on gradually, increasing for three days, when the dressings were changed, and in ten days they had disappeared.

In addition, he speaks of two cases, one in washing out a lumbar abscess, and the other the pleural cavity, with a 5 per cent. solution of boric acid, followed by death in both cases, the symptoms being nausea, vomiting, hiccough, slight temperature, bronchial catarrh, a weak, rapid pulse and well-marked papular erythema. The report of these I was unable to find.

Hun,[3] after irrigating the pleural cavity with 16 ounces of a saturated solution of boric acid, found his patient in the evening covered with a papular erythema, and with a rapid, soft pulse. A second irrigation on the following day aggravated these symptoms, and nausea and vomiting set in. The treatment was discontinued and the patient recovered.

Molodenow[4] used a 5 per cent. solution very freely for washing out the pleural cavity in one patient and a lumbar abscess in another. This treatment was continued for one hour. Uncontrollable vomiting set in in both cases, followed by an erythema of the face and neck, and death from cardiac paralysis. Autopsy was not secured.

Williams[5] irrigated freely a case of empyema, the treatment extending over a period of two months, and finally placed 5 ounces of the dry powder in the cavity. Delirium set in, shortly followed by uncontrollable vomiting, an erythema over the body, cardiac paralysis and death. Autopsy was not secured.

Rose[6] fully reports a case, which may be summarized as follows:

History.—Boric acid was freely used in the treatment of a large open sore on the right thigh. On the fifth day a profuse diarrhea set in, but there was no change in the general condition. The mind was clear, temperature normal, with pulsation slightly increased. Later vomiting set in and the granulations assumed a sluggish appearance. The boric acid was discontinued. The diarrhea and vomiting, which consisted chiefly of mucus and water, became uncontrollable. On the ninth day the intellect was still clear, but the eyes staring, the body was bathed with a cold, clammy perspiration, and there was great weakness. The hiccoughing and the vomiting were but partially relieved by morphia. The urine for the last few days was intensely acid. The temperature was 97.4; pulse, 105. Death occurred on the following day, the temperature being 96, the pulse 140. Just before death the tongue was red and moist, the vomiting almost continuous, and the urine almost completely suppressed.

1. Medical Record, 1888, vol. xxxiv, p. 531.
2. Northwestern Lancet, 1888, vol. i, p. 22.
3. Medical News, Philadelphia, 1882, vol. xl, p. 704.
4. Tillman's Operative Surgery.
5. Unreported case of V. Williams, Chicago.
6. Medical News, Philadelphia, 1883, vol. xliii, p. 199.

Autopsy.—There were found congestion of the liver, spleen and gastrointestinal tract, with several erosions in the mucosa of the stomach. Histologically, the liver showed cloudy swelling, granular degeneration and connective tissue proliferation. The kidney tubules contained casts and the cells were swollen and granular. Much pigment was found both in the liver and kidney.

Summarizing these cases, it will be found that nausea and uncontrollable vomiting were present except in Welch's cases, all of which recovered, and all being cases in which the application was made to the vaginal mucosa, from which we may assume some difference in the absorption between this and ordinary raw surfaces. The same is true of the papular erythema of the face, neck and chest, with the additional exception of Rose's case. Depression of the nervous system and general muscular weakness is constant. In the two cases in which the temperature was recorded it was subnormal throughout. A cold, clammy perspiration was present in one-half the cases. The pulse was feeble, but of normal frequency, except in the fatal cases, where it gradually increased before death. An inflammatory condition of the pharynx, larynx and nares was confined chiefly to those cases in which there had been irrigation of the pleural cavity. Delirium was present in but one case, and that just before death. The postmortem and histologic findings in the one case that came to autopsy were those of an acute intoxication The onset varied from twelve hours to seven days, usually beginning with profuse vomiting, followed in the course of a day by an erythema, weak pulse, depression of the nervous system and general bodily weakness.

To these cases, which are all that can be found in the literature, I desire to add the report of a fatal case which I have had the opportunity to study in the laboratory of pathology of the University of Chicago:

REPORT OF A CASE.

Patient.—W. A. D., aged 36, occupation salesman, was admitted to hospital Aug. 16, 1903, with the following history: Previous to the present trouble he had been quite well. He complained of pain in the right inguinal region, and stated that about five months previously he had noticed a swelling in this region which was diagnosed inguinal hernia. A truss was worn for four and one-half months, but the condition gradually grew worse. Suppurative lymphadenitis was then diagnosed. At this time the right ear showed signs of inflammation, and paracentesis was performed.

Examination.—The physical examination at the hospital showed both ears tender on pressure, the hearing impaired, the membranes inflamed and the right mastoid region swollen, red and painful. In the right inguinal region just above Poupart's ligament was found a large swelling, with marked fluctuation, painful on pressure and very red. Otherwise the examination was negative.

Diagnosis.—Suppurative inguinal lymphadenitis, bilateral otitis media, right suppurative mastoiditis.

Operation.—The following day the right inguinal glands were completely excised, and much pus was found. The wound was washed out with salt solution, packed with approximately 6 oz. of boric acid powder, sewed up without drainage, and sealed with collodion. A large opening was made in the right tympanic membrane at the same time. After the operation there was marked emesis of a greenish yellow fluid, which continued and became uncontrollable before death.

Course.—On the evening of the third day a diffuse erythematous and slightly papular rash appeared on the neck, chest and shoulders, with a distinct line of demarcation at the clavicle. The following day a more diffuse papular rash appeared on the back and thighs. There was no pustule formation. The skin about the operation wound was red. On August 20, 1 a. m., there was marked cyanosis, a clammy sweat, cold feet, weak, irregular pulse and uncontrollable vomiting. Delirium set in during the last few hours before death. The patient died at 7 a. m., Aug. 20, 1903. The rash was still visible. The temperature had increased with slight remissions from 98.4 on admission to 100.8, with a fall of 0.6 just before death. The pulse increased from 68 on admission to 138, with a decrease of 12 just before death. Respiration on admission was 16, which increased to 38 just prior to death.

Autopsy.—An autopsy was held three hours later by Dr. H G. Wells. The body was that of a well-developed, well-nourished man, 165 cm. in length, not yet cold, but rigor mortis was present. The skin was white except for a purplish tinge above the clavicle and on the right side of the scrotum, and a brownish discoloration about the inguinal wound where the epidermis was elevated by a large quantity of serous fluid, which readily escaped, leaving the epidermis unattached. The lymph glands were not enlarged.

The operation wound, 11 cm long, extended to the abdominal muscles and was filled with a chocolate-colored grumous material. No pus was present in the wound, but beneath the peritoneum, posterior to the right rectus and extending under Poupart's ligament along the sheath of the great vessels was a cavity filled with a creamy pus from which several sinuses extended—one 5 cm. in length along the external border of the right rectus to the floor of the operation wound, but separated from it by a layer of fascia 2 mm. thick, and the other along the inner side of the ramus of the ischium. The cavity was lined by a soft pinkish tissue, in the floor of which was seen the internal iliac artery, but neither this nor any other of the vessels were thrombosed. The regional lymph glands were enlarged, the mesenteric normal in size and consistency. The peritoneal cavity was free from adhesions or fluid.

The left pleural cavity contained many fibrous adhesions posteriorly, and the right was completely obliterated by the same and showed a few pinhead-sized points of calcification on the pleura. The visceral pericardium showed innumerable minute subpericardial extravasations of blood, from which the parietal layer was free.

The musculature of the heart was normal, likewise the valves, and the vessels were free from sclerosis. A large postmortem blood clot was found in the right ventricle. The blood in the heart was mostly unclotted, of a granular, turbid appearance, with a slight magenta tinge.

The lungs showed no areas of consolidation, crepitation being present throughout. A large amount of blood and frothy fluid exuded on handling. The peribronchial glands were normal but for a few areas of calcification.

The gall bladder was distended, containing a dark, tarry bile, but no calculi were present. The liver was enlarged, weight 2,500 gms., pale and friable, and on the cut surface only the centers of the lobules appeared normal, the peripheries being pale.

About the spleen there were a few fibrous adhesions. Its weight was 250 gms. On the cut surface much blood was seen, though the general consistency was about normal.

The adrenals showed no change. The kidneys showed a thick, fatty capsule, were of normal size and consistence and showed remnants of fetal lobulation. The cortex was pale and the markings fairly distinct. The capsule stripped readily, leaving a smooth surface.

The surfaces of the gastrointestinal tract were normal; the prostate showed no changes.

The cranial cavity showed a moderate amount of fluid, the longitudinal sinus containing a soft, dark clot, not adherent. The brain substance was normal. No change in meninges, skull nor the adjacent sinuses.

Anatomic Diagnosis.—Recent operation wound in right inguinal region; suppurating sinuses, subperitoneal and about the sheaths of the right iliac and femoral vessels; postmortem wound over right mastoid; bilateral obliterative pleuritis; healed calcified tubercles of peribronchial glands and pleura; fatty changes in liver and kidney; fibrous cholecystitis; hyperplasia of vermiform appendix; subpericardial ecchymoses.

Bacteriologic Findings.—From the heart's blood: A smear was negative. No growths obtained on culture, except one

tube contaminated by bacillus subtilis. From the wound in the inguinal region the staphylococcus albus was obtained.

All cultures from the different viscera remained sterile.

Histology.—Skin from the neck (Erythema). Desquamation of the stratum corneum down to the stratum lucidum; much hemorrhage into this portion of the epidermis and the gland crypts; much round and epithelioid cell invasion of the stratum malpighii; comparatively little leucocytic invasion; distension of vessels of the musculature with blood.

The spleen showed some congestion; no other changes.

The lungs showed extensive destruction of air cells, congestion of large and small blood vessels and deposition of coal pigment, especially about the larger vessels. The air cells in many places were filled with red and white blood corpuscles. Polymorphonuclear leucocytes were numerous. A small amount of fibrin was present in a few alveoli. No bacteria were shown by polychrome methylene blue staining.

The lumen of the appendix was filled with areolar tissue traversed by fibrous bands, showing numerous round lymphoid cells at one point.

In the liver there was considerable fatty infiltration and some round cell proliferation in the interlobular septa about the ducts, but no other changes.

The vessels of the capsule and of the kidney itself were much congested; otherwise no changes.

The heart muscle showed slight increase in connective tissue, and some pigmentation of the muscle fibers.

The pancreas was normal.

The prostate showed a glandular proliferation of the epithelium and the acini filled with a hemorrhagic exudate and granular débris.

The abscess wall showed the muscle fibers scattered and a marked increase in connective tissue, also an infiltration of round cells and many red and white blood corpuscles, the latter chiefly of the polymorphous variety.

An analysis of a sample of the boric acid used in the hospital, and from which that used in this case was taken, was made, and the chemist reported it to be chemically pure.

Unfortunately, the reactions of the blood and secretions were not taken.

The lack of other causes, and the fact that clinically this case so closely resembles those previously mentioned, leaves no doubt as to the identity, all the cardinal points of boric-acid intoxication being present: profuse vomiting, a papular rash over the face, neck and chest, and a weak irregular pulse increasing before death. It differs only in its more rapid onset and course, the onset being immediate and the fatal termination in four days. The delirium and the slight rise in temperature are possibly indications of a greater degree of intoxication.

The postmortem and histologic findings in Rose's case are identical with those found here, the former being entirely negative except for a congestion of the liver, spleen and gastro-intestinal tract and a cloudy swelling and granular degeneration of the liver and kidney cells. In the latter we have practically the same findings, with the addition of subpericardial hemorrhages and fatty changes in the liver and kidney, together with discoloration and maceration of the tissues about the cavity in which the boric acid was placed.

These findings then limit the cause of death to one of two things: a toxemia, resulting either from the abscess in the groin or from the medicinal agent employed, as other recognizable causes were not present. Its resemblance to those cases previously reported, together with the demonstrated overuse of this substance, is sufficient to make a positive diagnosis of fatal boric-acid intoxication. The clinical features and the lack of success in cultivating pathogenic bacteria from the blood, eliminate septicemia in this case, which is the condition most likely to simulate such an intoxication.

A METHOD OF DISPENSING WITH RUBBER GLOVES AND THE ADHESIVE RUBBER DAM.

SECOND COMMUNICATION.

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CHICAGO.

A short time ago[1] I gave a preliminary account of the use of an impermeable coating designed to prevent the escape of the epithelium and sebaceous gland secretions from the skin during operation, and the entrance of blood, pus, etc., into the crevices of the skin. It consists, briefly, in the application of a 4 to 8 per cent. solution of gutta-percha in benzine or acetone—the benzine solution for use on the hands, the acetone for surface applications at and around the field of operation. The 4 per cent. benzine solution has proven the best for wear. The benzine solution, however, dries more slowly than the acetone; it requires one and a half to two and a half minutes for it to thoroughly evaporate. If the rubber has not been destroyed by heat or sterilizing processes, the parts will have a decided adhesive tendency. If the solution is not good the adhesiveness will not be manifest. The acetone solution evaporates much more rapidly and, therefore, makes the best for the field of operation.

The following experiments show the comparative results between the rubber solution and the gloves, and while great differences in various operations appear, they are due to many extraneous conditions, which are not under control by any means so far suggested. However, they give a fair idea of the comparative advantages of the rubber gloves and solution over the naked hands.

METHOD OF TESTING VALUE OF PROCEDURE.

The method employed to test the efficacy of the rubber solution in protecting the patient from infection at the hands of the operator was as follows: The solution was used either by the operator or his assistant, while the other wore gloves or used bare hands. The hands of each were subjected to the same process of disinfection so far as possible. After the operation, each would wash his hands in 1 liter of controlled sterile water. Agar plates were then made with 1 c.c. of the water, and a comparative count of the colonies made in forty-eight to seventy-two hours.

In order to obtain a fair and unbiased result, the following requirements must be fulfilled:

1. All chances of contamination from the patient himself must be avoided. Hence all operations on infected cases, on the gastrointestinal tract or biliary passages and in the vicinity of the mucous outlets, were unavailable. As a result, only a limited number of clean operations were left for selection, such, for example, as those for hernia, for varicose veins, for specific disease of the tubes, certain abdominal and somatic tumors, etc.

2. The operator and his assistant should do as nearly an equal amount of work as is compatible with the operation, so that each would be subject to equal chances of contamination from the patient.

3. Extreme care must be taken not to allow puncture of the gloves to pass unnoticed, as this occurs much more frequently than is generally supposed.

4. The rubber solution, sterile water, etc., should be

1. The Journal A. M. A., March 19, 1904.

carefully controlled. (The difficulty of fulfilling the second condition can be readily seen. The others were met satisfactorily.)

The experiments carried out thus far show that the solution, while not so perfect a protection to the patient as intact gloves, is infinitely superior to the bare hands, and is equal to or superior to the glove, considering the chances of puncture.

The rubber coating is slightly permeated by the perspiration, but perspiration is limited by the coating just as it is by the rubber adhesive plaster.

However, Harrington of Boston has shown that the secretion from the sweat glands is not septic, while epithelium and the secretion from the hair follicles are. The hair is glazed over and matted to the skin by the rubber solution, and its epithelium does not escape after applying the solution as does the perspiration.

The experiments were carried out by my assistant, Dr. Arthur D. Dunn. (The figures show the colonies obtained in the agar plates from the washings.)

SERIES 1.

No	Rubber Solution.	Bare Hand.	Gloves	Control.	Remarks.
1	224	*	..	0	Exploratory laparotomy; time of operation, 45 minutes.
2	56	*	.	50	Varicose veins; time, 1¼ hrs.
3	17		11	0	Hernia; time, 30 min. Equal amount of work by each man.
4	11	*	16	1	Varicose veins; time, 1 hr. Man with solution did rather less work than other two.
5	187	*	.	0	Rubber solution defective.
6	253	.	17	0	Rubber solution defective. Hernia; solution used by interne who was very careless.
7	24	..	169	2	Laparotomy (Dr. Schroeder).
8	36	123	24	.	Man with gloves did comparatively little work.
9	2		0	0	Exploratory incision, thigh. Man with solution did most work.
10	30	*		0	Varicose veins.
11	18	.	300	0	Laparotomy.
12	76	.	54	0	Hernia.
13	5		2	0	Laparotomy.

*Countless

SERIES 2.

No	Disinfected hand.	Nails.	Rubber to back of hands.	Rubber to nails.
1.	17	2	5	3
2.	25	20	0	0
3.	5	2	1	0

SERIES 3.

No.	Non-disinfected hand.	+Rubber	Non-disinfected nails	+Rubber.
1	*	0	*	2
2.	*	2	*	5
3.	*	0	*	0
4	*	5	*	12

* Countless.

In this series the rubber solution was poured on and allowed to dry on the hands without friction. The method of using friction while applying the solution at operations is open to the criticism that microbes on or near the surface are worked up through the solution.

METHOD OF PREPARATION.

The method of preparing the rubber solution, as kindly furnished by E. von Hermann, chemist, Chicago, is as follows:

1. Care must be taken to cut the gutta-percha chips in small pieces.

2. Wash in formalin, full strength, and dry.

3. Macerate the chips in benzine or acetone for three days, then filter through cotton which has been in formalin vapor for 48 hours. Repeat the filtering twice and then the solutions are ready for use. The benzine is sterilized by boiling it in a water-bath in a strong, securely corked bottle. Repeated culture tests of the solution prepared in this manner all proved sterile; 1 per cent. carbolic acid may be added without producing irritation of the skin, but is unnecessary. Formalin will not mix with the solution, and therefore can not be used. The solution will not stand boiling as it destroys the adhesiveness. The chloroform and carbon solutions are not advisable as they are too severe on the operator's hands, and are expensive.

At my suggestion the chemist macerated gutta-percha chips in benzine, acetone, chloroform and carbon tetrachlorid, and found the first two the best and cheapest, the best, as they form a thoroughly tough cover for the hands and have the most lasting qualities. They are not detrimental to the hands even after several weeks' usage. Not only that, but the skin is as soft and smooth after a full day's operating as it was on beginning. They are the cheapest, as the solution can be made (work not included) for 25 and 50 cents, respectively, per pound. A 4 per cent. solution is best: a higher percentage of gutta-percha may be used, but it rolls and scales off in an unpleasant way.

He also experimented with pure celluloid and acetone, and Schering's celloidin with ether and alcohol. These form a good covering, but are too expensive (about $1.35 per pound) for general use.

For practical purposes, it seems to me the best way to put this on the market is to place the sterilized chips in small envelopes the same as dry catgut, having a sufficient quantity in each to make a 4, 8, 12 or 16 ounce solution. The operator can then have sterilized benzine in his operating room and add the gutta-percha, thus making fresh solutions. These, like soft rubber goods, deteriorate with time, and if kept long in a hot room. This is all avoided by keeping a supply of rubber chips, as above mentioned.

METHOD OF USE.

The best method of applying is by dipping the hands into a small basin containing the solution. It should be worked in around the nails and tips of the fingers, and should be applied as high as the elbows. Between operations the hands may be washed with soap and water, spirits of soap, alcohol, bichlorid, carbolic acid or formalin solution, without interfering with the rubber coating. Brushes, however, should not be used. After cleansing the hands and before proceeding with another operation, the fingers are redipped, as the coating wears off, but one application on the hands and forearms is sufficient for the entire day. The skin of the operator does not become "water logged" or shriveled with the solution, as it does with the rubber gloves. The coating is best removed by washing the hands in benzine and drying rapidly with a towel.

I quote as follows from a letter from Dr. Van Buren Knott of Sioux City as an example of many received:

I have used the gutta-percha solution for three weeks and am very much pleased with it. I think it a very valuable protection during operative procedures. I have used the solution with and without gloves, and in either manner have been well pleased. I find it a most excellent means of protecting the hands in the application of plaster-of-paris, as it prevents the plaster from sticking to the skin and avoids the harsh, rough feeling which follows the application of a plaster cast.

Since my previous report, I have used the solution on my hands and on the operative field in all operations, septic and non-septic, and am convinced that it is a simple and practical means of protection for the operator and patient.

Overcrowding of the Profession in Belgium.—The *Gaz. Méd. Belge* remarks that it might be a good plan to shut up the medical colleges for ten years instead of hatching out a new crop of physicians every year. There is no room for even those already on hand it asserts.

Special Articles.

THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PART II. THE SERVICE AS IT IS TO-DAY.

(Concluded from page 733.)

SERVICE PUBLICATIONS.

The surgeon general is required by law to transmit to Congress an annual report, containing a detailed account of the operations of the service for the previous fiscal year.

The quarantine law of 1893 makes it the duty of the service, under the direction of the Secretary of the Treasury, to collect sanitary information from all quarters of the globe, and to publish and transmit this information to collectors of customs, state and municipal health officers, and other sanitarians. The sanitary condition of the world's ports is thus reported and published weekly in the *Public Health Reports* of the service. Tables and special reports showing the prevalence of epidemics and contagious diseases in the United States and foreign countries are also published weekly in the *Public Health Reports*.

Supplements to the *Public Health Reports* and reprints from it are published by the service for distribution in communities afflicted by epidemic diseases. Publications of this character bearing on smallpox, scarlet fever, yellow fever, diphtheria, typhoid fever, measles and malarial fever are printed and distributed by thousands each year.

There is a great demand for the bulletins of the hygienic laboratory. These cover a wide scope in the field of experimental and preventive medicine, as indicated by the following list of bulletins published:

No. 1.—Preliminary Note on the Viability of the *Bacillus pestis*. M. J. Rosenau.
No. 2.—Formalin Disinfection of Baggage Without Apparatus. M. J. Rosenau.
No. 3.—Sulphur Dioxid as a Germicidal Agent. H. D. Geddings.
No. 4. Viability of the *Bacillus pestis*. M. J. Rosenau.
No. 5.—An Investigation of a Pathogenic Microbe (*B. typhi murium* Danyz) Applied to the Destruction of Rats. M. J. Rosenau.
No. 6.—Disinfection Against Mosquitoes with Formaldehyd and Sulphur Dioxid. M. J. Rosenau.
No. 7.—Laboratory Technic: Ring Test for Indol. S. B. Grubbs and Edward Francis. Collodium Sacs. S. B. Grubbs and Edward Francis. Microphotography with Simple Apparatus. H. B. Parker.
No. 8.—Laboratory Course in Bacteriology and Pathology. M. J. Rosenau.
No. 9.—Presence of Tetanus in Commercial Gelatin. John F. Anderson.
No. 10.—Report on the Prevalence and Geographic Distribution of Hookworm Disease (Uncinariasis or Anchylostomiasis) in the United States. Ch. Wardell Stiles.
No. 11.—Experimental Investigation of *Trypanosoma lewisi*. Edward Francis.
No. 12.—The Bacteriologic Impurities of Vaccine Virus; an Experimental Study. M. J. Rosenau.
No. 13.—A Statistical Study of the Intestinal Parasites of 500 White Male Patients at the United States Government Hospital for the Insane. Philip E. Garrison, Brayton H. Ransom and Earle C. Stevenson. A Parasitic Roundworm (*Agamomermis culicis* n. g., n. sp.) in American Mosquitoes (*Culex sollicitans*). Ch. Wardell Stiles. The Type Species of the Cestode Genus *Hymenolepis*. Ch. Wardell Stiles.
No. 14.—Spotted Fever (Tick Fever) of the Rocky Mountains; a New Disease. John F. Anderson.
No. 15.—Inefficiency of Ferrous Sulphate as an Antiseptic and Germicide. Allan J. McLaughlin.
No. 16.—The Antiseptic and Germicidal Properties of Glycerin. M. J. Rosenau.

The Yellow Fever Institute was founded in the bureau in 1901 for the purpose of learning all that could be learned about yellow fever, including its etiology, and to bring to this work the aid of all reputable physicians who might desire to take part therein, its membership including, besides the officers of the Marine-Hospital Service, special investigators both in this and foreign countries. It is divided into four sections, the chairman of each section being one of the division officers of the bureau, to which, under bureau organization, matter of a kindred nature would naturally come. These, together with the chairman and secretary of the institute, form an executive board to consider, especially with regard to publication, the contributions received from the members.

Thirteen bulletins have been published by the institute, and two working parties sent to Vera Cruz, Mexico, to study yellow fever. Although these investigators did not find the specific cause of yellow fever, they contributed a great deal of valuable information concerning the mode of transmission of the disease, and the life history and characteristics of the *Stegomyia fasciata*.

The bulletins of the Yellow Fever Institute are of particular interest to the people of the southern states, and of scientific interest to the profession at large. Thirteen of these bulletins have been published, and combined they present all that is known of the history, etiology, and characteristics of yellow fever.

THE HYGIENIC LABORATORY.

The work of the service in scientific research is inseparably connected with the growth of the Hygienic Laboratory. The Hygienic Laboratory was established in August, 1887, at the United States Marine-Hospital on Staten Island, New York. In 1891 the bureau in Washington was given more commodious quarters in the Butler Building, and the laboratory was transferred from New York and occupied the top floor of that building for about twelve years. Much of the work done in the Hygienic Laboratory during these years had a direct bearing on the needs of the service. The disinfecting methods used by the service in quarantine and epidemic work were perfected and placed on a scientific basis largely through the work done in the laboratory. The result is shown in the elaborate system of disinfecting apparatus which, developed by the needs of the service, has been mechanically improved and scientifically tested until now it is conceded to be the most perfect of its kind in the world.

The service not only systematized and perfected the methods of utilizing steam and sulphur dioxid and other agents in the disinfection of ships and other habitations or objects, but was the first to exploit and test the value of that now universally employed agent, formaldehyd.

The advantage of training officers who have special aptitude for research work was early appreciated by the service, and such officers were detailed from time to time for duty in the Hygienic Laboratory. These courses were frequently supplemented by foreign details, with the opportunity of studying in some of the European scientific centers. The first authoritative publication on the treatment of diphtheria by antitoxin was issued by the service, and was the result of personal instruction given an officer of this service by Behring and Roux, who separately announced their discovery of the Budapest meeting of the International Medical Congress.

Another officer of the service in the laboratory of the Pasteur Institute studied plague and the methods of preparing a curative serum and prophylactic for its prevention. The work of preparing a prophylactic serum for plague was carried to consummation in the laboratory, and thousands of doses of Haffkine's prophylactic against plague have since been produced in the laboratory, and have been distributed to quarantine stations in the United States, Hawaii and the Philippines.

The first diphtheria antitoxin manufactured in the United States was made in the Hygienic Laboratory.

The rapid growth of the laboratory work and the necessity for a separate building were brought to the

attention of Congress, and in March, 1901, a section of the act making appropriations for the sundry civil expenses of the government provided $35,000 for erection of the necessary buildings, and directed the cession, by the Secretary of the Navy, of five acres of the old Naval Observatory site for laboratory purposes. The act approved July 1, 1902, changing the name from the Marine-Hospital Service to the Public Health and Marine-Hospital Service, greatly enlarged the scope of the laboratory work and provided for an advisory board, to be made up of an officer appointed from the Medical Corps of the Army, an officer from the Medical Corps of the Navy, a scientist from the Department of Agriculture, and five appointees from civil life not connected with the service of the government, who should be personally skilled in laboratory work in relation to the public health. The advisory board consists of Prof. Wm. H. Welch, Prof. Simon Flexner, Professor Sedgwick, Prof. Victor C. Vaughan, Prof. F. F. Wesbrook, Major W. D. McCaw, U. S. A., Surgeon J. F. Urie, U. S. N., and Dr. Salmon, U. S. Department of Agriculture.

The expansion of the laboratory, as effected by this act, provides for the addition of three new divisions, viz., chemistry, medical zoology and pharmacology.

The building is now completed, and the work of the new divisions well under way. The division of zoology has already done considerable work in the investigation of parasitic diseases of man, and the division of pharmacology has been engaged in the scientific investigation of drugs with regard to their potency and pharmacopeial purity.

In accordance with an act passed July 1, 1902, providing for the licensing of all establishments engaged in interstate traffic, or in traffic in the District of Columbia, in viruses, serums, toxins, antitoxins and analogous products, the specimens and samples of these products are purchased in the open market and examined in the laboratory for purity and potency. The result of this work has been that establishments that could not comply with the requirements of the law have gone out of business, and the larger firms engaged in the manufacture of such products have been required to maintain a high standard of excellence. Where formerly it was common to find hundreds of micro-organisms in vaccine, the number found now rarely exceeds 100, and there is noted an almost entire absence of pathogenic and pyrogenic varieties.

The hygienic laboratory is now preparing a standard diphtheria antitoxic unit for use in the United States in accordance with requests of manufacturers and recommendations passed by the American Medical Association and the American Pharmaceutical Association

The course of instruction now given in the laboratory to officers of the service covers a period of about twelve months. Officers having completed this course are competent to do research work. The service now has fifteen officers who have taken this course, and who are stationed in various parts of the world pursuing original investigations.

In addition to the work indicated above, and to investigations of various contagious diseases, their etiology and modes of transmission, officers in the hygienic laboratory have done much work in the investigation of polluted water supplies, disinfection of railway coaches and other subjects affecting the public health.

The results of the work done in the laboratory are published in the bulletins which are issued from time to time, a list of which has already been given under the head of service publications.

Officers are frequently sent to investigate the cause or prevalence of disease. A commission of service officers investigated and reported to the Senate on the prevalence of leprosy in the United States in 1902. The prevalence and geographic distribution of hookworm disease and its baneful effects in the south were demonstrated by an officer of the service and reported by him in the Hygienic Laboratory Bulletin No. 10. Another officer of the service was sent last year to investigate a new disease, the so-called spotted or tick fever of the Bitter Root Valley in Montana. The results of his studies are set forth in Hygienic Laboratory Bulletin No. 14.

IMMIGRATION INSPECTION.

The medical inspection of immigrants became one of the duties of the service by act of Congress approved March 3, 1891. The subsequent immigration acts of 1893 and 1903 also provided that the medical inspection should be made by officers of the service.

Under our immigration laws, persons suffering from loathsome or dangerous contagious disease, insane persons, idiots, epileptics, and persons likely to become a public charge, are excluded, and it is the duty of the medical inspector to detect such persons and certify their physical condition for the information of the immigration authorities. The service also takes charge of the sick in the immigration hospitals, and has supervision over the hygienic surroundings of detained immigrants.

Officers stationed abroad for duty in the United States consulates, under the quarantine law of 1893, have, in addition to their quarantine duties, examined aliens embarking for the United States. They recommend to the steamship companies the refusal of passage to such aliens as would be likely to be rejected at United States ports under our laws. This foreign inspection is now being made by officers of the service on duty in the United States consulates at Naples, Italy; Kolbe, Nagasaki, and Yokohama, Japan; Hongkong and other ports in the Orient. The rejection of the alien at the port of embarkation is of such obvious advantage to the rejected alien, to the steamship company, and (in the case of a diseased alien being rejected) to the other passengers who would be exposed to infection on shipboard, that it is likely that provision will be made for maintaining a foreign inspection at all the principal European ports.

The inspection of immigrants is carried on at all our seaports, and at points on the Canadian and Mexican borders where there is direct communication by rail or steamboat between the United States and either of the two countries mentioned.

The magnitude of this inspection work can be appreciated if the fact is borne in mind that more than 850,000 immigrants arrived in the United States and were inspected by officers of the Public Health and Marine-Hospital Service during the fiscal year ending June 30, 1903.

Officers of the service receive special training for their work as medical inspectors of immigrants. The immigration station at Ellis Island, New York, is used by the service as a school of instruction where young officers, before being detailed for immigration duty at one of the other ports of entry, are trained in the detection of the particular diseases and defects likely to be found in immigrants.

FUTURE WORK OF THE SERVICE.

The future work of the service will embrace the work as outlined in the foregoing consideration of

service duties. In addition, the work will expand naturally with the growth of the Republic and the more general application of advanced sanitary methods. The General Government can secure uniform application of these methods in cities or municipalities only through the co-operation of state and local health authorities. Such co-operation is accomplished by the law of 1902. The conferences provided for by that law enable the surgeon-general to bring to the consideration of sanitary problems the concentrated knowledge of the most eminent sanitarians, and to secure through their co-operation uniformity of action in dealing with such problems.

The annual conference called for by the act of 1902, bring the state health authorities into relation with the surgeon general and the United States Government, and in time the relations of the local and municipal health officers with their respective state boards, and through the states boards with the Federal Government, will be clearly defined by uniform state laws. This will make a complete public health organization, the like of which exists in no other country.

The individual opinions and the product of their discussions in these conferences of state health officers with the surgeon general are of inestimable value in the solution of sanitary problems without in any way weakening the initiative, advisory or executive prerogatives of the Bureau of Public Health and Marine-Hospital Service.

Disposal of sewage, purification of water supplies, proper housing of the poor, and other subjects of moment, can be studied exhaustively by committees appointed by the Surgeon General from among the health officers of the various states.

The idea of co-operation of health authorities, as fostered by the present Surgeon General, extends beyond the limits of the United States and, as indicated in considering the International Sanitary Bureau, has reached the health councils of many foreign countries. The elaboration of this idea, as formulated in the plans of the Surgeon General for international sanitation of seaports, will result in the eradication of the endemic foci of contagious diseases and the lessening or abolition of quarantine restrictions

The aspirations of the service—clean seaports, abolition of quarantine detention, pure water supplies, and slumless cities—may seem ideals set in the dim distant future, but in considering the marvelous achievements of sanitary science during the past five or six years, one can not contend that such high ideals will not be realized, if the strenuous endeavor which has marked sanitary advancement in recent years be persevered in.

As evidence of what may be accomplished in this direction, it is only necessary to consider the recent sanitary history of Habana. The attitude of foreign governments and their desire for co-operation is shown by the recent request made to the Surgeon General, as chairman of the International Sanitary Bureau, by the Costa Rican Government for an expert sanitary adviser to be detailed from the Public Health and Marine-Hospital Service to supervise the sanitation of the city of Port Limon, which has been considered the worst menace to our seaport cities since the removal of Habana from the category of infected ports.

Another illustration of international co-operation in matters of public health is shown to-day on the banks of the Rio Grande, where the health officers of both republics are working in harmony to make yellow fever on the Texas border a matter of history.

The harmony of action existing between the Superior Board of Health of Mexico and the Public Health and Marine-Hospital Service of the United States, which has been so marked during the past year with regard to the sanitary condition on both sides of the Rio Grande, is the result, in part at least, of the First International Sanitary Convention, which was held in Washington, D. C., December, 1902, referred to in another part of this article. In January of the present year, through a visit of Surgeon-General Wyman to the City of Mexico, a complete understanding was effected, and a similar plan of campaign was agreed on, with regard to yellow fever, in both republics.

The administration of quarantine in the canal zone on the Isthmus of Panama, will impose additional work on officers of the service. The Canal Commission has requested that officers of the Public Health and Marine-Hospital Service be detailed for duty on the Isthmus in connection with quarantine and bacteriologic work. This request is being complied with, and five officers have been detailed, one of whom has been made chief quarantine officer. All sanitary measures, however, including quarantine, are under the general direction of the chief sanitary officer of the canal zone.

TRAVEL NOTES.

IX.*

A WINTER SEMESTER.

LEWELLYS F. BARKER, M.D.
CHICAGO.

(*Continued from page 675.*)

MUNICH, July 21, 1904

Following Gerhardt's example, the autopsy material from cases that have been studied previously in the clinic is thoroughly presented and discussed by Müller. In his epicrisis he is less anxious to confirm a diagnosis which has been made than to emphasize diseased conditions which have been overlooked or mistakenly diagnosticated. The origin of a mistake is made clear, and the way it is to be avoided another time pointed out; the saying so frequently on the lips of Gerhardt, "*Wir hätten genauer untersuchen sollen*," is evidently impressed on the students.

The more advanced students and physicians who attend Müller's clinics are never turned empty away. Notwithstanding his practice of presenting the more important clinical types so that the beginning students may possess standards in the memory and possess them thoroughly, the individual in each case is brought out and the more experienced student, therefore, is always seeing something new and having his critical powers developed. It seemed to me that Müller, with all his simplicity, had the riper intelligences among his listeners ever in mind; there was always some nugget of the unusual present, though the collection of truths as a whole might be well known; the regular visitor of the clinic had daily opportunity of meeting with at least some kind of enlarging suggestion.

The earmarks of earnest preparation were on every clinical lecture; one felt that the cases had not been sent in at haphazard, but that they had been subjected to rigid examination by the lecturer before presentation, and it required only a moderate familiarity with the more recent medical literature to be convinced that the latest and best articles in the bibliography had been regarded in the formation of the rounded view presented to the class. Especially in the study of diseases of

*The previous articles in this series have been as follows: "Travel as a Means of Post-Graduate Medical Education," by Dr. Nicholas Senn, July 23; "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30; "Spain and Ramon y Cajal," by Dr. Barker, Aug. 6; "Leprosy in the Hawaiian Islands," by Dr. Senn, Aug. 13; "Italy and the Great Antimalarial Campaign," by Dr. Barker, Aug. 20 and 27; "Father Damien, the Leper Hero," by Dr. Senn, Aug. 27; "A Winter Semester," by Dr. Barker, Sept. 3; "Medical Affairs in the Hawaiian Islands," by Dr. Senn, Sept. 10.

metabolism was this obvious; Müller's wide clinical experience in this field, his original researches, and his complete mastery of the literature, make his lectures on metabolic abnormalities of unusual interest and value.[1]

In the weekly clinics for the physicians of Munich, held in an amphitheater crowded with many of the best civil and military practitioners of the city, the depth of Müller's clinical insight and the rigor of his method are well in evidence. His clinics on diabetes mellitus, on levulosuria, on the phenomena of metabolism in the fasting condition, on the urine in lysol poisoning, on bronchitis, on esophageal dilatations and on the newer conceptions concerning irregularities of the activity of the heart chained the attention of his hearers and are sure to have a distinctly beneficial influence on contemporary medical practice in Munich.

The visiting American is struck with the relatively slight use made of the wards in medical teaching in Germany as compared with the emphasis laid on the amphitheater clinic. In this particular Germany as a whole has, I think, much to learn from the best American medical clinics. On the other hand, the question may well be asked, Have not American clinicians, in their earnest endeavor to develop and perfect the small group bedside clinic, neglected and depreciated beyond measure the functions of the larger clinic in the amphitheater? From my observation on this visit, I am inclined to answer in the affirmative. Each kind of clinic has its own task to perform, and in holding Germany culpable for its failure to utilize the wards as we do in America, we must see to it that we do not become too blameworthy in the other matter. Müller takes students into the wards for his course on percussion and auscultation, but his regular ward visits are made in the company of his assistants and an occasional invited guest only. The assistants and the guests profit greatly, it is true, for, though Müller talks but little on the visit, he examines much, and the opportunity for studying his method is excellent. It is only a pity that the students are as yet denied this nearer contact. Perhaps when the organization of the clinic has proceeded further, and the government is more liberal in the matter of assistants, a change can be made.

The assistants in the clinic have to work very hard. At present they have almost too much to do, and though there is a very good division of labor, the more ambitious of them have to struggle to secure sufficient time after completing their ward work to pursue their scientific investigations, for here, as in the best German clinics elsewhere, each clinical assistant is expected to busy himself during a part of his time with the solution of some problem. That this principle is an important one no one nowadays will deny. Physicians are like painters; so long as they are content to do only what has been done, they always do less than their predecessors. In the choice of original work Müller permits great freedom. The main thing is the moral effect of such work itself, but nothing delights him more than to secure an assistant who is not only capable and industrious, but who has the will power to carry a piece of work through to completion. In Germany, as with us in America, there is far less difficulty in finding men who wish to work than to discover individuals with the mental and moral qualities which make work effective. The German clinician, however, has this advantage over the American, that it is more often possible for him to secure assistant physicians who, besides having had a medical education, have been well trained in chemical work. The leading German physicians now give preference, when choosing assistants, to men who have had a complete chemical training, i. e., men who, in addition to the ordinary chemical work done by a medical student, have had a year's work in qualitative inorganic analysis, another six months in quantitative inorganic analysis, a year's work in organic preparations and afterwards one or two years' work in chemical research. In other words, a medical man who has already acquired a Ph.D. degree in chemistry, other things being equal, now has the best outlook in internal medicine in Germany.

A few years ago it was a training in pathologic anatomy which went far to lead to chemical success; subsequently it was perhaps bacteriologic work that counted most; now the clinician without practical chemical skill and some experience in the chemical mode of thought is seriously handicapped in the race for eminence. Pathologic physiology, with its foundation stones, physics and chemistry, rather than pathologic anatomy, has become all important. And it is not in internal medicine alone that fully-developed chemists are in demand; in allied subjects the operations of the chemist are coming more and more in evidence. One has only to look at the recent advances in bacteriology, in hygiene and in experimental therapy to be convinced of the growing importance of the chemical methods of approach. I think that the movement is an international one, and I am sure that in America the activity already evident along chemical lines in medicine is only a premonitory sign of a great development which those who live for the next two or three decades will have the opportunity to observe. The wise medical student of to-day, who is not of the simple bread-and-butter type, but who looks forward to active participation during his lifetime in the onward movement of medical science and medical practice, will not be content with the chemical training which even the medical schools of the highest class now require, but will see to it that he secures as early as possible in his student period wide enough training in chemistry to make him an independent worker in the subject. Those of us who have the opportunity to give students of the better sort advice as to the choice of their studies can do no greater kindness nor offer more useful aid than to emphasize the importance for the future of a much more thorough grounding in chemical and physical methods and ideas than the requirements of the medical curriculum as now constituted would indicate as necessary.

While recommending this thorough training in chemistry as a preparation for internal medicine, we must, however, guard against minimizing the advantages of subjects like general biology, normal and pathologic anatomy and bacteriology. Medicine and medical research are, unfortunately, too much subject to the caprices of fashion. Some distinguished investigator makes a fine contribution to medical knowledge by applying the particular methods of a given basal science; immediately there is a rush of the ambitious toward these methods, to the exclusion or neglect of others just as important. The devotees of the *Modemedizin* are as eager for the newest fad in medical method as the average woman for a novelty in bonnet or gown. In clinical work above all do we need men thoroughly grounded in all the fundamental sciences rather than in one alone; men who know their general biology as well as their human anatomy; who, in their study of physiology, have learned how to use physics and chemistry without jumping to the conclusion that there is any immediate hope of making living protoplasm or of converting raw electrical energy directly into cerebral power, and who will continue their autopsy experience diligently to control their clinical examinations and will modify their clinical methods accordingly. We need men who realize the importance of the body weight curve as well as that of the quantitative estimation of nitrogen according to Kjeldahl; men who can draw accurate conclusions from percussing the heart even if they know how to make a radiogram of that organ; men who can recognize the physical signs of a beginning tuberculosis of the apex besides being able to demonstrate the tubercle bacilli in the sputum; men who can properly palpate the pulse in addition to making a reading with the Riva-Rocci instrument and of the like more. Medicine more than any other subject requires the highest degree of many-sidedness, qualities and a training with which too often the modern tendency towards over specialization comes into conflict.

In order that medicine may go on developing as it ought to do in Munich, some reforms might well be made. In the first place, a real university hospital in which selected cases only

1. Perhaps nowhere in the literature can one find a saner or better brief collective review of the modern researches on metabolism than in his chapter on "The General Pathology of Nutrition," written for the second edition of v. Leyden's "Handbuch der Ernährungs therapie und Diätetik."

could be received, is much needed. The City Hospital now used, with its old *Kloster* in the center of it, is badly out of joint with the times. Improvements in it are gradually being made, it is true. The patients no longer eat between their urine and feces, as was formerly perforce the custom, but now eat at long tables down the middle of the wards, and in many other ways the conditions at present are far better than they were. Even the casual observer, however, sees numerous items in the hospital arrangements and management which cry for alteration. But bettering these conditions requires money in large sums. Hospital supplies are expensive. New linen throughout for a hospital of any size is a considerable item. Day rooms for patients, isolation rooms, balconies and other architectural desiderata, if granted, cost much. And the Bavarian government as at present influenced does not seem willing to provide the funds which are necessary. For private aid to the public hospitals there seems to be little hope. If the money for it were forthcoming a third clinic, too, would be an advantage; a clinic, say, in the hands of a young man, in which the overflow cases, the less interesting patients and convalescents from the other clinics could be cared for. In such a clinic the courses of auscultation and percussion might well be given. The first and second clinics would then be free for the more advanced work in internal medicine.

(To be continued.)

Clinical Reports.

A CASE OF TETANUS TREATED BY INJECTION OF ANTITETANIC SERUM.

W. S. MORDEN, M.D.

MACON, MICH.

History.—George F., aged 14, German, called me July 14. He said he awakened in the morning with a stiff neck and a general feeling of stiffness which he attributed to the jar of a mowing machine which he had ridden the day previous. I learned after considerable questioning that he had accidentally shot himself July 1 with a toy pistol, in the left hand half an inch from the base of the index and middle fingers. No attention was paid to the wound except to apply carbolic acid and do it up in an ordinary bandage.

Examination.—The patient lay on his back with legs extended, head drawn back, face swollen, anxious expression. Temperature 101.5, pulse 96, respiration 20. All the muscles of trunk and limbs were rigid excepting those of the arms. The jaws could only be separated sufficiently to admit point of teaspoon. With this general rigidity spasms were recurring every ten or fifteen minutes, and sometimes more frequently. Examination of hand showed a scar one inch long and one-quarter of an inch wide having a glazed appearance.

Treatment.—Under local anesthesia the scar tissue was all removed with scissors, under which was found a cavity extending in all directions, especially along the course of the flexor tendons. This cavity was thoroughly curetted and packed with iodoform gauze. This was renewed every day and the cavity washed out with hydrogen peroxid and repacked. Internally I at first gave a combination, potassium bromid and chloral hydrate, to relieve spasms, but on account of the patient having bitten his tongue I was obliged to leave this off, as it produced severe smarting. He was given tablets of morphia, ⅛ gr., and atropia, 1/150 gr., as needed for a few days, and then codein, ½ gr. This, together with cathartics and enemas, constituted the treatment with the exception of the serum. I gave the first dose of antitetanic serum hypodermically on the evening of July 15. July 16 and 17 he received a dose of the serum morning and evening. July 18 he received one dose at noon. Up to this time the spasms had increased in frequency and severity and opisthotonos was quite pronounced. From this time on I gave one dose per day up to July 26, and then none until July 28, when I gave the last dose, making fifteen doses in twelve days.

Result.—From July 20, after having received eight doses, a gradual improvement was evident, and the spasms grew less frequent and severe. July 28 his legs could be flexed by using considerable force, and in the course of a week he could flex and extend them at will. From this time he was given an alcohol rub twice a day. The muscles of the neck were the last to relax. The right side seemed to be the most affected. The head was drawn to the right and the right foot would turn in to a right angle with the leg during severe spasms. His nourishment was milk fed him through a rubber tube. By July 28 he could get his jaws apart sufficiently to drink from a cup and was soon able to eat soft food. August 9, twenty six days from date of attack, he was able to walk without aid and was discharged cured.

Remarks.—As this patient had no treatment from the time of injury until the disease was fully developed, about two weeks, I think the result can be attributed largely to the use of the antitetanic serum.

A LIGATION OF THE EXTERNAL ILIAC ARTERY.

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Passed Assistant Surgeon U. S. Public Health and Marine-Hospital Service.

STAPLETON, N. Y.

Following is a report of a case in which the right external iliac artery was ligated for the cure of an aneurism of the common femoral:

History.—G. M., age 30 years; nativity, Massachusetts; color, white; admitted into hospital May 24, 1904, suffering with an aneurism of the right common femoral artery. The patient had been aware of the existence of the affection for about six weeks. The tumor resembled a small bubo, just below Poupart's ligament. Expansile pulsation very perceptible. No history of syphilis. Arteries elsewhere soft and pliable. No disease of heart, lungs or kidneys. Physique slender, but well nourished. The patient gave a history of having had a suppurating bubo in the right groin eleven years before, which burst spontaneously while he was at sea and which left a scar, slightly above the level of the aneurism. He was unwilling at first to undergo an operation and left the hospital May 30. He returned June 20. The aneurism had increased in size rapidly and was causing him a great deal of pain, and his physical condition had deteriorated somewhat through loss of sleep and appetite and mental distress.

Operation.—The operation was done June 24. The incision was made parallel with Poupart's ligament, a little above the level of the inguinal canal, and the opening in the muscles was made through each layer in the direction of their fibers, as in the McBurney incision for appendectomy. This method is recommended by Dr. G. E. Brewer in his "Text-Book of Surgery." The artery was easily reached outside the peritoneal cavity, and only a little displacement of the peritoneum was required. The ligation was made with kangaroo tendon.

Recovery.—Immediately after the operation there was very perceptible reduction of the temperature in the leg and foot. The entire limb was swathed in cotton and bandages, and bottles of hot water were put beside it in bed. The natural temperature was restored the following morning. Recovery was progressive and uneventful, the patient being kept in bed twenty days. He left the hospital July 18 completely recovered. The tumor then showed evidences of becoming absorbed.

Negative Agglutination in Mixed Typhoid Infection.—H. Kayser of Strasburg has encountered a case of typhoid fever in which typhoid bacilli were found in the stool, but staphylococci were found in the blood. The agglutination test was negative. He recommends, therefore, in a communication in the *Archiv f. Hygiene*, xlviii, No. 4, 1904, that the blood should be examined for other micro-organisms in case of the failure of agglutination with typhoid and paratyphoid cultures in unmistakable typhoid or paratyphoid fever.

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SATURDAY, SEPTEMBER 17, 1904.

STATE SUPERVISION OF PUBLIC AND PRIVATE CARE OF THE INSANE.

The largest single enterprise in which the individual states in our country engage is the care of the insane. The State of New York has an insane population of 23,000, cared for at an annual expense to the state of $5,000,000, and, although many states have a smaller number in proportion to their inhabitants, others have a still greater. California, for instance, has 6,000 insane—a number larger in proportion to her population than any other state. In passing it may be suggested that it would be an interesting subject of study to ascertain the causes of this heavy proportion of insanity in a comparatively new state.

Everyone must have observed that there is at the present time a distinct renewal of public interest in this function of the state, a decided tendency to question the methods usually employed. Public care of the insane is managed in several different ways. California and New York, for instance, maintain all their public wards in state institutions; Wisconsin has a unique system of state subsidy to county asylums, while Illinois and most of the states divide their insane between state asylums and county poor-houses, the latter being theoretically for the chronic cases, although practically this is far from the rule. It may be safely stated that the tendency is toward exclusive state care, as the state asylums are superior in equipment and in medical care, and the method is comparatively simple and compact. Adequate supervision over county institutions is difficult, if not impossible. The question, however, is far from being solved by so simple an expedient as a change from county to state asylums It is clear that a malady which entails on its victims the double disabilities inflicted by insanity—mental and material helplessness—requires special safeguards, and consequently there has grown up everywhere a system more or less effective of public supervision of the care of the insane.

Scotland is frequently pointed out as the country which has the most completely organized method of supervision—a method which for elasticity and effectiveness is unexcelled. The Scotch system culminates in the Board of Lunacy Commissioners, consisting of five men, two unpaid and three salaried, the latter being physicians who hold their office during good behavior until the age of retirement at 62. Physicians who have served with special distinction on this board, such as Arthur Mitchell and John Sibbold, have been knighted on their retirement.

Every insane person in Scotland is under the care and protection of this board, whether in a public or private institution, whether placed in a private family at state expense, or living with his own relatives. The board has various deputies who act as visitors, but a large amount of personal supervision and medical examination is expected of the members themselves, as well as the usual supervisory and advisory duties which are ascribed by law to the State Boards of Charities in this country.

Without going into the detail of the Scotch system, it can be seen that there is no wide difference between it and the one frequently employed in the United States, and, indeed, at the time it was adopted there is reason to believe that the framers of it received certain suggestions from our methods. At that time, in the middle of the last century, the public care of the insane was a matter of much concern, and many asylums were building in our eastern states, which attracted from abroad men interested in learning American methods. Yet now, while Scotland boasts an almost entirely satisfactory system, our own country is conscious of a growing dissatisfaction, not only in the condition of many individual asylums, but in the whole method of management; a dissatisfaction which expresses itself in more or less vague efforts at reform, in substituting administrative boards for supervisory bodies, boards of control for boards of charities. We are not interested at this moment in judging between the relative merits of these different plans; to our mind the root of the vague distrust so generally felt in this country lies far deeper and can never be eradicated by superficial reforms.

Bluntly speaking, the state political organizations of both parties have laid hold of the state institutions for the insane, and have used the appointments and appropriations for party ends, more or less extensively. In some states this exploitation has not been necessary for party success, and the institutions have perhaps suffered little from it, but in others it has assumed the proportions of a plague. Occasionally the institutions have been rescued by determined individual effort, as when the lamented Governor Mount of Indiana, by his personal will, pulled the asylums out of the hands of the politicians; but Indiana herself is a melancholy proof of the evanescent nature of a purely personal reform, since his successor has by no means shown the same spirit.

Illinois, whose institutions were once the pride of the Middle West, has become the most conspicuous instance of the ruin wrought by political interference in public affairs which should be subject to physicians and humanitarians alone. A recent series of editorials in the *Illinois State Medical Journal* has shown with indisputable clearness the fall of the Illinois institutions.

and the continual loss to the state of the most eminent men connected with them.

Perhaps no crueller sacrifice has been demanded by the political Moloch than that of Dr. Runge, superintendent of the St. Louis City Hospital. Although his scientific and humane management had given him a national reputation, he was compelled to resign a few months ago, and his untimely death from pneumonia, which followed almost immediately, is believed to be in part attributable to the mental strain entailed by his heroic but futile struggle against the politicians.

We may as well face the truth that there is a deep-seated evil which can not be eradicated by such superficial remedies as changing the form or the name of the power of boards, nor even by the mere passing of a merit law. The efforts of the profession and of the public must be permanently enlisted in demanding genuine devotion and expert ability in those who compose these boards. Given a board of the character which we have a right to demand—one free from interference of partisan politics—the enlargement of its scope to include private asylums would be a great gain. A system of state licensing and adequate supervision of private asylums would give the public a confidence in them which it now lacks, and would stimulate the creation of small private sanatoria, which are so rare in the whole Middle West. Our state asylums contain many free patients who could well afford to pay modest maintenance fees, and whose friends would prefer private care for them if the private institutions were at hand, and if the public did not feel a distrust in these, even greater, in some instances, than its distrust of the state institutions.

Above all, the appointments in the asylums must be made on a basis of merit, with the permanency which is found in similar positions abroad, and which is the *sine qua non* of good service. These conditions the public must understand, and these limitations the politicians must respect if the care of the insane in America is to keep pace with the general advance of humanitarian effort.

GANGRENE AS A COMPLICATION OF HEMOPHILIA.

Hemophilia is a familial blood disorder transmitted principally through females, who themselves generally escape. The first manifestations usually appear in childhood, and the affection is rare after adolescence. Death is the usual outcome. An attempt has been made to distinguish a spontaneous and a traumatic form of the disease, but it seems probable that traumatism occurs in all cases, perhaps slight and unobserved at times. Gangrene is a not uncommon complication, being attributable to the pressure exerted by extravasations of blood on the surrounding tissues. Hemorrhage sometimes takes place into a joint, and the blood may be absorbed or a panarthritis may result, with deformity and ankylosis.

The etiology of hemophilia is obscure. The hemorrhage has been referred by some to a disproportion between the relatively large amount of blood and the capacity of the vessels; by others to their small caliber and the delicacy of their walls and to fatty degeneration of the latter, and by still others to diminished coagulability of the blood. The disorder has further been considered of neuropathic and of infectious origin. A case of unusual character has been reported by Géza Faludi,[1] in which amputation became necessary in consequence of gangrene of one of the lower extremities. The patient was a boy, 6½ years old, in whom severe hemorrhage followed circumcision, probably ritual in character, in the first or second week of life. From the fourth month subcutaneous extravasations of blood began to appear in different parts of the body, at times as a result of insignificant injury, at other times independently of any obvious traumatism. In addition, there were hemorrhages from the nose and gums. During the second year a copious extravasation of blood took place into the left knee joint. At the age of 5 years, following a fall, the entire right upper extremity became swollen and in a short time cool, while the pulse was scarcely palpable. Improvement ensued under treatment, leaving, however, stiffness of the elbow joint and contracture of the fingers. Somewhat later an extravasation of blood took place into the right ankle joint and also profuse epistaxis. In the following month the child fell and, it was thought, suffered an injury to the right popliteal fossa. An extravasation of blood took place, gradually involving the entire distal portion of the extremity. The part became cool and insensitive, and large blebs formed on the surface. Finally gangrene developed, and amputation of the leg was performed at the junction of the middle and upper thirds. Conditions, however, gradually grew worse, and death took place two weeks later.

Postmortem examination disclosed, apart from the direct results of the operation, the presence of pulmonary edema, universal anemia, hemorrhagic extravasation into various muscles, bilateral hydrothorax, circumscribed adhesive pleurisy on the right, chronic circumscribed perisplenitis and perihepatitis, dilatation of the heart, fatty degeneration of the myocardium and parenchymatous and fatty degeneration of the liver and kidneys. In the joint of the amputated member the cartilage covering the astragalus and the bone itself, as well as the internal malleolus, were, in part, softened. The percentage of hemoglobin had been fifty, and the blood picture that of profound anemia. No marked change was found in the walls of the vessels. In the family history a maternal uncle had often suffered from hemorrhage, dying from this cause after extraction of a tooth. A prematurely born brother died on the thirteenth day from epistaxis.

1. Archiv für Kinderheilkunde, vol. xxxix, Nos. 1-3, p. 92.

THE TOXICITY OF BORIC ACID.

The harmlessness of boric acid is assumed by all, so that it has come to be one of the most popular agents in the hands of both profession and laity, not to mention the preparers of foodstuffs. As a lecturer on materia medica used to say to his classes, "Boric acid is valuable for the harm it has not done." Yet, as shown by an article on another page,[1] boric acid has, under exceptional conditions, been a cause of death in several instances. If we put together the facts brought out by Best and the results obtained by Wiley in his series of experiments on the effects of boric acid in food, we have basis for a fair conclusion as to the exact limits of safety of boric acid.

Wiley found that boric acid in quantities of four or five grams per day continued for some time results in most cases in loss of appetite and inability to perform work of any kind. Four grams per day may be regarded as the limit of exhibition, beyond which the normal man may not go; a majority of normal men can take three grams per day for a somewhat protracted period and still perform their duties. They commonly felt injurious effects from this dose, however, and it is certain that the normal man could not long continue to receive three grams per day. One-half gram per day for 50 days produced in some instances somewhat unfavorable effects, so that it would seem that while this amount can be taken for a limited period of time without much impairment of health, its protracted use would not be safe. It is estimated that a person eating butter and meat, both treated with boric acid as a preservative, would receive, perhaps, as much as one-half gram per day. If, however, the diet were varied, this amount would be reduced, and no harm might result in a very long time. From this it may be concluded that occasional use of foods preserved by ordinary quantities of boric acid is not likely to cause any appreciable injury, but a dietary composed solely of such foods might, in the course of some weeks, cause much disturbance. There seems to be particular danger of renal injury from the boric acid in its elimination, for about 80 per cent of the boric acid escapes in the urine.

When very large quantities of boric acid enter the circulation in a short space of time, however, there is profound intoxication which, in five reported cases, has led to death. There is no record of fatal poisoning from boric acid administered internally, all these cases having resulted from absorption from wounded surfaces. The packing of wound cavities or the vagina with a solid mass of boric acid seems to be a not uncommon practice, although as a method of treatment it may be open to question. It certainly is a dangerous procedure, whatever its therapeutic value, for, although large numbers of patients may show no harmful effects, yet it is evidently capable of causing serious and even fatal intoxication. This procedure is based on the assumption that boric acid is non-toxic in any quantity, which is not true. Care must also be used in irrigating large cavities with boric acid, since serious symptoms may result from the amount of it that may be absorbed from an empyema cavity or a lumbar abscess.

1. See page 805.

PSEUDO-ASCITES.

Although free fluid in the peritoneal cavity is ordinarily recognizable with ease, other conditions may cause similar symptoms. On the one hand, such fluid may, in consequence of adhesions or of gaseous distention, give rise to an asymmetrical area of dullness, while its mobility on change of position may be interfered with. On the other hand, obese or edematous abdominal walls yield a sort of undulation on percussion, while properitoneal abscesses or lipomata, tumors of the intestinal wall, or deeply seated abdominal neoplasms or cystic tumors of the abdominal viscera may be a source of error in diagnosis. The greatest difficulty of differentiation, however, is encountered in connection with a condition described by Dr. L. Tobler[1] as pseudo-ascites, which is dependent on the presence of fluid in distended small intestine with an elongated mesentery. The affection was observed in children between two and one-half and nine years of age, and especially in girls. It is characterized by gradual increase in the size of the abdomen, in connection with continued, intermittent or recurrent diarrhea, lasting for months or years. The child, which may likewise be rachitic, becomes debilitated and emaciated. It may exhibit also enlarged lymphatic glands or tuberculosis of bones or lungs. There is, as a rule, no fever, and subjective symptoms are usually wanting, or there may from time to time be complaint of abdominal pain.

As a rule, the abdomen itself is distended, its cutaneous covering stretched, shining or scaly, the umbilicus obliterated, the veins distinct. In the standing posture the abdomen is not rarely pendulous, forming at times a transverse fold at the symphysis, and frequently the resistance is increased in the lower portions. Variations in the state of the abdomen take place, and distention may be replaced by relaxation with a sense of doughy resistance in the hypogastrium, and at times a splashing sound may be appreciable. Undulation may be present in either event, the most distinct and shortest wave impulse being obtained when the area of dullness is considerable and symmetrical and the tension of the abdominal walls is marked. The impulse is not appreciable above the level of dullness as it is in the presence of true ascites. The percussion-dullness varies in extent, position, outline and mobility in individual cases and in the same case at different times.

The condition must be differentiated, especially from chronic exudative peritonitis, particularly of tuberculous origin. In both the physical signs develop gradually,

1. Deutsches Archiv für klinische Medicin, vol. lxxx, Nos. 3-4, p. 288.

but the latter is likely to be attended with fever, severe persistent pain and uninterruptedly progressive aggravation, while in the former the signs are variable, with remissions and exacerbations. The former is further characterized by diarrhea, the stools being numerous, often copious and presenting catarrhal features, while the dejections of tuberculous peritonitis are few and thin. Although the physical signs are suggestive of the presence of fluid free in the peritoneal cavity, such a condition is not found on operation or at autopsy. The peritoneum is, as a rule, entirely uninvolved, and solid and cystic tumors are wanting. The phenomena are best explained by the presence of fluid in portions of the intestinal tract whose tone is impaired as a result of catarrhal conditions, and which are at times displaced downward in conjunction with elongation of the mesentery.

THE PHILIPPINE OPIUM REPORT.

The plan recommended for the regulation of the opium traffic in the Philippines, as reported, is one that commends itself. While the government controls the sale, it makes no profit, which relieves us from the reproach justly made against the British Indian Government for its action in this matter. The total abolition of the sale in three years which is provided for will, it is to be hoped, be successfully carried out. Wherever the Chinese abound the opium problem exists, but unfortunately, the evil extends from them to other races. The trouble that the Japanese Government has had with it in Formosa possibly indicates somewhat the difficulties to be met with in the Philippines.[1] But the success they have attained is encouraging for our own authorities. It will be a pity if we can not manage this matter as satisfactorily as do the Japanese.

CUBAN SANITATION.

It is generally understood that the arrangements by which the independence of Cuba was secured included provisions for adequate sanitary measures being adopted by the Cuban authorities to prevent danger of transmission of disease to this country. It appears that difficulties have been experienced, that local authorities refuse to co-operate, and that in some of the interior cities the conditions are far from satisfactory. It is unfortunate for Cuba if it has failed to make provision for central control of sanitation or for such measures as would compel the local authorities to do their duty. If an epidemic of yellow fever or any other tropical infection should be transmitted to us from infected points it would be difficult for the Cuban Government to escape the charge of bad faith and treaty violation. Of course, the greatest danger lies in the principal seaports, and we believe that Havana at least, under the able administration of Dr. Finlay, is in good sanitary condition. There are other places and possibilities, however, which he can not control, and it is to be hoped that whatever is lacking at the present time in other localities will be remedied. Cuba owes it to herself, as well as to this country, to see that the wretched sanitary conditions of the past be not again allowed to develop.

1. THE JOURNAL, April 2, 1904, p. 931.

A FACTOR IN THE ANEMIA OF UNCINARIASIS.

The impetus given to the study of tropical diseases in this country by the acquisition of the Philippine Islands has led to the recognition of the fact that many of the so-called tropical diseases are to be found in the semitropic regions of North America. One of the diseases of this character which is probably very widely distributed in the Southern States, is uncinariasis. The uncinaria has been widely studied, both in the tropics and in the temperate zone, where it produces the so-called tunnel anemia or miner's anemia. A fact which has often been commented on in the various published studies, is the discrepancy which often occurs between the number of parasites and the severity of the anemia. A very severe anemia may exist, and yet very few worms may be present in the intestinal tract. Some recent work of Loeb and Smith[1] seems to explain the manner in which a few worms may cause a grave anemia. These writers have shown that there is present, in the anterior end of the parasite, a substance which has, to a marked degree, the power of inhibiting the coagulation of the blood. It has been known for some time that one worm often makes a series of punctures, and this being the case, it is easy to imagine a considerable loss of blood from each of these if coagulation be retarded.

LIGATION OF THE EXTREMITIES AND AUTO-TRANSFUSION.

Ligation of the extremities by means of elastic bandages applied not too firmly to the thighs and arms has long been known and practiced as a measure for the control of hemorrhage, particularly from the lungs, the object being to check the return of venous blood without interfering with the arterial supply. As a result, the blood pressure falls and bleeding ceases. The opposite conditions are brought about by the application of the bandage from the periphery in a proximal direction, constituting the procedure that has been designated auto-transfusion. Dr. W. Plaskuda[2] reports the results of an investigation undertaken for the purpose of determining experimentally the amounts of blood that can be removed from or supplied to the circulation under the circumstances detailed, and also the state of the blood pressure in the free vessels. He found that from three-quarters of a liter to one and one-quarter liters of blood can be removed from or conveyed to the trunk and the head by ligation or bandaging of all four extremities by means of rubber bands. Marked stasis in three extremities lowers the blood pressure about 20 millimeters of mercury (14 per cent.). The results are somewhat variable and uncertain in nervous individuals. Occasionally, however, states approaching collapse develop in conjunction with sudden and more marked reduction in pressure, but these disappear rapidly when the bandages are released. When anemia is induced artificially in several extremities the blood pressure is decreased, apparently as a result of nervous rather than of mechanical influences.

1. Proceedings of the Pathological Society of Philadelphia, June, 1904.

2. Deutsches Archiv für klin. Med., vol. lxxx, Nos. 5-6, p. 402.

BAD SPELLING BY PHYSICIANS.

Among the general criticisms on medical education in this country, one of the chief is that based on lack of preliminary educational acquirements. This has been the subject of many rather severe comments, both in the medical and secular press, as well as in the reports of the state examining boards like that of Pennsylvania. One of the more notable defects of candidates is that of the inability to spell properly, and this is apt to be taken by some as an index of general illiteracy. Nothing appears worse than bad spelling, and yet it seems to be a fact that deficiencies in orthography are more common at the present time, in spite of all the advances that have been made in educational standards, than they were a generation or so back. There must be some defect in modern school methods, and the conviction that this is so appears to be growing. It is possible that the abandoning of oral and syllableizing methods of teaching spelling is largely responsible. The modern plan seems largely to be to educate a visual memory, and this is not necessarily by any means the characteristic of the highest mental development. An experienced teacher remarked that she had noticed that the good mathematicians among her scholars were the poorest spellers. We do not know how general this observation is, but it is at least significant, and it is possible, as the *Maryland Medical Journal* admits, that one may be an accomplished physician and yet a bad speller. We fear that instances of this kind will be more numerous than they should be among physicians of the present generation. We have no desire to excuse bad spelling by physicians, but we would like to say a word in favor of a possible reform in pedagogic methods which may be more or less responsible. Spelling reform of this particular kind, or rather reform of the teaching of spelling, is hardly a medical subject, but it has medico-psychologic bearings that are worthy of attention.

THE INSANITARY FLAT.

Judging from the records of the building department of the city of New York, according to a lay paper, only sixty private houses were erected last year in the whole of Manhattan Island, while the number of apartment buildings erected during the same period reached into the thousands. This record is repeated, to a greater or lesser extent, in all of our large cities, and the building of flats and tenement houses extends also to the suburbs. We are becoming less and less a home-dwelling people, and are crowding more and more into what the paper quoted calls "human honeycombs." This may be a normal phase of social evolution. The fact indeed that it occurs so extensively supports this view. It has, however, its threatening side. It is a factor in the much-discussed race suicide which some consider threatening. Children are not favored in these buildings, nor do flats furnish the ideal conditions for their welfare. It is mainly in the lower grade of tenements and in the slums that children abound, and their condition there is a very serious urban sanitary problem. There are, however, other hygienic disadvantages in this concentration of humanity, such as the questions of ventilation and sunlight, which are often seriously restricted and embarrassed in these tenements. It is not in the highest-priced and most luxurious of this class of dwellings that we find the most of these defects, as the rich can provide for themselves, but in the cheaper ones—those which are occupied by the great mass of workers of the intermediate class, the clerks, the professional men, the better class of mechanics. The housing of the poor is a perennial question for philanthropists, but the housing of the middle class has hardly been considered by them, notwithstanding the fact that in our large cities it is becoming more and more a serious question. We have already called attention to this subject, and showed the fearfully insanitary conditions that must exist as regards sunlight and ventilation even in some of the higher-priced flats. We can not expect a healthy people to grow up under such conditions, and if we escape physical degeneration, with the growing tendency toward flat building in our centers of population, it will be through a special Providence—certainly not from causes that we can rationally foresee with our present lights.

THE PRIMARY SEAT OF INFECTION IN FATAL CASES OF TUBERCULOSIS.

It is a matter of no small difficulty to determine the primary seat of infection in many cases of tuberculosis. The age of the lesions can not always be accurately estimated from either their intensity or their extent. The question at issue has, however, distinct practical significance, inasmuch as the prophylactic measures to be instituted must be based on the decision reached. With the view of establishing the relative frequency with which the abdominal and the thoracic viscera respectively are invaded primarily, Dr. J. Odery Symes and Dr. Theodore Fisher[1] have analyzed the postmortem records of 500 cases in which death took place as a result of tuberculosis. They found that, of 102 cases in patients under the age of 12 years, 12 appeared to be definitely abdominal in origin and 57 definitely thoracic in origin, while in 24 there was doubt as to whether the origin was abdominal or thoracic. The primary lesion, it is thought, was possibly situated in bones or joints in 4 cases, in the skin in 1, in the tonsil in 1, while no focus that could be considered primary was found in 3. Between the thirteenth and twenty-fourth years there were 8 cases apparently primarily abdominal, 31 primarily thoracic and 3 of doubtful origin, while between the twenty-fifth and thirty-sixth years the proportion of cases primarily abdominal to those primarily thoracic was as 1 to 9.66, and between the thirty-seventh and the forty-eighth year as 1 to 9.25. Between 48 and 60 there was no case in which the disease was primarily abdominal, and above 60 there was but 1 of this kind and 7 in which the disease was primarily thoracic. In three cases the kidney appeared to be the organ first affected and in two the epididymis. In two fatal cases of Addison's disease the adrenal glands alone were the seat of tuberculosis. From the foregoing observations it appears that during the first twelve years of life tuberculous infection by way of the air passages is four times

1. British Med. Jour., April 16, 1904, p. 884; see THE JOURNAL, May 7, p. 1255.

as common as that by way of the alimentary canal, and the ratio is about the same during the second twelve years, but deaths in hospitals above the age of 12 years can hardly be considered as representing the average causation of death from varieties of tuberculosis for the whole population above that age, because cases of tuberculosis of the lungs are more chronic at that time than at an earlier period of life, and they are not usually admitted to ordinary hospitals. Notwithstanding the exclusion of cases of chronic pulmonary disease from hospitals, the proportion of cases of abdominal to those of thoracic tuberculosis in the institutions from which the data were obtained was exceedingly small after the age of 24.

Medical News.

ALABAMA.

Personal.—Dr. Marvin W. Dupree, Mount Vernon, assistant at the State Hospital for the Insane, has resigned and taken up practice at Athens.

Smallpox.—Dr. William C. Wheeler, Huntsville, health officer of Madison County, reports that there are about 10 cases of smallpox at New Hope, but that they are thoroughly isolated.

Acquitted of Murder.—Dr. John B. Farley, of Farley, Madison County, charged with the murder of Davis Johnston, was acquitted, August 29, after a trial lasting two days. He claimed that he acted in self defense.

Statue to Dr. W. E. B. Davis.—The memory of the late Dr. William E. B. Davis, Birmingham, is to be perpetuated by the erection of a monument by the Southern Surgical and Gynecological Association, of which Dr. Davis was the originator. The statue is being made by G. Moretti, and will be in bronze, 7½ feet high, standing upon a granite pedestal 9½ feet high. He has made an indemnity contract to have the statue ready by December 1 that it may be unveiled at the coming meeting of the association.

ARIZONA.

Typhoid at Douglas.—It is alleged that there are more than 75 cases of typhoid fever in Douglas, and that the condition of the city is inexcusably unsanitary.

Appointed Examiner.—Dr. Charles H. Jones has been appointed a member of the Territorial Board of Medical Examiners, vice Dr. William Duffield, Phoenix, resigned to become superintendent of public health.

Hospital at Bisbee.—Ground has been broken for the new Calumet and Arizona Hospital at Bisbee. The building will contain four wards, private, operating, sterilizing and anesthetizing rooms, and laboratories, and will accommodate 50 patients.

Plague Only a Rumor.—On account of startling announcements regarding "black heart" and "bubonic plague" in and around Bisbee, acting assistant surgeon A. L. Gustettee, U. S. P. H. and M.-H. Service, has made a thorough investigation of the situation and reports that there are absolutely no grounds for the rumors, and that there is no epidemic disease prevalent in Bisbee.

CALIFORNIA.

Personal.—Dr. Rupert Blue, San Francisco, has been elected president of the Public Health Commission of California.—— Dr. Joseph D. Davidson, Fresno, returned from Europe, August 24.

Plague on Steamer.—The *Coptic*, which arrived at San Francisco from the Orient, August 29, was sent to the quarantine station on account of the death of a Corean passenger near Honolulu from bubonic plague.

Kitasato in America.—Dr. S. Kitasato, president of the Institute for Infectious Diseases, and of the Serum and Lymph Institutes of the Imperial Government of Japan, arrived in San Francisco, August 29, en route to the Congress of Medicine at St. Louis.

Made Democratic Elector.—Dr. William M. S. Beede, Stockton, a member of the American Medical Association, Medical Society of the State of California and San Joaquin County Medical Society, who was United States consular surgeon at Hong-Kong from 1896 to 1900, has been nominated as a democratic presidential elector.

Medical Arrangements at Conclave.—The medical arrangements at the triennial conclave of Knights Templar, at San Francisco, were excellent. Dr. Curtis G. Kenyon was chairman of the committee, which maintained headquarters at the Palace Hotel, and an emergency hospital at the Mechanic's Pavilion, a staff of 40 mounted physicians in the parade, and a complete ambulance service.

For the Sick.—St. Vincent Hospital and Medical Association has been incorporated at San Francisco with a capital stock of $75,000 by Drs. Joseph P. Le Fevre, John C. Newton, and others. ——The Southern Pacific Railway will establish a hospital at Dunsmuir.——The Los Angeles College Clinic Association has been incorporated without capital stock, by Drs. Joseph Kurtz, William LeM. Wills, H. Bert Ellis, William D. Babcock and Granville MacGowan. The purposes of the association are to establish and conduct a hospital and dispensary for the treatment and care of the indigent sick and injured persons; to treat emergency cases and such other sick and injured persons who may be or become a charge upon the city; to conduct and maintain an institution for instructing, educating and training men and women in the sciences of medicine and surgery.

DELAWARE.

Nominated for Governor.—Dr. Joseph H. Chandler, Centreville, has been nominated for governor on the Republican ticket.

Ohio Hospital Incorporated.—Papers of incorporation have been filed in Wilmington for the Marion (Ohio) City and County Hospital Company, with a capital stock of $50,000.

The Chandler Dinner.—At the twelfth annual dinner to the medical profession, and the Dr. Chandler Medical Club of Delaware, held at the home of Dr. Joseph H. Chandler, in Centreville, the address of welcome was delivered by Dr. Swithin Chandler, Philadelphia, papers were read by Drs. Hobart A. Hare, William L. Rodman, John G. Clark, John H. Musser, Henry Boenning, and W. M. L. Coplin, Philadelphia, a paper was read also by Dr. A. Robin, Wilmington, and a poem by Dr. James H. Morgan, Wilmington.

DISTRICT OF COLUMBIA.

Ordered to Chair of Tropical Diseases.—Medical Director Phillips A. Lovering, U. S. Navy, has been ordered from the Asiatic Station to Washington, to assume the new chair of tropical diseases, in the Naval Medical School.

The Year's Deaths.—The mortality per 1,000 in the District was 20.14 for 1903, while for 1902 it was 19.99. The increase occurred during January, February, March, November and December; was altogether among the white population; was chiefly between the ages of 65 and 69; and was chiefly due to diseases of the nervous and circulatory systems and to violence.

Woodward Not Convinced.—Dr. William C. Woodward, health officer of the District, despite the suggestion of the Agricultural Department that copper sulphate be used in the public reservoirs as a disinfectant, is not convinced, believes the matter is still one of experiment, and is not sure that instead of typhoid fever prevention, copper poisoning might result from the use of this substance in the drinking-water supply of Washington.

GEORGIA.

Personal.—Dr. Ludwig Amster, Atlanta, has returned from Europe.——Dr. E. G. Adams, Greensboro, has been appointed resident physician at the Presbyterian Hospital, Atlanta.

Fined for Cocain Selling.—Dr. Millard B. McAfee, Atlanta, charged with the illegal sale of cocain to negroes, who admitted on trial that he had written 80 prescriptions for cocain in a single day, was fined $100 and bound over to the city court under a $200 bond, August 23.

Tuberculosis Board Named.—On August 31 the governor named as a medical commission on tuberculosis: From the state at large—Drs. Charles Hicks, chairman, Dublin; Louis H. Jones, Atlanta; Ernest P. Ham, Gainesville; Palarmon T. Hillsman, Albany; Joseph R. Burdette, Tennille; Pryor W. Fitts, Greenville; S. A. Brown, Dalton; L. G. Hardman, Commerce; Loyd J. Belt, Millen, and John L. Walter, Waycross. From the congressional districts—1, Dr. Eugene R. Corson, Savannah; 2, Dr. O. B. Bush, Camilla; 3, Dr. Alexander

Mack, Hawkinsville; 4, Dr. Henry R. Slack, La Grange; 5, Dr. Bernard Wolff, Atlanta; 6, Dr. George L. Alexander, Forsyth; 7, Dr. Thomas R. Garlington, Rome; 8, Dr. Henry E. Thornton, Hartwell; 9, Dr. Jefferson Davis, Toccoa; 10, Dr. Thomas D. Coleman, Augusta, and 11, Dr. S. E. Sanchez, Barwick.

ILLINOIS.

Personal.—Dr. Amos F. Moore, Dixon, has been appointed district surgeon for the Chicago and Northwestern Railway, vice Dr. Henry E. Paine, deceased.

Brutal Assault.—Dr. Henry E. Lightfoot, Carbondale, was attacked by unknown individuals, August 20, struck on the head with a blunt instrument and rendered unconscious.

Smallpox.—At Belleville 9 new cases were reported, September 8. Strict quarantine regulations were ordered to be maintained.——Centralia has had 13 cases, and believes the spread of the disease has been checked..

Arranging for State Society.—The profession of Rock Island is already organizing for the comfort and entertainment of the Illinois State Medical Society, which is to meet in Rock Island in May next. Dr. Carl Bernardi has been made chairman of the committee of arrangements; Dr. George G. Craig, vice-chairman, and chairman of the reception committee, and Dr. Frank H. First, secretary-treasurer. Dr. William H. Ludewig is chairman of the committee on advertising and invitation; Dr. J. R. Hollowbush, entertainment; Dr. B. F. Hall, hotels, lodgings and halls; Dr. St. Elmo M. Sala, exhibits; Dr. Joseph D. Silva, finance; Dr. Emily Wright, entertainment of ladies, and Dr. Shelley B. Hall, transportation.

Chicago.

Semon in Chicago.—The Chicago Laryngological and Climatological Society gave a dinner in honor of Sir Felix Semon, at the Chicago Club, September 15.

A Correction.—Dr. Vida A. Latham writes that she was elected vice-president of the American Microscopical Society, and not secretary, as stated in THE JOURNAL of September 3. Dr. Robert H. Wolcott, of the University of Nebraska, was elected secretary.

Children Have Smallpox.—The spread of smallpox among children is causing grave concern to the department of health. On September 10, four children were taken to the Isolation Hospital, and one little patient died there. There are now 15 patients in the hospital.

Personal.—Dr. Olander E. Wald has been appointed chief surgeon of the Bethesda Hospital.——Drs. Arthur D. Bevan and James Chvatal have been nominated on the committee to represent Chicago at the Louisiana Purchase Exposition, on "Chicago Day," October 8.——Dr. Joseph Z. Bergeron has returned from Europe.

Death-Rate Continues Low.—For the week ended September 10, 443 deaths were reported, 48 less than for the previous week, and 61 less than for the corresponding week of 1903, the respective annual rates per 1,000 being 11.98, 13.27, and 14.02. Acute intestinal diseases caused 97 deaths; consumption, 49; violence, 45; and heart disease, 35.

KENTUCKY.

Smallpox has appeared in Mayfield, where there are four cases in one family, and among the negroes near Pembroke, where four cases have been discovered.

Stringent Rules Adopted.—The State Board of Health has adopted stricter rules, requiring examination of physicians of other states desiring to practice in Kentucky; limiting medical colleges to cities of 50,000 or more population; prohibiting medical colleges from having more than one school term a year, and requiring preliminary examination of all prospective medical students.

One Year's Deaths in Louisville.—Dr. Maverell K. Allen, health officer of Louisville, reports that during the year ended August 31, 4,092 deaths occurred, a death rate of 17.56 per 1,000. The rate among white people was 15.2 per 1,000, and among the colored population, 27.4. Tuberculosis caused 562 deaths; pneumonia, 467; heart disease, 284; violence, 182; Bright's disease, 167; cancer, 125; apoplexy, 145; typhoid fever, 112, and meningitis, 100. September, June, July and August were the months of greatest mortality.

Personal. Dr. Joseph M. Ferguson, South Carrollton, has been appointed second assistant physician at the Western Kentucky Asylum for the Insane, vice Dr. James W. Stephens, transferred to the Central Kentucky Asylum, Lakeland.——Dr. William N. Offutt, Lexington, has been made captain and assistant surgeon of the Second Kentucky Infantry, vice Dr. William J. Foley, Lexington, made regimental adjutant.——Dr. James M. Mathews, Louisville, has been appointed a member of the International Commission of Awards at the World's Fair, St. Louis.

MARYLAND.

Nominated for Congress.—Dr. Richard S. Hill of Prince George's County has been nominated for Congress. He is a graduate of Georgetown University Medical School, and is at present a member of the Maryland House of Delegates.

Answer to Mandamus Suit.—In its answer to the suit for mandamus brought against it by Dr. Campbell F. Flautt of Baltimore, the State Board of Medical Examiners denies that Dr. Flautt is entitled to a license to practice, and avers that on two occasions (in 1901 and 1902) he failed to pass the examination. While admitting that Dr. Flautt graduated from the Baltimore Medical College in 1901, it denies that he was a physician or surgeon lawfully practicing in Maryland prior to Jan. 1, 1898. It claims it has no authority to issue a license to persons whose sole right to practice medicine rests on the irrelevant fact that they "had practiced medicine and had in their professional capacity and within a year prior to Jan. 1, 1898, treated 12 persons." The only persons entitled to a license to practice medicine in Maryland under Section 72, Article 43, of the code, it is claimed, are those who have passed the required examinations, and physicians from other states

Baltimore.

Personal.—Drs. Hugh H. Young, William A. Fisher and Richard H. Follis have gone on a week's trip to Manassas, the Valley of Virginia, and the University of Virginia.

Want City to Maintain Beds.—A committee from the Baltimore University Hospital called on the mayor, September 1, to request that the city contract with that institution for free beds for public patients. The Supervisors of City Charities, to whom the matter was referred by the mayor, have not maintained city beds in that hospital for a considerable time.

Honor Dr. Remsen.—The Society of Chemical Industry, meeting in New York City last week, paid a high tribute to Dr. Ira Remsen, President of Johns Hopkins University, by awarding its medal to him. This medal was founded in 1896, and is awarded every two years for conspicuous service rendered to applied chemistry, by research, discovery, invention, or improvements in processes. Probably the most noteworthy discovery made by Dr. Remsen was saccharin, discovered in his laboratory in 1879. His "Chemistry" has been translated into German, French, Italian and Japanese, and is used in colleges in all those countries, and in nearly every college and university in America, and his "Organic Chemistry" is also well known.

NEBRASKA.

Personal.—Dr. George W. Ira, for eighteen years agency physician at the Santee Indian Reservation, Knox County, is about to move to Lynch, Boyd County.

Hospital for Falls City.—Drs. Frank C. Wiser and Isaac M. Houston, Falls City, have equipped a 28-room building as a hospital, to be known as Mercy Hospital, and to be open to all reputable practitioners.

Dr. Orr Married.—On September 7, at Grinnell, Iowa, Miss Grace Douglass of that city was married to Dr. H. Winnett Orr, Lincoln, editor of the *Western Medical Review*. They will be at home at 1114 H. Street, Lincoln, after October 1.

Fined Because Not Registered.—Dr. Nils P. Hansen, Oakland, arrested on charges filed by Isaiah Lukens, Tekamah, for the illegal practice of medicine, was found guilty as charged, and fined $50. He had neglected to file his registration with the county clerk, as required by law.

NEW YORK.

Typhoid at Jamestown.—An epidemic of typhoid is reported from Jamestown.

Buffalo Voyagers.—Dr. A. L. Benedict has sailed for a short sojourn in Europe.——Drs. W. Scott Renner and Frederick J. Barrett have returned from Europe.

Hospital Charges Dismissed.—The State Board of Charities has dismissed the charges against the physicians of the Sydenham Post Graduate Course and Hospital on the grounds that this institution does not receive public funds, and, therefore, can not be under its jurisdiction.

Hydrophobia at Ithaca.—About two weeks ago a rabid dog ran about in Ithaca, biting several animals. The veterinary department of Cornell University inoculated a number of guinea pigs with the saliva of the rabid dog, and successfully. A number of people have been bitten by these animals, but so far only three cases of hydrophobia have developed.

Incubators at Coney Island.—Because of the charges recently made against the baby incubator system at the St. Louis Fair, Arthur M. Bishop, president of the New Jersey State Society for the Prevention of Cruelty to Children, in company with several superintendents of state and local institutions, inspected the incubators at Coney Island. They expressed themselves as being satisfied.

High July Death Rate.—The State Department of Health reports a total of 12,061 deaths for July, equivalent to an annual death rate of 18.5 per 1,000. The deaths were 601 above the average of July for the last five years. The increase was mainly due to four causes: Acute diarrheal diseases, diseases of the digestive system, diseases of the nervous system and violence. Of all deaths, 53 per cent. were of children under five.

New York City.

Sale of Carbolic Acid Restricted.—An amendment to the sanitary code has been adopted restricting the sale of carbolic acid in concentrated form and compelling druggists to dispense a 5 per cent. solution only.

Hebrew Convalescent Home.—Initial steps have been taken toward the organization of the Hebrew Convalescent Home Association. It is proposed to buy a tract of land in Westchester County for the erection of an edifice for this purpose.

A New Office for the Bronx.—The rapid increase of population in this locality and the recent typhoid scare have made more effective sanitary work necessary, and Dr. Charles F. Spencer has been appointed chief inspector of contagious diseases in the district.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending Sept. 3, 1904, 200 cases of diphtheria, with 28 deaths; 70 cases of scarlet fever, with 5 deaths; 57 cases of measles, with 3 deaths; 334 cases of tuberculosis, with 162 deaths; 118 cases of typhoid fever, with 13 deaths; and 10 deaths from cerebrospinal meningitis.

Personal.—Dr. James C. Hallock, a retired physician, was assaulted and received a serious scalp wound while sitting in Prospect Park.——Dr. Martin Auspitz, while driving a patient home from his office, collided with an electric car; the patient sustained a fracture of the skull; a boy stealing a ride was killed, and Dr. Auspitz was painfully injured.

OHIO.

Accidents.—Dr. Oliver A. Price, Cincinnati, while visiting in Columbus, August 28, was thrown from an electric car, sustaining a compound fracture of the right leg, and dislocation at the ankle joint.——Dr. Le Grand Gribble, Pomeroy, was accidentally wounded while shooting in Bedford Township, August 30.

Medical Library for Akron.—In memory of his father Dr. H. M. Fisher of Akron, his son Frank T. Fisher, New York City, has donated to the Summit County Medical Society his father's medical library to become a part of the Akron public library, and to be known as the "H. M. Fisher Medical Library." Mr. Fisher promises in addition to give $100 a year for the purchase of new books.

Cincinnati Personal.—Dr. Charles A. L. Reed, who has spent the last three months in Europe, has returned home.——Dr. Earl H. Bruns, resident surgeon of Cincinnati Hospital, has passed his examination for entrance to the Medical Corps of the Army, and will leave for Washington, October 1, for an eight months' course in the Army Medical School.——Dr. and Mrs. J. C. Culbertson have returned from Georgian Bay.

Staff for New Hospital.—The following have been named as the staff for the new Springfield Hospital, which is to be opened next month: Surgical—Drs. Read L. Bell, William B. Patton, Robert C. Rind, and Louis L. Syman; medical—Drs. Jay D. Thomas, George F. Brubaker, Clinton M. Hiestand, Stanley R. Hutchings, Charles W. Evans, and Noah Myers; eye and ear—Drs. Charles L. Minor and John C. Easton; obstetrical—Drs. John M. Buckingham, William A. Smith, and Clarence S. Ramsey; diseases of children—Dr. D. King Gotwald; nervous diseases—Dr. Clarence H. Kay; genitourinary diseases—Drs. Henry Baldwin, Jr., and Ira E. Seward; pathologist—Dr. Frank P. Anzinger; skiagrapher—Dr. Emory F. Davis, and consulting staff—Drs. Ezra C. Harris, John P. Dugan, Benjetta D. Titlow, Allen H. Vance and D. Walter Spence.

OREGON.

Personal.—Dr. James F. Bell has been appointed to fill the place in the Portland Board of Health made vacant by the death of Dr. William H. Saylor.——Dr. Thomas M. Henderson, Pendleton, has been elected coroner of Umatilla County.

Medical Building for Willamette.—There is urgent need for a special building for the medical department of Willamette University, Salem, and it is estimated that the building will cost $17,000. Already two subscriptions, one of $2,500 and the other of $1,000 have been made toward the building fund.

Medical Board Election.—At the annual meeting of the State Medical Board the following officers were elected: President, Dr. Walter E. Carll, Oregon City; Dr. Byron E. Miller, Portland, secretary, and Dr. Angus B. Gillis, Salem, treasurer. Dr. Andrew C. Panton, Portland, was appointed a member, vice Dr. William H. Saylor, deceased.

Oregon State Medical Society.—The thirty-first annual meeting of this society was held in Portland August 30 and 31. About two hundred physicians were in attendance and the program was of unusual interest. In addition to the papers presented by the profession of the state, Dr. Charles H. Mayo, Rochester, Minn., presented a paper on "Cancer of the Large Bowel." Dr. Walter C. Williamson, the president, entertained the members of the society at an informal reception and smoker at his residence, and the City and County Medical Society of Portland were hosts at a banquet at the Hotel Portland on the second evening. The following officers were elected: Dr. George F. Wilson, Portland, president; Drs. Mae H. Cardwell, Portland, William H. Boyd, Salem, and William L. Wood, Portland, vice-presidents; Dr. Luther H. Hamilton, Portland, secretary; Dr. Jessie M. McGavin, Portland, treasurer, and Drs. R. C. Coffey and Henry W. Coe, Portland, councilors. Dr. Kenneth A. J. MacKenzie, chairman of the committee of arrangements for the reception of the American Medical Association, to be held in Portland in 1905, has named the following committee to assist him in his work: Drs. Henry W. Coe, William Jones, Andrew C. Smith, George F. Wilson, Andrew J. Giesy, and Ernest F. Tucker, all of Portland.

PENNSYLVANIA.

Dr. Lampman's Will.—The will of the late Dr. John S. Lampman, Wilkesbarre, devises the entire estate, valued at $39,500, to his wife, and on her decease, to his two sons.

Reception to Surgeon-General Weaver.—The physicians of Norristown gave a reception and banquet, September 6, in honor of Dr. Joseph K. Weaver, who was recently appointed surgeon general of the National Guard of Pennsylvania.

Typhoid Still Dominant.—Of 21 cases of contagious diseases reported at Pittsburg, September 4 and 5, 15 were typhoid fever, and of 16 cases reported September 6, 7 were of this disease. In the week ended August 27, 73 of the 113 deaths were due to typhoid fever.

Texas Fever.—A large number of the cattle received from the west in the stockyards of Chester and Lancaster counties have been found to have Texas fever, and a large number of deaths have occurred. The disease has spread rapidly throughout these counties, and is recently reported in Berks County also.

Personal.—Drs. Frederick H. Bloomhardt and Charles F. McBurney have resigned from the Altoona Board of Health.——Dr. Daniel Webb has been appointed to the surgical staff of Lackawanna Hospital, Scranton, vice Dr. Alexander J. Connell, chief-of-staff, resigned, and Dr. Addison W. Smith has succeeded Dr. William G. Fulton, who has been made a trustee. Dr. Reed Burns has been appointed chief of the surgical staff.

Philadelphia.

Dr. Eshner Married.—Announcement cards have been received of the wedding of Dr. Augustus A. Eshner to Miss Julia Friedberger, which occurred September 7. Dr. and Mrs. Eshner will reside at 1019 Spruce Street.

Personal.—Dr. Alexander C. Abbott, chief of the bureau of health, and professor of hygiene in the University of Pennsylvania, will deliver the inaugural address at the formal opening of McGill University, Montreal, September 12.—— William Krusen has returned from Europe.

Health Report.—Typhoid fever still prevails throughout the city, but the number of cases reported for the week was lessened. The death rate from the disease, however, is slightly higher. There were 100 cases of typhoid, with 14 deaths, reported for the week, as compared with 104 cases, and 10 deaths, for the preceding seven days. This city has more typhoid fever than any of the other large American cities. There were 400 deaths reported for the week ended September 10, as compared with 371 for the previous week, and 370 for the corresponding period of last year, and 379 for the corresponding week of 1902.

August Hospital Work.—During August there were admitted to the wards of the Pennsylvania Hospital 342 patients, and 2,730 emergency cases were treated in the receiving wards. There were 5,018 cases treated in the out-patient department, and the total visits made to the out-patient department numbered 7,566.——In the Germantown Hospital 121 patients were admitted, and 1,529 patients were treated in the dispensary. ——The Methodist Hospital admitted 68 patients to the wards and 830 patients in the different dispensaries. The total visits made to the dispensary numbered 3,184.——In the Women's Hospital 1,549 patients were treated in the different clinics.——There were 184 patients admitted to the wards of St. Agnes' Hospital, and 696 new cases and 2,582 old cases were treated in the various dispensaries.——In St. Mary's Hospital 171 patients were admitted and 3,054 patients were treated in the dispensary.

GENERAL.

Beri-Beri.—According to a newspaper report, the bark *Foo Suey*, from Honolulu, which arrived at Delaware breakwater recently, was found to have several cases of beri-beri on board. One man died at sea from the disease. The vessel was quarantined.

Medical Missionaries Wanted.—Mrs. B. F. Witt, Dayton, Ohio, secretary of the Woman's Missionary Association, asks us to call attention to the fact that the above association is in need of medical missionaries for Canton, South China. Either man or woman, married or single, will be accepted if found satisfactory. A woman physician is also needed for Jubbulpore, Central India. The position is under the auspices of the Methodist Episcopal Woman's Foreign Missionary Society. Further particulars can be obtained by communicating with Miss Nettie M. Hyde, Clifton Springs, N. Y.

Professor Orth.—Dr. Johannes Orth arrived in New York, September 5, en route to St. Louis. He is to be entertained at the White House by the President, September 27, and a dinner will be given him, probably in New York, by his former pupils about October 3. Dr. Orth is professor of general pathology and pathologic anatomy at Berlin, and is also dean of Berlin University. He was formerly assistant to Rindfleisch and later to Virchow, until called to be professor of general pathology at Göttingen in 1878. He succeeded to Virchow's chair in Berlin and also to the editorship of *Virchow's Archiv*.

The Weightman Fortune.—The *Medical News*, in referring to the death of William Weightman, head of the firm of Powers & Weightman, drug manufacturers of Philadelphia, has revived the story of how the greater part of the immense fortune of the firm was derived from the sale of quinin during the Civil War. At that time, the only two firms in the country making quinin from Peruvian bark were Powers & Weightman and Rosengarten & Sons, both of Philadelphia. The regular price of the drug at the beginning of the war was $2.10 an ounce, and south of Mason & Dixon's line it was often sold as high as $15.00 an ounce, but the Philadelphia firms, although having a monopoly of the drug, never sold it for exorbitant prices. They made money rapidly, although the government purchased great quantities abroad.

Another State Society Journal.—One of the most encouraging signs in the way of organization of the profession is the doing away with the old transactions, which came out once a year, and in the majority of instances were not even opened, and the substitution therefore of the monthly journal. Among the latter, we welcome the *Journal of the Medical Society of New Jersey*, No. 1, of Vol. 1, having just been received. It has adopted as its title page one similar to that of the *Journal of the Michigan State Medical Society*, which in turn copied the general style of THE JOURNAL of the American Medical Association. The first issue of the New Jersey Journal is a very creditable one, and promises to be of much value to the profession of the state. The editor is Dr. Richard C. Newton of Montclair. There are now thirteen state societies that are journalizing their transactions, namely: Arkansas, California, Colorado, Illinois, Kansas, Kentucky, Michigan, Mississippi, Missouri, New Jersey, New York, Pennsylvania, and Wisconsin.

CANADA.

The Canadian Medical Protective Association held its annual meeting in Vancouver, B. C., August 24. Dr. Robert W. Powell, Ottawa, was re-elected president and Dr. James A. Grant, Jr., Ottawa, was elected secretary-treasurer.

Toronto General Hospital.—There were 220 patients in the wards on July 31, and 211, not including infants, on August 31. During the month 250 were admitted, 243 discharged and 16 died. During the month 247 accident cases received first-aid at the emergency branch of the hospital.

The British Columbia Medical Association held a business meeting at Vancouver, August 24, and elected the following officers for the ensuing year: President, Dr. W. D. Brydone-Jack, Vancouver; vice-president, Dr. Edward C. Hart, Victoria; secretary, Dr. H. E. Langis, Vancouver, and treasurer, Dr. J. S. Helmcken, Victoria. It was decided to hold the next meeting in Vancouver.

Montreal Vital Statistics of 1903.—The vital statistician's report for 1903 shows an increase in the birth, marriage and death rates. The death rate increased from 22.58 per 1,000 in 1902 to 24.29. The birth rate increased from 35.65 to 36.08 per 1,000, while the marriage rate increased from 9.22 to 10.16 per 1,000. The increase in the two latter rates may be due to the fact that sermons were preached in the Roman Catholic and other churches about two years ago against the falling-off in the birth and marriage rates.

Vaccination in Montreal.—From August 15 until September 3 the vaccination bureau in Montreal was kept open daily to provide for the vaccination of all unvaccinated children who are to attend the schools during the coming terms. This was in accordance with the recent by-law adopted by the Montreal City Council, which reads as follows: "No parent or guardian, no commissioner, trustee or other person shall allow any pupil under his guardianship or control to frequent any school, college, convent, university or any other educational institution in Montreal, unless such pupil shall be provided with a certificate of effective vaccination."

Medical Inspection of City Schools in the Province of Quebec.—The provincial Board of Health of Quebec met recently in Montreal and discussed the high death rate among young children in that city. The board approved of the institutions established in Montreal to give advice regarding the care and feeding of babies, and believed that they would be a great assistance in spreading a knowledge of infant hygiene. The board will have prepared small booklets for instruction of mothers on the care of new-born children. Regarding the question of pure milk, the board adopted a resolution asking that municipal health departments make a chemical and bacteriologic examination of milk supplies from time to time, especially in the summer months. The board also gave its entire approval to the medical inspection of schools, and will ask the Legislature of Quebec to enact a law which will permit municipal authorities or school commissioners to make a complete inspection, as approved by the congress of the Association of French-speaking Physicians. A resolution will shortly be adopted to prohibit expectorating on sidewalks.

Canadian Medical Association.—The thirty-seventh annual meeting of the Canadian Medical Association was held at Vancouver, B. C., August 23-26, and proved one of the most successful and largest meetings in the history of the organization, there being registered 266 physicians. The address in surgery was delivered by Dr. Mayo Robson, and was accompanied by a lantern demonstration; that in medicine was delivered by Dr. Robert E. McKechnie, Vancouver, and that in gynecology by Dr. E. C. Dudley, Chicago, and this was also accompanied by a lantern demonstration. The election of officers resulted as follows: President, Dr. John Stewart, Halifax, N. S.; vice-presidents, Drs. Peter MacLaren, Montague Bridge, P. E. I., Judson B. Black, Windsor, N. S., Alfred B. Atherton, Fredericton, N. B., Joseph E. Dube, Montreal, Harry Meek, London, Ont., W. S. England, Winnipeg, Man., Henry C. Wilson, Edmonton, N. W. T., and Richard E. Walker, New Westminster, B. C.; local secretaries, Drs. Henry D. Johnson, Charlottestown, P. E. I., Guy C. Jones, Halifax, N. S., Thomas D. Walker, St. John, N. B., John D. Cameron, Montreal, Alexander Stewart, Palmerston, Ont., Samuel W. Hewetson, Pincher Creek, N. W. T., Popham, Winnipeg, and

Alexander S. Monro, Vancouver, B. C., and executive council, Drs. George M. Campbell, James Ross and C. Dickie Murray, all of Halifax, where the 1905 meeting will be held. Dr. George Elliott, Toronto, was re-elected general secretary and Dr. H. Beaumont Small, Ottawa, treasurer. In 1906 it is expected that a conjoint meeting of the Canadian and the British Medical associations will be held in Toronto.

FOREIGN.

Pensions for Physicians Victims of Epidemics.—One of the edicts enacted by the Czar since the birth of his son is one to the effect that the families of physicians are entitled to a pension when the physician succumbed to infection acquired while in the public service fighting an epidemic.

Enterprise in Medical Society Work.—The physicians and surgeons now stationed or voluntarily serving at Harbin have organized what they call the "Temporary Medical Association in the Far East." At the first meeting, held in August, 96 physicians were present. Dr. Tolmatschew from Moscow is the president.

Russian Physicians at the Front.—The Russian Red Cross has appealed for a list of physicians volunteering to serve at the front to take the place of the physicians and medical students worn out or sick from their service with the Red Cross in the field. Dr. Böttcher has typhoid fever, and Dr. Hildebrand had his foot crushed and was the first patient to be treated in the hospital in his charge.

Waldeck-Rousseau and the German Surgeon.—Considerable surprise has been expressed that Kehr should have been summoned from Germany to operate on Waldeck-Rousseau, who did not survive the day. The facts of the case are that Professors Poirier and Terrier of Paris had performed an operation for biliary obstruction a month or so before, discovering then indications of inoperable malignant disease in the pancreas. The patient's condition was very much improved by the intervention, but the family were warned that the improvement could be only temporary. When the threatening symptoms recurred the French surgeons refused further interference, and as a last resource Mayo Robson and Kehr were summoned. Kehr performed a laparotomy, and found ablation of the tumor impossible, although he was able to conclude with drainage of the hepaticus. The patient did not regain consciousness, and died in a few hours. The French now criticise Kehr for even attempting the operation under the circumstances.

Law in Regard to Prescriptions in Brazil.—A new sanitary law for Brazil is under discussion. The medical society of S. Paulo suggests that every pharmacist shall be supplied with a list of registered physicians, and that they should be compelled to refuse to dispense prescriptions signed by any one else. It is recommended that the original prescription shall not be dispensed again after a year has elapsed from the date of writing. No prescription can be dispensed a second time without an order from the physician who wrote it. Medicolegal testimony experts should be selected exclusively from the list of registered physicians. B. Rodrigues advocated that the government should purchase large supplies of the disinfectants needed in the prophylaxis of epidemics and keep them on hand ready for emergencies. When needed, they should be sold to consumers at cost. At present the prices soar as soon as an epidemic is declared, placing them beyond the reach of the majority. The expense to the state would be compensated by the benefits resulting. Every cent spent in hygiene is an economy, he added. He also added that the public authorities should set the example of abolishing dry sweeping in all the public buildings, and avoidance of dust by wiping furniture, etc., with cloths moistened with antiseptics. Example would be worth a thousand precepts.

Gloves, Etc., in Field Surgery.—Dr. Hohlbeck writes from the seat of war that the Russian surgeons are adopting Zoege von Manteuffel's advice to use gloves in field surgery. They find them very convenient for applying dressings in severe cases and for operations of all kinds, carrying a supply constantly with them, each pair sterilized in a separate bag. He mentions the great benefit derived from Senn's adhesive plaster fastenings for dressings. This, with the smallness of the wounds made by the bullets, reduces the amount of dressings to the minimum, so that one small package will serve for an astonishing number of wounded. The means of transporting the wounded, according to Hohlbeck, are deplorable, the native carts are so clumsy and too short to lie down in. The carts supplied by the Red Cross are fine. They are such as are used in Finland, and have proved so useful that a large consignment has been ordered. The penetrating dust and the millions of flies are the chief enemies of the surgeon. The wounds made by the shrapnel balls are the most serious. Each bomb contains about 260 balls, and the injuries made by them have all the disadvantages of the old lead bullets. The other bombs are much less dangerous. They explode with such force that they fly into such small pieces that the damage inflicted is comparatively slight. The wounds made by the Japanese bullets are less serious than those of the Lee-Metford or Mauser bullets as he observed them in the Boer war. They can even pass through the shaft of a bone without solution of continuity. Dr. Hohlbeck's letters are being published in the *St. Petersburger med. Wochft*

The Father of Anatomy.—Vesalius has been regarded as the father of scientific anatomy, his work "Fabrica," dating from 1543, being styled the first treatise on the subject conceived in a scientific spirit. A year or so ago Jackschath arose in Austria and proclaimed that Vesalius had been preceded in this line by Leonardo da Vinci, who, fully fifty years before him, had composed a treatise on anatomy which has since been lost. Nothing of this treatise has come down to us except a few students' notes and plates. They show, however, that to da Vinci (1452-1519) unmistakably belongs the title of the father of anatomy. They also show further, he states, that Vesalius' work is merely a compilation of da Vinci's treatise and that his appropriation of it and publication of it over his own name is the most stupendous example of plagiarism the world has ever known. A French edition of what remains of da Vinci's work was published three years ago, and the mistakes made by the author are the same mistakes as are found later in Vesalius' work. In a recent number of the *Münchener medicinische Wochenschrift*. No. 18, G. Klein reviews the history of the subject. Although he does not think that Jackschrath has quite proved his case in regard to Vesalius' plagiarism, yet late researches have certainly established that to da Vinci and not to Vesalius belongs the title of father of anatomy.

Koch and His Critics.—When Koch was presented with the *Festschrift* in honor of his sixtieth birthday, and the portrait bust was unveiled, he expressed great appreciation of the homage, especially of its timeliness. He remarked: "The good old days of bacteriology are past, when a few investigators had the field to themselves and could work in peace along their various lines. Now their name is legion, and every one of them is striving to win some small modicum of success. No one has a free field to himself any longer, and even with the most cautious limitation of one's field of work one finds that he is encroaching on another's domain, or stepping on still another's toes, or jostling some one in some way. Before the scientist knows it, he has made a host of enemies on all sides. This is naturally very unpleasant and robs one of all peace and joy in one's work." Koch continued with the statement that he had been particularly unfortunate in this respect; whatever he writes or says raises a storm of passionate contradiction. It generally comes from those who understand little or nothing of the matter in hand and are the least qualified to pass judgment on it. He has frequently been tempted to abandon the whole thing and have nothing more to do with science. This homage offered to him on his sixtieth birthday, showing such a large and loyal band of co-workers, is an inspiration to keep on working, and he terminated with the promise to continue to devote his energies in the future as in the past to work with and for these loyal friends, to promote the cause of science by every means in his power. Von Behring was at one time a pupil of Koch, and his absence from the celebration excited some comment.

Wounds from the Japanese Firearms.—The Japanese bullets used at the battle of Vafangou were an inch and a quarter long and a quarter of an inch in diameter. A detailed report from one of the Russian surgeons of his work after the battle states (in the *Russkii Vratch*, iii, No. 30, July 24, 1904) that these bullets passed through bone and tissue without shattering them, merely making a tunnel the size of the bullet. His hospital was located at Tielen, more than 200 miles from the battlefield, and the 150 wounded men arrived by train, all but a few having walked from the scene of action to the nearest railroad station, a distance of 20 to 30 versts (nearly 14 to 20 miles). All arrived the second day after the battle in satisfactory condition, none thinking that his wounds were serious, although in some of them the bullets had traversed vital regions. Only 5 required operative intervention; in 4 the bullet

was extracted under cocain; one was a shrapnel ball. In another case crushed fingers were amputated. Treatment was limited to thoroughly cleansing the wound and putting it in the best condition for natural repair. Four cases are described in which the bullet passed through the thorax. In one the bullet entered below the right seventh rib and emerged in the ninth interspace. The man was standing about 500 paces from his assailant. He did not fall, but hastened on foot to the railroad station, more than 13 miles away. There was no hemorrhage, and merely slight difficulty in breathing. Slight fever was observed for three days after arrival, but by the eleventh day all the symptoms had vanished except that the breathing in the lower lobe of the right lung was not so strong as in the other lung. The patient felt quite well. Another was hit at about 800 paces, the bullet emerging in the tenth interspace. He experienced merely a slight difficulty in breathing and repaired to the station on foot, finding that an attempt to ride in a wagon made him feel worse. The lung action was apparently normal; there was no fever, and the patient felt perfectly well by the end of the second week. There was some suppuration of wounds of the abdomen or mouth, but healing proceeded rapidly. The surgeon in question, J. B. Zeldovitch, comments on the courageous bearing and good humor of the wounded, their expressions of admiration for the valor of the foe and the lack of revengeful feelings.

Correspondence.

Physicians in the Public Life of France.

PROFESSOR POZZI—COMBES A PHYSICIAN—COMPOSITION OF THE FRENCH SENATE—THE CHAMBER OF DEPUTIES—PHYSICIANS IN MINOR CIVIL OFFICES—SCIENTIFIC RECORDS, PROFESSIONAL AND PERSONAL STANDING OF PHYSICIANS IN PUBLIC LIFE—SOME NEGLECTED BUT PRESSING DUTIES OF AMERICAN PHYSICIANS.

PARIS, Aug. 27, 1904.

To the Members of the Medical Profession:—The active participation of the medical profession in public affairs in France is in striking contrast with the aloofness of American physicians from executive and legislative offices. This was brought to my attention by Professor Pozzi, with whom it was my good fortune to cross the ocean on his return from the meeting of the American Surgical Association at St. Louis. He himself is an example of the highest type of the medical man, using the term in its broad generic sense. A successful practitioner, the author of an accepted text-book of gynecology which has been translated into all the European languages, a literateur and scientist in a broader sense, having been the translator of Darwin into French; a member of the Academy of Medicine, a popular professor in the Ecole de Médicine, an officer of the Legion of Honor, an active participant in the Franco-Prusssian war, he has held several minor civil offices and, lastly, has had one term as a senator of France. Yet he is only in the prime of manhood! His example, it is hoped, will be as generally emulated in America as it is imitated, consciously or otherwise, in France. When I told him that there were but two physicians in the United States Senate and none in our House of Representatives of the United States he was greatly surprised.

"Why!" he exclaimed, "in France medical men are not infrequently the controlling factors in both the Senate and Chamber of Deputies! Out of the more than 600 members in both branches it is not unusual to have from 100 to 125 representatives of our profession."

"What about their politics?" I asked.

"They are chiefly Republicans, most of them belonging to the 'Republican-Radical' branch of the party; only a few are classified as 'Republicans' and 'Moderate Republicans,' while it is still more rare for a physician to belong to the 'Right' or Clerical party."

"Are the medical representatives co-operative on professional and scientific questions without reference to party lines?"

"Yes. Always and effectively."

"Do medical men frequently hold local political office?"

"Yes; they are frequently members of the general counsels of the various departments and mayors of cities. In this connection I might mention Lyons, Bordeaux, Nancy, Rheims and other important cities."

Dr. Pozzi kindly put me in the way of ascertaining the facts relating to the senate, of which he was once a member. The body consists of 300 members, of whom 40 are medical men! Think what might be accomplished in the way of needed and wholesome legislation in the United States if our medical profession were only represented in similar proportion in the two branches of Congress!

I am convinced that the medical profession in the United States is too largely actuated by the idea that participation in political affairs will be accepted as an evidence of corresponding inefficiency in professional attainments. The people, too, seem to hold the view that if a man is of any account as a physician he can be of no account as a politician, and *vice versa*. These ideas or prejudices, provincial as they are, have without doubt exercised a repressive influence on physicians in general in the exercise of their citizenship. It is of some interest, therefore, to study the facts in a country in which examples are sufficiently numerous to be instructive. No country can be more to the point than France, and no body in France can be more illustrative than the Senate, concerning the members of whom I have been fortunate enough to secure the data.

Take for example Combes, whose actions and utterances are commanding more attention than those of President Loubet himself. It is the same Combes who, as the successful instigator of the crusade of the republic against the religious orders which he has expelled from France, has accomplished, in a peaceful way, results as great as were the reforms embraced in the Revolution of 1793 and again in that of 1849. His moral courage is as heroic as any that was ever more dramatically displayed on the field of battle by a general of France. This man has served as a member of the general council of his department, that of Charente-Inférieure, was once mayor of Pons, was elected senator in 1885, and again in 1894, was vice-president of the Senate, served as a minister of public instruction in 1895-96, was re-elected senator last year, and is now minister of the interior and president of the council of state. This man is not only a philosopher and historiographer of distinction and the author of a psychologic work, but he is a doctor of medicine, having begun his life as an active member of that profession.

The special question at issue is: Do physicians who figure prominently in the politics of France amount to anything in a professional way? I have already cited Pozzi and Combes. Let us look up some who are not so distinctly world men—men who are known only, or at least chiefly, in France, and information concerning whom will, therefore, be more in the nature of news. Take, for instance, Gauthier, senator from Audl: He is laureate of the Faculty of Medicine, received distinctions for his service in the cholera epidemic of 1885, made important investigations in the chemistry of iron and, so I am advised, enjoys as a physician the unlimited confidence of the people of Sijean, where he lives. Peyrot, senator from Dordogne, is the author of numerous contributions on surgery and is a leading surgeon in that part of France. Saillard, senator from Doubs, is the professor of surgery at Besançon, while his colleague, Borne, from the same department, is known throughout France by his writings on pleurisy and the neuralgias. Camparan, from the Haute-Garonne, is an accepted authority on the thermal waters of France. Perreal, from Hérault, received a medal from the government for his work in cholera epidemics and for his contributions on the subject. Parisot, from Vosges, received formal distinctions for his labors in the propagation of vaccine, and many others.

The personal standing of these men in their respective communities is still another question of interest and one which can be answered only inferentially, at least, by the record. Thus, for example, one would infer that a man like Perreal, senator from Hérault, is a man of local force and esteem when it is recalled that he was born in 1825, that he has served as a member of his general council, has been mayor of his city for ten years, has been identified with the medical school at

Grénoble, was a victim of the historic second of December, joined the insurrection against the empire, served as an officer of public instruction, and finally, in 1897, when 72 years of age, was elected to the Senate, of which he is still an active member. Camparan, from the Haute-Garonne, is another. He was born in 1832; like his colleague, opposed the empire; was the efficient inspector of thermal waters, one of the largest interests in France; busied himself with his farms, of several of which he is the successful manager and proprietor; after twenty-three years of strictly professional work he in 1879 went to the Senate, where he has since seen constant service as a Republican. These are certainly inferential evidences of high local esteem for a man with such a record as this.

It was my good fortune the other day to visit the beautiful little city of Annecy, the capital of the department of the Haute-Savoie, which is represented in the Senate by Dr. Francoz. He is a native Savoyard, who began his professional career in his beloved mountain country and who chose to serve his people still further by serving as a general councillor, having acted as president of that important body, then as acting mayor of Annecy. He became an officer of the Academy —a distinction which carries the laurel with it in France, and went to the front against the Germans. He was not at home when I called, a circumstance which gave me additional excuse for making inquiries concerning him.

"Dr. Francoz has been senator for some time?" I inquired of an advocate whom I had the good fortune to meet.

"Ah, yes; for about ten years."

"He has been an efficient senator?"

"That is shown by the fact that he has been once re-elected and that he has served as secretary of the senate."

"He must be highly esteemed personally and professionally by his neighbors," I ventured.

"Ah, yes, monsieur; he is the first citizen of Haute-Savoie—the premier physician, too. Even his political enemies admire him. There are many who deplore his absence in Paris, but it can't be helped; he is needed in the Senate!"

The physicians in public life in France are esteemed members of their respective communities.

I have not had time to look up the facts relative to the Chamber of Deputies, but I am advised that they are not essentially different from those which I have presented in regard to the Senate. Be this as it may, however, we must recognize that the medical profession of France is setting an excellent example to that of the United States relative to the recognition and discharge of the broad duties of citizenship. I am sure, however, that with the facts brought home to them the physicians of America will be more in evidence than heretofore in state legislatures and in Congress. We have a distinct duty to perform in that regard. There are already a number of candidacies for Congress by medical men in different parts of the country. It is highly important, where party interests are not distinctly paramount, to see that such candidacies are made successful. Over and above this, however, it is important that the medical profession right now, both through its organized local bodies and by direct personal interrogation, should demand of all candidates for elective office an explicit statement of their views touching specific questions of interest to the medical profession and to the public health. Wherever practicable a committee should be appointed to report on the previous records of candidates touching such questions, for records made are safer criteria than promises given on the eve of election. Careful consideration should be given to such reports and medical men should govern themselves accordingly, remembering always that they are 150,000 in round numbers and that they can exert a powerful influence if they will but do so, by quietly and confidentially advising their friends and patrons on political questions, or, if they prefer, by going openly on the hustings. CHARLES A. L. REED.

Light for Eye Work, Etc.

CHICAGO, Sept. 8, 1904.

To the Editor:—An ideal light for eye, ear, nose and throat work is made by dipping a suitably sized segment of the frosted portion (sand-blast formation) of a 24-candle-power spiral electric lamp in hydrofluoric acid. After dipping it in the acid for a few seconds, wash it off in water, dry and test its translucency. Each application of the acid eats the rough points of glass, leaving it thinner, smoother and more nearly transparent. Continue this until light of desired intensity is obtained, yet stopping short of the point where the reflection of the coil can be produced by a forehead mirror held at its focal distance from a smooth surface as well as from the lamp. A uniform and intense white light is obtained.

I have suggested to a bulb maker that where an asbestos chimney is needed a plain bulb small enough to be placed in the chimney could be used and fitted with the same shaped spiral coil of equal candle power. Then a glass disc treated above may be placed in the fenestrum of the chimney.

EDWIN S. ANTISDALE, M.D.

Queries and Minor Notes.

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

AIDING AND ABETTING QUACK INSTITUTIONS.

A censor of a county society writes us in regard to a case in which a member of his society has been proven guilty of consulting with and aiding professionally those who are conducting an advertising so-called "medical institute;" those connected with it being of unsavory reputation and not recognized professionally in any way. After enlarging on the case our correspondent asks "In view of the large number of well-known advertising medical institutions in many of our cities and the not uncommon condition of otherwise reputable physicians having professional and business relations with them, it should be understood whether such physicians can aid and associate with such institutions and at the same time be recognized and be retained as members of a county society."

ANSWER.—In some parts of the country it is not unusual that some otherwise reputable physician acts, directly, or more often indirectly, as consultant to one of the too many so-called "medical institutes," etc., that are conducted by quacks. The physicians who do this certainly do far greater and more real damage to our profession than those who consult habitually with homeopaths, eclectics, etc., who are personally honorable. The pressure of necessity in a crowded profession renders many of us keen for financial returns, and the substantial inducement of the quack under secret arrangement at times proves to be a too great temptation. Those who yield should not expect to retain professional position and fellowship, for this conduct is decidedly "unprofessional" in that it gives comfort and support to the worst of quacks. The damage to the profession is great, for the patient referred by the "institute" to a specialist is bound to conclude that the profession countenances quietly the quack whom it openly condemns, and there is nothing to keep the patient from spreading the knowledge thus gained. The harm that results to professional prestige is inestimably grave, not considering the patient's side of the question. Under the new organization, each county medical society is fully endowed with authority to stamp out such practice, if unfortunately, any of its members succumb to the temptation. No explicit reference to this particular dereliction in professional duty is made in the Principles of Ethics, but the spirit of the medical profession is decidedly against the recognition of such practice as regular. It is unnecessary to enact new legislation to stamp out this evil in the few places where it exists. Every county society will deem it "unprofessional conduct," and can be depended on to discipline the member who is found guilty

THE COUNTY SOCIETY SHOULD DECIDE ETHICAL QUESTIONS.

A censor of a County Medical Society in Oklahoma asks: Can a member of a county medical society—branch of the American Medical Association—consult with, and otherwise professionally recognize, a non-member, one who has often supplanted physicians where he has been called in consultation?

ANSWER.—Such a question to-day is made almost purely local by the reorganization of medical societies that has been progressing since 1901, and that is now nearly completed. The county medical society, in the new scheme of organization, has full authority to determine its own course in questions ethical. Already this has led to considerable differences between the customs of different county societies. This seeming irregularity of custom on the whole is a result of the adoption of a mode of real organization and of a non penal "Principles of Ethics." Local professional customs necessarily differ, e. g., as between Chicago and a sparsely settled county in Maine, or as between San Francisco and a back county in Arkan

sas. The chief good, however, is in the making of the county society the autonomous unit of medical organization, with full power to decide its own ethical course and to penalize members whose conduct departs therefrom.

Therefore, we would advise our correspondent that his own society should determine what course its members should pursue in this particular circumstance. No one is so familiar with the conditions and with the needs of the case as those who are practicing on the spot. Of course, their decision should be guided by the spirit of the "Principles of Ethics." If the erring physician could be brought to see and to abandon the error of his way and to come within the fold of medical organization a double benefit will ensue; a new recruit will be enrolled and a disturber of the peace suppressed. This is by far the best method. If for any reason it can not be followed, or if it meets with failure, there is no one in such advantageous position to decide on the best further course than the members of the county society. If it deems it wise, the society can adopt a rule threatening suspension from membership to those who consult with the offender. We would not advise such a course, and mention it only to illustrate the functions and authority of the county medical society. Some other less drastic course should be found effective.

RIGHT TO PRACTICE IN IRELAND.

MINNEAPOLIS, MINN., Sept. 9, 1904.

To the Editor:—1. What are the requirements of an American physician who is a graduate of a regular recognized American college to practice medicine in Ireland?

2. Can one enter the regular course of the Dublin Trinity College of Medicine, or the other schools, on presentation of credits received from an American college without examination, and then graduate? If so, what other school's credentials are recognized?

J. W. M.

ANSWER.—1. The right to practice medicine in Ireland is obtained only by those who have passed the examinations of one of the various licensing boards, or who have obtained the M.D. degree from a recognized university of Great Britain or Ireland. There are several licenses recognized, among which may be mentioned the Royal College of Physicians of London, the Royal College of Surgeons of England, Society of Apothecaries of London, Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, Royal College of Physicians of Ireland, Royal College of Surgeons of Ireland, and Apothecaries Hall of Ireland. These vary slightly in their requirements. Some of these licensing bodies recognize certain degrees in this country. The University of Dublin grants the degree of M.B. and M.D., and also B.Ch. and M.Ch. (Bachelor and Master in Surgery, respectively). A candidate for any one of these degrees must be a graduate in arts. 2. No, unless one has also a recognized degree in arts.

A MEDICOLEGAL QUESTION.

———, NEB., Sept. 3, 1904.

To the Editor:—Three years ago I was called to see a married woman suffering from an abortion. The husband refused to pay, and I brought action. During the trial the attorney asked me who called me to the case. I could not remember. I won in the lower court, but it now goes to the higher court. Will I have to know definitely who called me to see the woman, and if I can not tell, will I lose the case? F. P. D.

ANSWER.—It would hardly seem that the case against the husband could be lost on the mere failure to remember who called you to attend his wife, unless there were exceptional circumstances to render that a vital point. The Supreme Court of Nebraska has held, in the case of Spaun vs. Mercer, 8 Neb. 357, that for medical services bestowed on the husband himself, or on his wife and children, by whomsoever the attendance of the physician may have been requested, the husband, and not the wife, is ordinarily liable. Especially is this so where the credit was in the first instance given to the husband, and where there was no special agreement on the part of the wife to bind her separate estate.

SWALLOWED A LARGE STAPLE.

DR. WADE SPERRY, Hamburg, Iowa, writes: Referring to Dr. Stratton's case on page 558 of THE JOURNAL, August 20, I had a similar case. A boy, 1½ years old, swallowed a new fence staple an hour before he was brought to my office. As he showed no bad symptoms, I had my doubts about it. However, I prescribed as many ripe bananas as he could eat. He ate three; afterward he was given a tablespoonful of castor oil. The next morning, 12 hours later, he passed the staple. It was a new one, with very sharp points. No bad symptoms afterward.

PROFESSIONAL CARDS IN LOCAL NEWSPAPERS.

———, MONT., Sept. 1, 1904.

To the Editor:—Does the best sentiment of the profession permit a physician to follow the custom of his town in regard to a card in the newspaper?

I am a newcomer in a small country place, and find the card (with name, the legend "Physician and Surgeon" and address of office) of each of my fellow physicians in the weekly country paper.

J. P. R.

ANSWER.—Yes. Under just the circumstances mentioned, professional custom has sanctioned the publication in local papers of a card containing no more information than that specified by our correspondent.

Marriages.

WALTER STIX, M.D., to Miss Edith Fechheimer, both of Cincinnati.

OSCAR EDWARD FISCHER, M.D., to Miss Irma Hadzsits, both of Detroit, September 1.

F. BRUCE COCHRAN, M.D., Milan, Mo., to Miss Mary Simmons, at Lake, Ind., August 31.

INMAN W. COOPER, M.D., to Miss Hortense Crutcher, both of Newton, Miss., September 7.

AUGUSTUS A. ESHNER, M.D., to Miss Julia Friedberger, both of Philadelphia, September 7.

CLAUDE F. SHEONTS, M.D., Hospital, Ill., to Miss Jeannette Foster, at Chicago, September 14.

BENJAMIN H. SHERMAN, M.D., Dexter, Iowa, to Miss Jessie Loar of Monroe, Iowa, September 1.

GRANT A. REBER, M.D., Fentress, I. T., to Miss Estelle Blake of Salina, Kan., September 14.

H. WINNETT ORR, M.D., Lincoln, Neb., to Miss Grace Douglas of Grinnell, Iowa, September 7.

ALBERTUS A. MOORE, JR., M.D., New York City, to Miss Agnes Remsen Vrendenburg of Freehold, N. J.

JOHN G. YOUNG, M.D., to Miss Mae Wells, both of Hickory Grove, Ill., at Keokuk, Iowa, August 31.

RUSSELL A. HIBBS, M.D., New York City, to Miss Madeline Cutting of Pittsfield, Mass., September 1.

WORCESTER A. BRYAN, M.D., Nashville, Tenn., to Miss Emma Berry, at Hazelpath, Tenn., September 14.

STEPHEN TYLER PARSONS, M.D., Aplington, Iowa, to Miss Rachel Hutchison of Chicago, September 6.

WILLIAM GRAY ALLEN, M.D., Chicago, to Miss Amelia Harrison Arundale, at Bradford, Ill., September 7.

WILLIAM BROOKS LA FORCE, M.D., Ottumwa, Iowa, to Miss Anna Carolina Bosquet of Pella, Iowa, August 31.

OLIVER BIERNE PATTON, M.D., Huntsville, Ala., to Miss Carlisle Dorothy Walker of Richmond, Ky., August 30.

THEODORE DROSDOWITZ, M.D., Chicago, to Miss Belle D. Hurwitz of New York City, at St. Louis, Mo., September 5.

HARRY E. CLEMSON, M.D., Port Deposit, Md., to Miss May Oakford of Philadelphia, at Washington, D. C., August 25.

ROBERT FRANCIS MORRISON, M.D., Holyoke, Mass., to Miss Elizabeth Blanche Smith of Chicopee, Mass., September 7.

FLETCHER HODGES, M.D., Indianapolis, Ind., to Miss Rebecca Traill Andrews of Manchester-by-the-Sea, Mass., September 1.

WILLIAM MUEHLBERG, M.D., to Miss Edna Zinke, daughter of Dr. E. Gustave Zinke, both of Cincinnati, at Idaho Springs, Colo., September 7.

WILLIAM CARY MABRY, M.D., acting assistant surgeon, U. S. Army, Fort Sheridan, Ill., to Miss Bessie Mayne of Salt Lake City, Utah, September 7.

Deaths.

Augustus B. Castle, M.D. Transylvania University Medical Department, Lexington, Ky., 1841, surgeon of the First Kentucky Volunteers in the Mexican War; thereafter a practitioner near Lexington, Ky., and Kansas City, Mo.; chief surgeon of the military hospitals at Macon and Fayette, Mo., during the Civil War, who was obliged to retire from practice soon after the war on account of ill health, and lived on his plantation until 1898, when he moved to California, died at Los Angeles, July 29, aged 85.

Albert G. Miner, M.D. Jefferson Medical College, Philadelphia, 1873, a member of the American Medical Association, surgeon of the One Hundred and Seventy-first Ohio Volunteer Infantry in the Civil War, and some-time city councilman of Niles, Ohio, while driving across a grade crossing near his home in Warren, Ohio, August 31, was struck by an express train and instantly killed, aged 67. His wife, who was with him in the carriage, was also killed.

George Newton Lantz, M.D. University of Louisville, 1890, president of the Linn County Medical Association, member of Grand River Medical Society, North Missouri Medical Society, and of the Medical Association of the State of Missouri, died at his home in Brookfield, Mo., September 2, from Bright's disease.

James M. Bowcock, M.D. Jefferson Medical College, Philadelphia, 1856, died recently at his home in Clarksburg, W. Va., after an illness of eighteen months, aged 75. The Harrison County Medical Society, at a special meeting, August 31, passed resolutions of regret.

John L. J. Gormly, M.D. Long Island College Hospital, Brooklyn, 1897, a member of the King's County Medical Society, and visiting surgeon to St. Mary's Hospital, died at his home in Brooklyn, September 7.

John H. Shaper, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1891, died at his home in Herkimer, N. Y., September 3, from dysentery, after an illness of one week, aged 36.

Orlando C. Robinson, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1881, died at his home in Bethayres, Pa., August 4, from pulmonary tuberculosis, aged 44.

Philip G. Gary, M.D. University College of Medicine, Richmond, Va., 1900, of Wakeman, King William County, Va., died at the Newport News Hospital, from typhoid fever, September 7.

William Hammett Martin, M.D. College of Physicians and Surgeons in the City of New York, died at his home in New York City from cancer of the stomach, September 3, aged 40.

Charles Meyer, M.D. Berlin University, Germany, 1848, a veteran of the Schleswig-Holstein campaign, died at his home in Macungie, Pa., September 2, from apoplexy, aged 77.

I. T. Tichenor, M.D. Kentucky School of Medicine, Louisville, 1854, died at his home in Stringtown, Nelson County, Ky., August 29, from gangrene, after a long illness, aged 72.

Benjamin Parker Barstow, M.D. Massachusetts, 1892, of Kingston, Mass., died at the Channing Hospital, Providence, R. I., from septicemia, August 25, aged 44.

Leonard Henley, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1847, died at his home in Williamsburg, Va., August 5, aged 83.

Byron Lemly, M.D. Medical College of Virginia, Richmond, 1865, died at his home in Jackson, Miss., August 29, from apoplexy, after an illness of several weeks.

Joseph F. Wheeler, M.D. St. Louis Medical College, 1875, died at his home in Marshall, Mo., September 6, from Bright's disease, after a short illness, aged 60.

William W. D. Parsons, M.D. College of Physicians and Surgeons in the city of New York, 1852, died at his home in Auriesville, N. Y., July 19, aged 72.

John B. Taylor, M.D. University of Maryland School of Medicine, Baltimore, 1855, died at his home in Ivy Depot, Albemarle County, Va., September 2.

John Robert Hamilton, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1872, died at his home in Clinton, Ont., July 12, aged 56.

John Thomas Brosnan, M.D. Bellevue Hospital Medical College, New York City, 1893, died at his home in Brooklyn, September 9, aged 30.

George S. Limerick, M.D. Bellevue Hospital Medical College, New York City, 1891, died at his home in Vicksburg, Miss., July 8, aged 40.

Philip Eugene Craig, M.D. Baltimore Medical College, 1897, died at his home in Baltimore, September 10, from typhoid fever, aged 35.

Harry M. Adams, M.D. St. Louis College of Physicians and Surgeons, 1864, died in June from peritonitis at his home in Worden, Kan.

Edward B. Holt, M.D. Harvard University Medical School, Boston, 1868, died at his home in Lowell, Mass., July 19, aged 49.

William H. McRee, M.D. Medical College of Georgia, Augusta, 1859, died at his home in Stephens, Ga., August 30, aged 76.

Henry E. Parker, M.D. Illinois, 1878, died at his home in Lorain, Ohio, August 30, after an illness of two years, aged 52.

J. E. Waters, M.D. Illinois, 1877, died suddenly at his home in Athensville, Ill., July 30, aged 76.

Edwin W. Knepper, M.D. Indiana, 1897, died at his home in Ligonier, Ind., April 29, aged 70.

David H. Armstrong, M.D., died at his home in Austin, Texas, September 3, aged 74.

Adin Hubbard Newton, M.D., died at his home in Everett, Mass., July 7, aged 87.

H. C. Banner, M.D., died at his home in Erwin, Tenn., August 31, aged 55.

Seth C. Archer, M.D. Ohio, 1865, died recently at his home in Milan, Ohio.

Deaths Abroad.

Franz Riegel, M.D., the well-known professor of clinical medicine at Giessen since 1879, died, August 26, aged 61. His name is familiar from his works on the heart action, the pulse, especially the venous pulse, heart "bigeminie," lead poisoning, acute nephritis, etc. His manual on gastric affections is now in its second edition. The dominant idea with him in the consideration of pathologic conditions was always the disturbance in the physiologic function. Without detracting from the value of pathologic anatomy, he regarded the pathologic function as indispensable to a knowledge of the affection in question. His favorite fields of work were those in which the disturbed function was the chief element in the symptom-complex. His work was further distinguished by his indefatigable study of the subject in hand from every possible point of view. The twenty-fifth anniversary of his professorship was celebrated last May, when the *Münchener med. Wochft.* published a fine portrait of him.

A. S. Landerer, M.D., professor of surgery and director of the Karl-Olga Hospital at Stuttgart, died in Switzerland, August 21, aged 50. He has published many works on surgical and other subjects, but his name is best known, perhaps, by his advocacy of cinnamic acid in the treatment of tuberculosis. Since he introduced this method of therapeutics, twenty years ago, he has unceasingly proclaimed its value, basing his judgment on theoretic premises and clinical experience, but his views have not been generally accepted. Two years ago he was appointed to be director of a large public hospital approaching completion in a Berlin suburb.

State Boards of Registration.

COMING EXAMINATIONS.

Missouri State Board of Health, September 19-21, St. Louis. Secretary, W. F. Morrow, M.D., Kansas City, Mo.

Iowa State Board of Medical Examiners, September 21-22, Capitol Building, Des Moines. Secretary, J. F. Kennedy, M.D., Des Moines.

Territorial Medical Examining Board of Oklahoma, September 28, Guthrie. Secretary, E. E. Cowdrick, M.D., Enid.

New York State Medical Examining Board, September 27-30, New York, Albany, Syracuse and Buffalo. Secretary, Charles F. Wheelock, Albany.

Utah State Board of Medical Examiners, October 3, Salt Lake City. Secretary, R. W. Fisher, M.D., Salt Lake City.

Arizona Board of Medical Examiners, October 3, Phoenix. Secretary, Ancil Martin, M.D., Phoenix.

Idaho State Board of Medical Examiners, Lewiston, October 4. Secretary, R. L. Nourse, Hailey.

Montana Board of Medical Examiners, the Capitol, Helena, October 4. Secretary, Wm. C. Riddell, M.D., Helena.

North Dakota State Examining Board, Grand Forks, October 4. Secretary, H. M. Wheeler, M.D., Grand Forks.

Minnesota State Board of Medical Examiners, State Capitol Building, St. Paul, October 4-6. Secretary, C. J. Ringnell, M.D., Minneapolis.

Vermont State Board of Medical Censors (Regular), Y. M. C. A. Building, Burlington, October 5-6. Secretary, S. W. Hammond, M.D., Rutland.

Rhode Island State Board of Health, State House, Providence, October 6-7. Secretary, Gardner T. Swarts, M.D., Providence.

Regular Board of Medical Examiners of Georgia, Capitol, Atlanta, October 11. Secretary, I. H. Goss, M.D., Athens.

State Medical Board of the Arkansas Medical Society, Little Rock, October 11. Secretary, J. P. Runyan, M.D., Little Rock.

Kansas Medical Board, State House, Topeka, October 11-14. Secretary, G. F. Johnston, M.D., Lakin.

Michigan State Board of Registration in Medicine, Lansing, October 11-14. Secretary, B. D. Harlson, M.D., Sault Ste. Marie.

Illinois State Board of Health, Great Northern Hotel, Chicago, October 12-14. Secretary, J. A. Egan, M.D., Springfield.

Board of Medical Supervisors of the District of Columbia, Washington, D. C., October 13. Secretary, Wm. C. Woodward, M.D., Washington, D. C.

Board of Medical Examiners for the State of Texas (Regular), Dallas, October 18. Secretary, M. M. Smith, M.D., Austin.

State Board of Medical Examiners of New Jersey, Trenton, Tuesday, Tuesday evening and Wednesday, October 18-19. Secretary, E. L. B. Godfrey, M.D., Camden.

Louisiana State Board of Medical Examiners, New Orleans, October 21-22. Secretary, Felix A. Larue, M.D., New Orleans.

Wisconsin July Report.—Dr. Philip A. Forsbeck, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Madison July 12. The number of subjects examined in was 18; total questions asked 120; percentage required to pass, 75, and not less than 60 in two subjects. The total number examined was 68, of whom 59 passed, including 4 osteopaths, and 9 were conditioned or failed, including 3 osteopaths. The following colleges were represented:

College.	PASSED. Year Grad.	Per Cent.
American Medical Missionary College	(1903)	88
University of Colorado	(1903)	85
College of P. and S., New York City	(1898) 89, (1903)	82
University of Missouri	(1904)	79
Rush Medical College, (1902) 84, 85; (1903) 93, 90, 89, 88; (1904) 82, 88, 90, 85.		81, 90,
University of Minnesota, (1901) 84, (1903) 82, (1904) 80, 87.		86, 87,
Chicago Homeopathic Medical College	(1904) 83,	84, 78
College of P. and S., Chicago, (1901) 88, (1903) 83, (1904) 76, 83. 81, 84, 86, 80.		82, 83,
Denver and Gross Coll. of Med.	(1903)	84
Northwestern University Med. School, (1903) 84, (1904) 85, 85, 87, 80, 87.		87, 84,
Ohio Med. University	(1904)	82
Queens Med. Coll., Kingston, Ont.	(1904)	84
Johns Hopkins Univ. Med. Dept.	(1904)	86
Vanderbilt University	(1900)	83
Wisconsin Coll. of P. and S.	(1904)	84, 85
University of Michigan	(1900)	82
University of Pennsylvania	(1902)	85
Trinity Medical College, Toronto	(1904) 83, (1888)	82
CONDITIONED.*		
Coll. Homeo. Med. and Surg. Univ. of Minn.	(1901)	89
Wisconsin College of P. and S.	(1904)	82
Johns Hopkins Univ. Med. Dept.	(1904)	81
College of P. and S., Chicago	(1904)	80
Milwaukee Medical College	(1904)	74, 83

One candidate was exempt and withdrew from the examination.

*Below 60 in two studies.

Association News.

REPORT OF THE SCIENTIFIC EXHIBIT

Of the American Medical Association, at Atlantic City, June 7-10, 1904.

FRANK B. WYNN, A.M., M.D., DIRECTOR.

INDIANAPOLIS.

Four years ago in Atlantic City the first scientfic exhibit of the Association was auspiciously inaugurated. It was, perhaps, the most distinctive feature of that memorable meeting. The practical benefits of the Scientific Exhibit have since been abundantly demonstrated. In its evolution, experience soon proved the large heterogeneous collection expensive and difficult to demonstrate. Reduction in size of the exhibit followed naturally with grouping of specimens to illuminate certain phases of pathology. The next step was to correlate the work of the exhibit with that of the sections. Topics chosen for illustration were those of live interest to the profession and prominently considered in the sections.

Those having deeply at heart the best development of this feature of the association work, have striven long and earnestly for one all important end, viz., systematic demonstration of the exhibit by competent persons at stated hours indicated on the official program. Realization of this object was attained at the past session. On Wednesday and Thursday afternoons demonstrations of a practical nature were made in the exhibit hall by men of distinction. The participants were William H. Welch, W. T. Councilman, Harvey W. Wiley, W. M. Late Coplin, H. A. Christian, Edward H. Nichols, C. Y. White, Winfield S. Hall, W. B. Cannon, W. G. Spiller, D. J. McCarthy, J. E. Greiwe, W. T. Longcope, I. W. Blackburn, F. C. Busch and others.

The large attendance on these demonstrations and the close attention shown gave ample proof of their success. In the future they should be arranged with reference to topics in the section programs. A series of demonstrations might be arranged, for example, which would be of particular interest to the internists; another series to the gynecologist, etc. The respective sections might set aside certain hours of their published program for witnessing the demonstrations of interest in the exhibit hall.

In point of artistic excellence the last exhibit easily surpassed any previously made. It will be noted also that research work of recognized scientific and practical value was shown. This is highly creditable and conducive to the scientific prestige of the organization. Research exhibits are highly desirable, but should not constitute a dominant feature. The prime object of the exhibit is educational. It should appeal, of course, to the investigator. But it should never be forgotten that the American Medical Association is a democratic organization. The exhibit should seek, therefore, also the instruction of the rank and file of the profession, in recent scientific knowledge of direct bearing on practical medicine. A specimen of hepatized lung or a contracted kidney may seem very common and uninteresting to an expert pathologist, but to the observant practitioner they offer an instructive object lesson. And surely a thorough knowledge of gross pathology offers the safest foundation for expert diagnosis. And thus since the inauguration of the exhibit, practical dissemination of pathologic knowledge has been going on.

A most beneficent influence of the Scientific Exhibit has been the stimulation of the collection of gross museum specimens in reputable medical colleges and their artistic preparation for teaching purposes. Those who visited the first exhibit four years ago and the last one must have been impressed by the marked artistic improvement in the specimens shown. The Scientific Exhibit, therefore, has made no small contribution to medical education by arousing among colleges a wholesome rivalry in the exhibits shown.

A beneficent influence of the exhibit has been to emphasize gross as distinguished from microscopic pathology. The improvements of the microscope and the triumphs of bacteriology have led many teachers to neglect those things which may be studied with the unaided eye. Few of the medical institutions of the country are thoroughly equipped with museum collections for teaching purposes. A considerable number of creditable museum collections have grown up in the last four years, directly as the result of the work of this Association.

The membership of this organization includes an army of medical workers—generals, captains, experts and, most important of all, the common soldiers who bear the brunt of the battle against disease. To all the Scientific Exhibit is a most helpful agency, capable of still greater usefulness. Closer correlation of the work of the sections with that of the exhibit; complete illumination of a few live topics each year; competent demonstrations by men of ability; fuller realization of the intimate relationship of the exhibit to the sections: these things will make for the still greater efficiency of the exhibit.

The many scientific workers who have labored so earnestly for the success of this exhibit have as their reward the satisfied consciousness of a duty well performed and the enthusiastic approbation of the profession. The details of the respective exhibits are given below.

BOSTON UNIVERSITY SCHOOL OF MEDICINE:

W. H. WATTERS, C. R. CHADWELL AND HENRY WATTERS.

1-54. *Series of Appendices* mounted in special tubes, illustrative of the catarrhal, ulcerative, obliterative and other types of appendical disease.

55-100. These were miscellaneous specimens and included: A lung series, kidney series, lymph gland series, series of carcinoma of breast showing erosion, retraction of the nipple and metastasis

These were all Kaiserling preparations mounted in glycerin jelly. Most of the mounts were in Petri dishes on ground glass plates, which gave an excellent background for the specimens. Great credit is due this institution not only for this beautiful exhibit, but for a similar one made at the Saratoga session. Dr. Henry Watters was in charge of the collection.

CINCINNATI HOSPITAL MUSEUM:

J. E. GREIWE.

HEART SERIES.

101. *Acute Pericarditis.*

102. *Tuberculosis of Pericardium*, involving the entire cardiac surface and associated with marked hypertrophy of left ventricle.
103. *Tuberculosis of Pericardium*, with extreme dilatation of the sac which contained five pints of blood-stained fluid at necropsy.
104-109. *Adherent Pericardium.*—Of interest in these specimens was the constant association of hypertrophy and the frequency of aortic lesions.
110. *Intramural Blood Clot* the size of a walnut situated in the apex and surrounded by a dense wall of connective tissue.
111. *Secondary Sarcoma of Myocardium.*—Primary trouble of the liver.
112. *Concentric Hypertrophy*, with diminution in size of left ventricle. No valve lesions.
113. *Acute Suppurative Myocarditis*, secondary to septic pneumonia. Thrombus of coronary and miliary abscesses throughout myocardium.
114. *Degenerative Changes of Aortic and Mitral Leaflets.*—Marked atheroma of the coronaries, extreme bradycardia—pulse 28.
115. *Unusual Acute Obstruction of Coronary.*—The specimen was obtained from a lad of 12, who died suddenly. The autopsy revealed an acute vegetating endocarditis. The edge of one aortic valve became torn loose, remaining attached at one end while on the free extremity were three small globular vegetations. These small masses were found obstructing the coronary vessel.
116-118. *Lesions of Aortic Valves and Aortic Ring.*
119. *Vegetations of the Aortic Valves* with perforation of the septum ventriculorum.
120. *Extreme Calcareous Infiltration of Aortic Valves.*
121. *Aortic Stenosis.*—Cor Bovinum.
122. *Aneurism of Aorta. No Ventricular Hypertrophy.*
123. *Aortic Regurgitation.*—Hypertrophy and dilatation of left ventricle and secondary insufficiency of mitral valves.
124. *Mitral Stenosis.*—papillary muscles converted into thick fibrous bands.
125. *Vegetations on Mitral Leaflets.*
126. *Marked Stenosis of Mitral Orifice.*
127. *Endocarditis Verrucosa* with infarcts in spleen, kidney and brain.
128. *Globular Vegetations* located below the aortic valves.
129. *Combined Lesions of Aortic, Mitral and Tricuspid Valves.*
130. *Mitral Disease with Extreme Dilatation of Right Heart.*—Great irregularity of pulse.
131-133. *Mitral Regurgitation.*—Great hypertrophy and dilatation of left heart and secondary insufficiency of tricuspid orifice.

This excellent heart series was demonstrated by Dr. Greiwe and, taken with the beautiful kidney group exhibited at New Orleans a year ago, speaks well for the character of pathologic work being done at the Cincinnati Hospital. This makes the fourth successive year in which this institution has been a contributor to the Scientific Exhibit, and has, therefore, played no small part in building up this feature of the Association work.

HARVARD MEDICAL SCHOOL:

(A) DEPARTMENT OF PATHOLOGY: W. T. COUNCILMAN, HENRY A. CHRISTIAN AND EDWARD H. NICHOLS.

This very complete exhibit consisted chiefly of bromid enlargements of photomicrographs and paintings of gross lesions. They showed an unusual degree of beauty and clearness of microscopic detail. They were neatly framed and in the university are used for wall decoration as well as teaching.

134-147. *Parasite of Smallpox.*
148-155. *Lesions of Smallpox.*
156-158. *Vaccinia.*
159-161. *Parasite of Scarlet Fever.*
162-163. *Parasite of Alcppo Boil.*
164-178. *Malarial Parasites.*
179-190. *Cirrhosis of Liver.*
191 206. *Lesions of Typhoid Fever.*
207-224. *Lesions of Lymphatic System.*
225-242. *Lesions of Diphtheria; Membrane, Lung and Kidney.*
243-250. *Neuroglia Tissue from Subcoccygeal Glioma.*
251-255. *Neuroglia Tissue in Dermoid Cysts.*
256-258. *Bacteria.*
259-265. *Lesions Due to Bacteria.*
266-268. *Tubercle Bacilli (human) Grown on Different Media.*
269-271. *Tubercle Bacilli (bovine) Grown on Different Media.*
272-283. *Lesions of Tuberculosis.*
284 298. *Lesions of Chronic Non-Tubercular Arthritis.*
299-315. *Lesions of Chronic Non-Tubercular Arthritis Paintings.*

In addition to the above photomicrographic exhibit, lantern demonstrations were made covering much the same field by Drs. Councilman, Christian and Nichols. The large attendance on the occasion attested the great interest taken.

(B) DEPARTMENT OF PHYSIOLOGY:

W. T. PORTER AND W. B. CANNON.

This exhibit consisted of apparatus for the advancement of laboratory teaching in physiology and allied sciences. It was designed by Dr. Porter and presented by Dr. Cannon.

316-326. Kymograph, Inductorium and a Number of Other Pieces of Apparatus.

These instruments, which have found extended use both here and abroad, were designed for the following ends:

The making of physiologic apparatus distinguished by simplicity of design, sound workmanship and low cost is of high importance in the development of physiology. The ordinary student of physiology is essentially a book man, while the professional physiologist is essentially a laboratory man. Student and professor should go the same road, along which few steps can be taken without apparatus of precision. Physiologic apparatus has heretofore been made on the "model" plan, each for itself, without regard to the number of "operations" required, and with little or no thought as to the subsequent maintenance of the apparatus in good condition. A large laboratory class requires a great supply of apparatus. One hundred and fifty men working in the physiologic laboratory every day during four months require more than 25,000 articles. It is clear that the cost of such an equipment, made on the old lines, would be too great for any school. The sound training of large classes in physiology depends absolutely on the invention of apparatus designed with reference, 1, to its "manufacture"; 2, to its storage and issue; 3, to its maintenance in good condition.

By "manufacture" is meant technically the making of a large number of "parts" for the same apparatus consecutively, by preference on special lathes and with special tools. The number of steps or "operations" should be the fewest possible, as each operation must be repeated many times. The labor of "setting" a turret lathe, which will make eight operations with eight different tools on the same piece of metal, is as great for one piece as for a thousand. Astonishing economies may also be secured by the use of special automatic devices.

Effective storage and issue also demand that the apparatus be compact and that important parts be protected so that they may not be injured when the apparatus is handled rapidly by persons of small experience. Economic maintenance requires construction with special reference to durability and cleanliness.

With all this the apparatus must be admirably exact, serving the student for the repetition of classical experiments, and satisfying the investigator for all the ordinary needs of research.

The supply of apparatus of this type bears the same relation to the advance of physiology that the commissariat bears to the advance of an army.

JEFFERSON MEDICAL COLLEGE.

W. M. L. COPLIN AND JOHN FUNKE.

This was the first time the Jefferson Medical College had contributed to the Scientific Exhibit. Previous failure to participate was abundantly made amends for in the superb array of pathologic material presented on this occasion. Professor Welch characterized it as the finest collection he had ever seen. I desire formally to express my deep appreciation not only of this fine pathologic contribution, but of my great personal indebtedness to Professor Coplin for his assistance as a member of the committee in promoting and installing the Scientific Exhibit.

327-366. *Forty Typical Specimens Illustrating Renal Disease.*—Including the various forms of nephritis and surgical lesions—hydronephrosis, nephrolithiasis, pyonephrosis, hypernephroma, congenital cystic disease, etc. This series was formally demonstrated by Professor Coplin as part of the official program.
367-391. *Twenty-five Specimens Illustrating Diseases of the Lung.*—Including various stages of croupous pneumonia, different phases of tuberculosis from acute miliary to chronic fibroid. These were exhibited in special jars designed by Professor Coplin.
392-402. *Specimens Illustrating Problems in Comparative Pathology.*—Permanently mounted in fluid. Including tumor from liver of horse, some lesions in lungs and other viscera of the lower animals.
403-417. *A Series of Fifteen Embryos* mounted in gelatin under watch glasses. They were intended more for demonstration of this method of exhibiting embryologic specimens than for the purpose of illustrating any special subject in embryology. They were prepared by H. E. Radasch, demonstrator of histology in the Jefferson Medical College.
418-482. *A Series of Sixty-five Specimens* mounted by a new gelatin method intended to illustrate special methods in the final observation and orientation of material for teaching morbid anatomy, and illustrating the following subjects: (a) Typhoid Fever, ulcers. (b) Intestinal Tuberculosis, secondary; ulcers. (c) Brains, showing secondary tumors and various phases of meningitis. (d) Kidneys, exhibiting typhoidal nephritis, typhoidal pyelitis, suppurative nephritis, chronic interstitial nephritis, etc. (e) Lungs, showing different stages of croupous pneumonia, catarrhal pneumonia, etc. (f) Lungs, showing metastatic sarcoma. (g) Lungs, showing various phases of tuberculosis. (h) Arteries, showing arteriosclerosis, thrombic arteritis, etc. (i) Glands from Hodgkin's disease. (j) Stomach, showing multiple erosions and another specimen of gastric ulcer, loaned by Dr. A. O. J. Kelly.

JOHNS HOPKINS UNIVERSITY:

WILLIAM H. WELCH AND W. G. M'CALLUM.

The Association is deeply indebted to the department of pathology of this institution for its loyal and liberal support of the Scientific Exhibit. At every meeting since its inauguration the university has sent complete specimen groups, illustrative of some topic prominently considered in the sections. A year ago fibroid tumors and amebic dysentery with its sequelæ were illustrated; this year arteriosclerosis. Professor Welch demonstrated the latter series formally as part of the official program. This added to the completeness of the symposium on the subject presented in the Section on Practice.

483. *Dissecting Aneurism of Aorta.*
484. *Traumatic Dissecting Aneurism.*
485. *Atheroma and Aneurismal Dilatation of Aorta.*
486. *Arteriosclerosis of Aorta with Calcification.*
487. *Arteriosclerosis-Atheromatous Ulceration and Calcification.*
488. *Fresh Diffuse Arteriosclerosis of Aorta.* Case of typhoid fever.
489. *Arteriosclerosis, Calcification and Ulceration of Sclerotic Plaques.*
490. *Arteriosclerosis* and occlusion of anterior descending coronary artery; chronic fibrous myocarditis; aneurismal dilatation of apex of left ventricle; thrombus formation.
491. *Arteriosclerosis of Aorta;* Cardiac Hypertrophy.
492. *Extreme Deforming Arteriosclerosis of Aorta.*
493. *Localized Arteriosclerosis of Aorta.*
494. *Arteriosclerosis;* Chronic Mitral Endocarditis.
495. *Fresh Disseminated Arteriosclerosis of Aorta.*
496. *Arteriosclerosis of Aorta* with dilatation and thrombus formation.
497. *Arteriosclerosis of Aorta;* thrombus formed on arteriosclerotic ulcer.
498. *Extreme Arteriosclerosis of Aorta* with Calcification.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

WINFIELD S. HALL.

This institution has contributed each year some new apparatus employed in research work in physiology. This is highly creditable to the department and has been greatly appreciated in the Scientific Exhibit. Professor Hall demonstrated the following apparatus as part of the official program. An article fully descriptive of these will appear in a later issue of THE JOURNAL.

499. *Apparatus to Determine the Index of Refraction of Water or of Glass.*
500. *Apparatus to Determine the Focal Distance of a Lens.*
501. *To Map the Fields of Indirect Vision* for Form and Color.

MEDICAL COLLEGE OF INDIANA, UNIVERSITY OF INDIANAPOLIS:

FRANK B. WYNN AND HELENE KNABE.

1. RESEARCH GROUP.

These specimens were obtained from an inspection of the suprarenal glands in 11,000 head of cattle. They were all gelatin preparations mounted uniquely in plate glass boxes. The latter were fitted in heavy oak frames in order to permit handling without danger of breakage.

502-505. *Supernumerary Adrenals.*—Found rather frequently in the ox and connected more or less intimately with the main gland.
506-509. *Hemolymph Nodes.*—These are often found intimately connected with the capsule of the adrenals and although generally much darker, may have the same color and from gross inspection might be mistaken for accessory adrenals. This series was shown for purposes of comparison with the preceding series.
510-516. *Extensive Black Pigmentation of Adrenals.*
517-520. *Similar Black Pigmentation of Hemolymph Nodes in Ox.*
521-537. *Series of Seventeen Tumors of the Adrenals.*—They varied in size from a cherry to the fetal head; exhibited extensive black, brown and orange pigmentation and extensive calcareous infiltration. These neoplasms were mostly sarcomata. A microscopic study of each is now in progress.

These were all gelatin preparations in Petri dishes set by sixes in heavy oak boards from which they were readily removable. They were designed by Dr. Wynn for purposes of class demonstration.

2. MISCELLANEOUS GROUP.

538-552. *Series of Tuberculous Specimens.*—(a) Lungs, showing acute miliary type, caseous pneumonia, chronic apical lesions with abscess formation, fibroid phthisis, etc. (b) Liver, miliary form. (c) Kidney, acute miliary and chronic types. (d) Spleen, miliary form. (e) Lymph nodes, caseation and acute invasion. (f) Pancreas, acute miliary type.
553-557. *Cancer Series.*—Designed to show especially metastasis in the liver, spleen and kidney.
558-567. *Liver Series.*—Illustrating alcoholic and biliary cirrhosis; passive congestion; fatty infiltration, etc.

MEDICO-CHIRURGICAL COLLEGE.

(A) MICROSCOPIC EXHIBIT: JOSEPH M'FARLAND AND GUTHRIE M'CONNELL.

568-617. This was the only microscopic exhibit. The sections were well prepared and each microscope was accompanied by an explanatory card or drawing. The demonstrations of those in charge added greatly to the effectiveness of the series, which was designed to show: Excessive cellular activity, edema, hyperemia, lymph-metastasis, lymphogenic extension, impregnation of blood vessels, cellular thrombosis, cellular embolism and other conditions in the primary seat of disease, predisposing to metastasis. There were also a number of specimens showing how secondary tumora develop from lymphovascular and blood vascular emboli.

(B) GROSS PATHOLOGIC EXHIBIT: JUDSON DALAND.

This was a very complete heart and vascular series. For the purpose of close inspection the specimens were exposed on platters.

618-623. *Arteriosclerotic Series.*—Showing obstruction of the coronaries, with secondary myocardial changes; fibrous thickening of the aortic valves; atheromatous changes and tendency to aneurismal dilatation of the ascending aortic arch.
624-627. *Series of Lesions of Aortic Valves.*—Showing varying degrees of chronic aortic valvulitis associated with left ventricular hypertrophy.
628. *Diffuse Sclerotic and Calcareous Changes* which have led to pouching off the aorta, deformed aortic and mitral leaflets, with stenosis at the latter orifice.
629-631. *Acute Vegetative Mitral Endocarditis.*
632-633. *Buttonhole Mitral.*
634. *Pedunculated Growth on Mitral Leaflet.*
635-636. *Mitral Stenosis. Enormous Hypertrophy.*
637-640. *Series Illustrating Extensive Hypertrophy and Dilatation.*—Secondary to the various cardiac lesions.
641-643. *Series Showing Fatty Degeneration* and fibrous changes of the myocardium.
644-645. *Ulcerative Endocarditis.*
646-652. *Series Illustrating the Various Types of Pericarditis* ranging from the bread-and-butter appearance of the acute fibrinous to the obliterating form.
653-655. *Aneurism of Left Ventricular Wall.*
656-660. *Series Illustrating Various Types Frequently Found in Aorta.*
661. *Aneurism of Subclavian* treated by wiring and electrolysis.
662. *Specimens from Same Case* (Dr. Wood).—Showing thrombus of left external iliac and embolus lodged in left popliteal artery.
663-667. *Miscellaneous Specimens.*

UNIVERSITY OF PENNSYLVANIA.

(1) LABORATORY OF SURGICAL PATHOLOGY: CHARLES H. FRAZIER AND GEORGE P. MULLER.

668-718. *Fifty Water Color Pictures, Enlarged Photomicrographs and Drawings,* designed to show the method of teaching surgical pathology at this institution.

They consisted of "pictorial groups" illustrating both microscopic and macroscopic phases of pathologic lesions. The group illustrating mammary carcinoma included a photograph of the patient, a water color of the breast in cross section after removal and lastly photomicrographs and drawings to show histopathologic structure. Each picture group was separately framed. In the absence of Professor Frazier, Dr. Muller demonstrated the collection, giving in detail the methods of teaching this subject at the university.

The "Pictorial Groups" were as follows: (a) Acute Catarrhal Appendicitis. (b) Acute Interstitial and Ulcerative Appendicitis, with and without perforation and concretion. (c) Chronic Interstitial Appendicitis. (d) Chronic Interstitial and Obliterating Appendicitis. (e) Mammary Gland, Scirrhus Carcinoma. (f) Mammary Gland: Medullary Carcinoma. (g) Mammary Gland: "Malignant Adenoma," a type in which the form of the acini is preserved, arising in this specimen from an outlying mammary lobule. (h) Mammary Gland, showing metastasis in lymph glands and the skin in extensive ulceration resulting from carcinoma. (i) Mammary Gland, recurrence at site of former incision; carcinoma nodules in pectoral muscle (j) Mammary Gland, adenoma, intracanalicular papillary fibroma. (k) Parenchymatous Goiter. (l) Epithelioma of Lip. (m) Carcinoma of the alveolar mucous membrane encircling inferior maxilla and resembling sarcoma of latter. (n) Hypernephroma of Kidney. (o) Periosteal Sarcoma, spindle celled. (p) Medullary Sarcoma of Bone. (q) Caries and Necrosis of Bone. (r) Repair of Bone After Fracture. (s) Myxosarcoma in Popliteal Space.

(2) WILLIAM PEPPER CLINICAL LABORATORY: D. J. M'CARTHY.

This very complete collection was confined entirely to the domain of neuropathology. The specimens were placed in shallow open jars so exposed as to show the lesion to best advantage. Accompanying pencil sketches were of great help to the observer in studying the specimens. Dr. McCarthy formally demonstrated the collection, which consisted of the following series:

719-727. *Specimens Illustrating the Vascular Supply of the Brain* as determined by areas of softening, due to obliterating endarteritis of the middle cerebral or its branches. Specimens showed areas of softening distributed as follows: (1) Broca's area and island of Reil. Clinically there was pure motor aphasia. (2) Angular gyrus. (3) First and second tempero-sphenoidal lobe. (4) Ascending parietal (post central) gyrus—lower two-thirds. Paralysis of arm and face. (5) Ascending frontal gyrus. Recent obliteration of vessel. Sudden paralysis of arm, face and to some extent of leg from hemorrhagic extravasation. (6) Softening and atrophy in the entire area of distribution of middle cerebral. (7-9) Softening following complete obliteration of the sylvian artery.
728-729. *Specimens of Obliterating Endarteritis* of terminal branches of the posterior cerebral showing softening in (1) cuneus. (2) fusiform and lingual lobe.
730-731. *Obliteration of Basilar* with softening of (1) superior

surface of cerebellum, (2) Inferior third of medulla with destruction of fillet and pyramids.

732-736. *Series Showing Multiple Areas of Softening* due to arterial disease.

737-739. *Series of Lesions Due to Disease of Venous System of Brain.* (1) Extensive venous thrombosis of the veins of Galen, straight sinus, lateral sinuses and venous sinuses supplying cerebellum. (2) Infiltrating venous hemorrhage affecting internal capsule, optic thalamus and caudate nucleus. (3) Venous hemorrhage limited to area of external capsule.

740-741. *Lesions Secondary to Hemorrhage* before birth. (1) Congenital absence of posterior third of right cerebral hemisphere. Child died soon after birth. Area between brain and dura was filled with a grumous fluid composed mainly of disorganized corpuscles. (2) Extensive organized subdural hemorrhage covering the entire left half of brain of a five-months fetus. Spontaneous abortion occurred while under observation in hospital.

742-744. *Series of Aneurisms of Cerebral Arteries.*

745-746. *Rupture of Cerebral Arteries.*

747-750. *Hyaline and Pseudo-Hyaline Exudates* into the Cerebral Ventricles.

751-760. *Series of Brain Tumors.* Endothelioma of left prefrontal lobe infiltrating the cortex. Fibro-sarcoma of left motor cortex. Sarcoma of left leg cortex. Sarcoma of left tempero-sphenoidal lobe. Glioma of middle lobe of cerebellum. Fibro-sarcoma of left tempero-sphenoidal lobe. Multiple sarcomata of brain. Infiltrating sarcoma of tempero-sphenoidal lobe. Myxo-sarcoma arising from choroid plexus—horse. Endothelioma of lateral ventricle—horse.

761-765. *Series Illustrating Tuberculosis of the Nervous System.* Tuberculous meningitis with area of calcification. Calcified area of tuberculosis of cerebellum. Pachymeningitis externa—tuberculous. Pachymeningitis interna—tuberculous. Multiple tuberculous tumors of the brain, one the size of a hazelnut on the left crus.

A number of the specimens shown were from the cases of Dr. C. W. Burr at the Philadelphia Hospital; others were from the cases of Drs. W. S. Wadsworth, J. H. Lloyd and W. H. Armstrong. The remainder were from Dr. McCarthy's cases.

COLLEGE OF MEDICINE, SYRACUSE UNIVERSITY:
GAYLORD P. CLARK.

766-767. *Physiologic Models of the Nervous System.*

These were designed by Dr. Clark and are used in teaching the arrangement of the principal pathways of the nervous system. They consist of serial sections made of wood, representing typical sections of the spinal cord and brain enlarged twelve diameters, and painted to indicate the relative masses of gray and white matter. Openings are cut in the white matter to correspond with the principal tracts of nerve fibers. The sections are arranged one above another on a vertical support. The neurons are represented by colored cords, with knots tied either in one end or in the course of each cord, to indicate the cell body, and the ends are frayed to suggest the dendrites and terminal arborisations. The colors are chosen to distinguish the afferent, ascending, descending and efferent fibers, the colors of the violet end of the spectrum being reserved for the first two sets, those of the red end for the last two, the brighter colors being used for the peripheral, the darker for the central fibers.

In the absence of Dr. Clark, Dr. Busch demonstrated the method of using the models for teaching purposes.

UNIVERSITY OF TEXAS, DEPARTMENT OF MEDICINE:
WILLIAM KEILLER.

768-772. *Series of Five Wax Casts* to represent the surface appearance and progressive dissections of a case of cystic goiter.

The casts were designed to place on record and demonstrate to students the complete surgical anatomy of a case of cystic enlargement of the thyroid gland which came to the dissecting room. A plaster-of-Paris mold was taken of the bust and of each successive dissection. The technic employed is as follows: After allowing the mold to dry and cool, it is then moistened with water, banked up at the edge with putty and into it is poured a melted wax composed of equal bulks of hard paraffin, white wax and stearin (this may be tinted by adding a very little artist's oil color, say yellow ochre and carmine for a flesh tint). The melted wax is laved up on the side by means of a flat bristle paint brush, the whole done slowly as the wax hardens. After one-fourth of an inch is set on all parts of the mold it is backed and strengthened by narrow strips of burlap steeped in wax and overlying each other, to give the cast strength with the least thickness. When the whole cast is about half an inch thick the mold and cast are immersed in cold water. In two or three hours the cast will shrink slightly and become easily separable from the mold. The cast is then, if necessary, partly carved and tinted with oil colors, the transparent colors being preferred as far as possible.

773. *Leaden Specimen Tray or Box* for the preservation and demonstration of anatomic or pathologic wet specimens.

It was designed by Dr. Keiller and consists of a shallow leaden tray, set in a heavy oak frame and covered with glass, and with tubular inlet for admission of the preserving fluid.

PHILADELPHIA GENERAL HOSPITAL:
(A) GROSS MUSEUM SPECIMENS: R. C. ROSENBERGER.

This was, in the main, a heart collection, and there is probably no finer in the country. The specimens were very carefully dissected, well preserved and the lesions skillfully exposed for inspection.

774-779. *Series Illustrative of Pericarditis* showing beautifully the fibrinous, fibrino-purulent, hemorrhagic, villous and adherent types.

780-807. *Endocarditis Series*—acute and chronic. These showed varying degrees of stenosis and insufficiency of the mitral and aortic orifices. Especially well illustrated were: Vegetations—at different stages and of various sizes. Ulcerative destruction of the leaflets. Valvular fenestration. Valvular deformities arising from sclerotic and calcareous changes.

808-810. *Series of Congenital Heart Anomalies.* Communication between ventricles; patulous ductus arteriosus. Patulous foramen ovale; one from a patient aged 72 years.

812-813. *Aneurism of Left Ventricle.*

814. *Organized Thrombus in Left Ventricle* extending into aorta

815. *Secondary Carcinomatous Nodules* in left ventricle.

816. *Aneurism of Innominate Artery.*

817-824. *Kidney Series* illustrating congenital cystic disease, hydronephrosis, nephrolithiasis, and tuberculosis.

(B) ROENTGEN RAY LABORATORY: MIHRAN K. KASSABIAN.

825-1025. *Series of Skiagrams* made in the hospital and classified as follows: (1) Foreign Bodies.—In various parts of the body, including bullets in the brain, eye, and methods of localization. (2) Fractures and Dislocations.—These were of nearly every known variety and included several cases of congenital dislocations of the hip joint both before and after reduction by Professor Lorenz. (3) Diseases of Bones and Joints.—These included tuberculosis, syphilis, rachitis, anomalous sacia, ostitis, periostitis, tumors and osseous diseases occurring in the course of nervous diseases, as hemiplegia, tabes dorsalis, syringomyelia, etc. (4) Lung Diseases.—Phthisis in its various stages, and the several varieties of pneumonia and pleurisy with effusion. (5) Heart and Aorta.—Hypertrophy, dilatation and displacement of heart; aortic aneurisms. (6) Renal, ureteral and vesical calculi. (7) Brain tumors and cysts, etc. (8) Dental Cases.—Unerupted teeth, necrosis, roots, etc.

1026-1125. *Transparencies.*—These were made by camera and reduced to a uniform size (4x5) and placed in two frames illuminated through ground glass from the back. These pictures showed more and sharper details than the prints and negatives.

1126. *Stereoscopic Apparatus.*—This apparatus is unique, producing a perspective or relief effect in the picture. This relief effect is particularly valuable to the surgeon in diagnosing fractures and dislocations and foreign bodies, as it shows the amount of overlapping of fragments, extent and character of the dislocation and the exact location of foreign bodies.

1127-1167. *Photographs of Cases* under *x*-ray treatment for malignant growths, skin diseases, etc. Dr. Kassabian also exhibited a number of skiagrams from his private collection.

PENNSYLVANIA HOSPITAL:
WARFIELD T. LONGCOPE.

This collection was entirely in illustration of Hodgkin's disease. Seven cases afforded the material of which Dr. Longcope has made careful study. He made a formal demonstration of the series as part of the official program.

1168. *Case 1.*—Photograph of the patient before death. The specimens exhibited consisted of two huge wing-like masses of enlarged lymph nodes extending on either side of the trachea; also enlargement of the submaxillary, subhyoid, superior mediastinal and retroperitoneal nodes; and the axillary group on one side. Accompanying drawings represented the histologic appearance of the lymph nodes.

1169. *Case 2.*—Photograph showing typical appearance of the patient. The specimen showed extensive enlargement of the cervical lymph nodes on each side of the retropharyngeal nodes and the submaxillary groups. Reproductions from drawings to show histologic character.

1170. *Case 3.*—Enlargement only of a few lymph nodes on one side of the neck. No involvement elsewhere.

1171. *Case 4.*—Enlargement of the retroperitoneal lymph nodes, those along the iliac vessels and in the left inguinal region.

1172. *Case 5.*—Spleen in Hodgkin's disease. Specimen shows extensive involvement of the organ by secondary nodules. Reproductions from drawings to show the histologic changes in the lymphomatous nodules.

1173. *Case 6.*—Spleen from case of Hodgkin's disease presenting much the same appearance as the preceding.

1174. *Hodgkin's Disease. Lung.*—The specimen demonstrated the mode of involvement of the lung by lymphomatous nodules. The bronchial lymph glands were markedly involved.

Microscopic sections from various cases were shown to demonstrate the special phases of lesions.

THE HENRY PHIPPS INSTITUTE:
LAWRENCE F. FLICK AND HANDLE C. ROSENBERGER.

This beautiful collection was highly creditable to the institution from whence it came.

1175-1193. *Series Illustrative of Tuberculosis in Man.*—The preparations illustrated well the following lesions: Incipient apical tuberculosis—unmixed infection. Ulcerative tuberculosis at the apex with complicating pneumonia at base. Ulcerative type with

recent hemorrhages. Ulcerative form of secondary miliary invasion throughout lung. Ulcerative form with peribronchial infiltration. Cavity formation of all types, from those small in size to those occupying a whole lobe or the entire lung; cavities surrounded by thick fibrous walls. Bronchiectasis associated with cavity formation. Greatly thickened pleurae associated with tuberculosis. Tuberculous lesions of the intestinea. Tuberculous leptomeningitis.

ZOOLOGICAL SOCIETY OF PHILADELPHIA:

C. Y. WHITE.

This exhibit was devoted to tuberculosis in the lower animals. The specimens were beautiful Kaiserling preparations and were formally demonstrated by Dr. White as part of the official program. This collection together with the preceding made the exhibit of the lesions of tuberculosis in man and the lower animals very complete.

1194-1196.—*Tuberculosis in Cattle.*—The specimens showed the early, moderate and advanced lesions of "grape disease" of the pleura in cattle.

1197. *Tuberculosis of the Liver from a Nygholae Deer.*—The specimen showed well the chronic fibro-caseous form often seen in herbivora.

1198. *Tuberculosis of Lungs of a Goat.*

1199. *Tuberculosis of Lungs of a Bear.*—The two preceding specimens showed the lesions of the lungs often observed in carniverous animals, i. e., widespread tuberculosis with the formation of cavities.

1200. *Tuberculosis of Lungs in a Lemur.*—The whole of one lung showed an acute tubercular pneumonia.

1201-1212. *Series of Tuberculous Spleens from Monkeys.*—The various stages of the tuberculous process were beautifully shown. In some of the organs were pinhead sized tubercles; others contained nodules the size of a cherry or walnut. One spleen showed almost complete caseation.

1213-1214. *Tuberculosis of Spleen in Children.*—These were exhibited for purposes of comparison with the tuberculous spleen in monkeys. The similarity is striking.

1215-1223. *Generalized Tuberculosis in Monkeys.*—All organs were shown in various atages of the tuberculous process.

INDIANA STATE MEDICAL SOCIETY.

FRANK B. WYNN.

This society enjoys the distinetion of being the parent of the Scientific Exhibit idea. The organization has not only maintained its own annual exhibit of this character for the past seven years, but has been a contributor to the exhibit of the Association the year before and every year since the Scientific Exhibit was inaugurated.

1224. *Specimen of Cor Bovinum.*—Weight in fresh state, 1,544 grams. Incompetence of mitral leaflets. The patient had taken forty-five minim doses of tinctnre of digitalis four times daily for a long period, with marked benefit in relief of symptoms. This may have had something to do with the enormous hypertrophy. Case of Dr. Wynn.

1225. *Tuberculous Pericarditis.*—Of long standing as indicated by thick fibrous walls (measuring a centimeter at points). Adhesions finally broken down by extensive caseation involving the entire cardiac surface. Great hypertrophy. Case of Dr. Guido Bell.

1226. *Large Myxofibromatous Polyp,* one by three inches in dimensions, attached one inch above the ileocecal valve, and protruding into the cecum. Death occurred with symptoms of obstruction. Operation refused. Case of Dr. L. A. Hyde.

1227. *Myxofibromatous Polyp of Stomach.*—Two inches in length by a half in dismeter. Attachment one inch from pyloric constriction. Polyp deflected and protruded into pylorus, producing uncontrollable vomiting and death. Case of Dr. E. Wishard.

1228. *Round-Celled Sarcoma* the size of a walnut in the intestinal wall, surrounded the opening of the common duct and produced extreme icterus. Metastases in liver. Case of Dr. Sexton.

1229-1233. *Series Showing Very Typical Arteriosclerotic Changes* in the splenic artery, coronary vessels, aorta, mitral and aortic valves.

1234-1239. *Series of Pedunculated Masses* obtained from the abdomen of the ox. They are produced by torsion, no doubt, from the peristaltic movement of the intestines. The masses contained fat, fibrous and necrotic tissue, some of which were infiltrated with lime.

GOVERNMENT HOSPITAL FOR THE INSANE:

I. W. BLACKBURN.

This exhibit was intended primarily to show the exhibitor's methods of photographing pathologic specimens, coloring the same, and the making of bromid enlargements for exhibition and teaching purposes. Crayon work on these enlargements with the object of subsequent half-tone or photo-lithographic reproduction for book illustration, was a feature of the work. The photographs exhibited showed a large variety of gross pathologic lesions of the brain and other organs, associated with cases of mental disease. Cerebral arteriosclerosis was illustrated by numerous carefully prepared dissections reproduced by photographs and bromid enlargements. This is the third year that Dr. Blackburn has contributed to the Scientific Exhibit. Those who witnessed his formal demonstration of this artistic collection thoroughly enjoyed it. The exhibit consisted of the following:

1240-1263. *Bromid Enlargements* of various pathologic subjects.

1264-1343. *Eighty Colored Photographs* showing the exhibitor's method of using color in the preparation of subjects for book illustration.

1344-1418. *Seventy-five Photographs* of pathologic subjects illustrating gross lesions of the brain and other organs associated with mental disease.

1419-1426. *Series of Wax Brain Casts.* Prepared by the exhibitor's method.

UNITED STATES BUREAU OF CHEMISTRY:

H. W. WILEY.

This exhibit was in illustration of food adulteration, especially of imported food products. The demonstration of Dr. Wiley, as part of the official program, was made very practical and interesting. The following articles were shown:

1427-1466. *Samples of Food Adulterations,* especially of imported food products. They included the following: Olive oil adulterated with cotton-seed oil. Olive oil adulterated with 15 per cent. peanut oil. Olive oil adulterated with cotton-seed oil and mislabeled as to size of bottle. Strawberry pulp containing salicylic acid and benzoic acid. Egg albumin preserved with salicylic acid. Fruit juice preserved with salicylic acid. Strawberry preserves colored with coal-tar dye. Strawberry preserves colored with cochineal. German sausage preserved with benzoic acid. German sausage preserved with boric acid, the use of which is prohibited by German law. German aansage preserved with aluminium acetate. Strawberry preserves colored with anilin dye, and preserved with salicylic acid. Rhine wine preserved with salicylic acid. Greclan wine nreserved with salicylic acid. Orangeade labeled as containing benzoic acid and being colored. Jam labeled as containing benzoic acid and glucose. Misbranded cherries; contains no creme de menthe; colored with an anilin dye. Alleged vegetable color showing a method of labeling. Artificial vinegar, colored with anilin dye and preserved with salicylic acid. Maraschino cherries, colored with anilin dye. Fruit syrup adulterated with glucose. Ginger ale preserved with benzoic acid. Tomato catsup preserved with benzoic acid. Orangeade colored with anilin dye and preserved with salicylic acid. Alleged vegerable color containing coaltar dye. Alleged vegetable color showing method of relabelling. Sauterne wine containing 460 milligrams of sulphurous acid per liter, of which 125 milligrams are free. Sanlerne wine preserved with salicylic acid. Sanlerne wine containing 500 milligrams of sulphurous acid per liter, of which 110 milligrams are free. Sauterne wine containing 400 milligrams of sulphurous acid per liter, of which 80 milligrams are free.

WILLIAM G. SPILLER, PHILADELPHIA (PRIVATE COLLECTION.)

This collection was a beautiful series of brain specimens illustrating various forms and situations of tumors of that organ. Among these were glioma, endothelioma, sarcoma, carcinoma and fibroma. Dr. Spiller made an interesting formal demonstration of the collection.

1467. *Metastatic Carcinoma* surrounding the optic chiasm and extending into one orbit.

1468. *Endothelioma* growing from the dura. The underlying cortex was found much atrophied.

1469. *Large Fibroma of the Cerebello-pontile Angle,* implicating the acoustic and facial nerves.

1470. *Fibroma of Cerebello pontile Angle,* causing internal hydrocephalus.

1471. *Specimen of Meningitis in Plaques.*—Tuberculosis plaques, flat, adherent and confined largely to one parietal lobe and giving the symptoms of brain tumor. This is a very rare form of tuberculosis and does not seem to have attracted attention in this country.

1472. *A Brain Showing Arrest of Development* of the cerebral hemisphere of one side and of the cerebellar hemisphere of the opposite side.

JAY F. SCHAMBERG, PHILADELPHIA (PRIVATE COLLECTION.)

This excellent collection of photographs of dermatological cases was arranged in two groups illustrative respectively of smallpox and cutaneous syphilis.

1473-1502. *Series of Photographs Illustrating Smallpox Eruptions.*

(1-4) An unvaccinated lad showing eruption on the fourth, eighth and eleventh days, and after recovery.

(5-10) Six serial photographs exhibiting the evolution of the smallpox lesions. Photographs show patient on the fourth, sixth, seventh, ninth and fourteenth days of eruption, and after recovery.

(11-12) Smallpox in unvaccinated mulatto. Eruption extensive but not deep seated in the skin, hence but slight scarring. Eyelids and features tnmefied.

(13) Severe case showing characteristic distribution of the eruption. Face completely covered with confluent lesions; extremities profusely attacked; comparative sparsity of lesions on the abdomen.

(14-15) These showed the large hemispheric pustules such as are often seen in unvaccinated subjects.

(16) Smallpox in unvaccinated girl of 14. Lesions on the arms exhibited the so called secondary umbilication due to partial collapse of the pustules and sinking in of the centers.

(17) Photographs representing mild and severe attacks in two unvaccinated children. In the mild case the lesions were discrete; in the other confluent, producing swollen and distorted features. The latter patient succumbed.

(18) Well pronounced discrete smallpox in a girl of 16. The lesions were confluent in clusters, due to slight abrasions and congestion of the skin at points previous to the attack.

(19) Hemorrhagic smallpox of the purpuric variety. The patient, a pregnant woman, contracted the disease from a mild at-

tack in her father-in-law, the nature of which was not suspected. She gave birth to a living child at term and expired a few days afterward. The eruption consisted of pinhead sized petechiæ covering the entire body with here and there larger ecchymoses.

(20) Infant of patient with hemorrhagic smallpox. The disease was contracted in utero and the eruption appeared on the ninth day after birth. The child was vaccinated on the second day. A tardy vaccine vesicle appeared, but it was not sufficient to prevent the development of fatal smallpox.

(21-22) Two cases of discrete smallpox; one in an unvaccinated young man; the other in an old man not vaccinated since infancy. The lesions in the former were large, full pustules; in the vaccinated patient they were distinctly modified. Vesiculation and pustulation were rapid, crusting soon took place and the crusts dropped off in a week. These cases run a very rapid course and when the modification is pronounced may offer considerable difficulty in diagnosis.

(23) Smallpox in child of 6, showing confluent blackish crusts covering the entire face and presenting a most hideous appearance. The patient was neglected at home and the blackish mask over the face resulted from the drying of the pustular contents of ruptured lesions and the admixture of dirt.

(24) Case showing the profusion of lesions on the hands in severe case of smallpox. The hands become swollen, painful and a source of great distress to the sufferer.

(25) Soles of the feet showo with the epidermal excavations left after the removal of the inspissated pocks. Patients while away their convalescence by digging out with a penknife the encapsulated lesions of the palms and soles.

(26) Extensive scarring of the face and baldness following a severe attack of smallpox. Also lost an eye from severe corneal ulceration.

(27) Extensive pigmentation of the body over the areas occupied by the varlolous lesions. After an attack of smallpox the sites of the lesions remain red for several months and in persons of swarthy complexion they may later assume a café au lait tint.

(28) Abscessed eyeball from corneal ulcer.

(29) Gangrene of skin of thigh during third week of attack. Recovery.

1503-1517. *Series of Photographs in Illustration of Cutaneous Syphilis.*

(1) Photograph showing a large chancre of the chin in a young woman who worked in a laundry in a disreputable neighborhood. The lesion is alleged to have resulted from scratching an acne lesion after having handled linen soiled with discharges.

(2) Maculo-papular syphilide of the face in a woman following the roseola.

(3) Severe papulo-tubercular syphilide most prominent on the face. Patient had early symptoms of meningeal involvement, but recovered under vigorous treatment.

(4) Generalized papulo-pustular syphilide of the varioloform type. Patient was sent to the Municipal Hospital as a case of smallpox. Fortunately, she was promptly vaccinated and protected against smallpox.

(5) Acneiform syphilide involving the face, trunk and extremities. This patient had a long standing acne, and it was difficult to tell which of the facial lesions were acne and which were syphilitic.

(6-7) Extensive annulo-papular syphilide on the face of a colored girl. This variety of syphilide is much more common in negroes than whites.

(8) Large papular syphilide which during the epidemic prevalence of smallpox was suspected of being variolous.

(9) Case of syphilide sent to the Municipal Hospital as smallpox, and completely deceived two professors in one of the medical schools. The patient later developed ulcerated lesions on the skin and in the throat and almost perished.

(10) Types of circinate squamous syphiloderm on the palms of the hands.

(11) Ulcerative syphilide on the lateral aspects of the heel of six months' duration.

(12) Tubercular ulcerating syphilide of the face in a woman who grossly neglected early treatment.

(13) Hutchinson's teeth in a child with hereditary syphilis. The test teeth are the upper central incisors. These were crescentically notched and distinctly peg-shaped.

(14) Syphilitic dactylitis in a young man 19 years of age with hereditary syphilis.

(15) From same patient as preceding and showing gumma protecting from the forehead.

I. W. DRAPER MAURY, NEW YORK (PRIVATE COLLECTION).

This exhibit represented research work from the department of surgical pathology at Columbia University. The collection was demonstrated by Dr. Maury in connection with his paper before the Section on Surgery, on "Twine in Lieu of the Elastic Ligature for Performing Gastroenterostomy."

1518-1527. *Series of Gastroenterostomies Performed on Dogs and a Pig.* These experiments seemed to prove the advantage of twine over the elastic ligature. Twine cuts through when inserted by the triangular stitch, as a result of deprivation necrosis, while the elastic stitch as inserted by Dr. McGraw cuts through by simple pressure.

F. C. BUSCH, BUFFALO (PRIVATE EXHIBIT).

1528-1530. *Series Showing Successful Grafting of the Suprarenal in the Kidney of a Rabbit.*

The grafts apparently carried on the suprarenal function after all other suprarenal tissue had been removed. These specimens were demonstrated by Dr. Busch as part of the official program.

MYRON METZENBAUM, CLEVELAND (PRIVATE EXHIBIT).

1531-1580. *Pictures Representing the Results of Typical Experiments with Radium*, thorium, uranium, pitchblend, and other radioactive substances, and showing their actloo on photographic plates.

Some pictures were shown indicating the effect of metallic aluminium on photographic plates. Photographs were shown of a case of very extensive lupus healed by the aid of radium after the case had been treated unsuccessfully for a year with the *x*-rays.

JOHN G. WILSON, MONTROSE, PA. (PRIVATE EXHIBIT).

1581. *Radiogram* of the hand and forearm.

1582. *Radiogram* of shoulder, showing fracture of the surgical neck of the humerus.

These were remarkably clear and perfect *x*-ray pictures.

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Sept. 10, 1904:

Gregory, Junius C., asst.-surgeon, reports for temporary duty at Fort Miley, Cal.

Godfrey, G. C. M., asst.-surgeon, granted seven days' leave of absence.

Reilly, John J., asst.-surgeon, sick leave of absence extended thirty days.

Rockhill, Edward P., asst. surgeon, ordered to proceed from Presidio of San Francisco to Fort Miley, Cal., for temporary duty.

Mabray, William C., contract surgeon, granted one month's leave of absence from Sept. 4, 1904.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Sept. 10, 1904:

Urie, J. F., surgeon, detached from the *Missouri* and granted sick leave for three months.

Drake, N. H., surgeon, detached from the *Lancaster* and ordered to the *Hancock*.

Guest, M. S., P. A. surgeon, ordered to the *Lancaster*.

DeValin, C. M., P. A. surgeon, unexpired portion of leave revoked; ordered to duty at the Naval Hospital, Philadelphia.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital Service for the seven days ending Sept. 7, 1904:

Brooks, D. D., surgeon, granted leave of absence for thirty days from Sept. 2 on account of sickness.

Blobdy, W. C., P. A. surgeon, granted leave of absence for seven days from Aug. 26, 1904, under the provisions of Paragraph 191 of the Regulations.

Kerr, J. W., P. A. surgeon, granted leave of absence for four days from Sept. 5, 1904, in accordance with the provisions of Paragraph 191 of the Regulations.

Robinson, D. E., P. A. surgeon, granted leave of absence for two days from Sept. 6, 1904, under the provisions of Paragraph 191 of the Regulations.

Hunt, Reid, pharmacologist, detailed to represent the service at meeting of American Pharmaceutical Association at Kansas City, Mo., Sept. 5-10, 1904.

Ballard, J. C., A. A. surgeon, granted leave of abence for seven days from Sept. 5, 1904.

Mackall, B. McV., A. A. surgeon, granted leave of abence for seven days under the provisions of Paragraph 210 of the Regulations.

Roehrig, A. M., pharmacist, granted leave of absence for thirty days from Sept. 12, 1904.

Stearns, W. L., pharmacist, granted leave of absence for twenty nine days from Sept. 6, 1904.

O'Gorman, T. V., pharmacist, department letter of Aug. 10, 1904 granting leave of absence for thirty days from Aug. 18, 1904 amended so that said leave shall be effective from Aug. 24, 1904.

La Grange, J. V., pharmacist, granted leave of absence for twenty three days from Sept. 15, 1904.

Holsendorf, B. E., pharmacist, department letter of Aug. 6, 1904 granting leave of absence for thirty days from Sept. 1, 1904 amended so that said leave shall be for twenty-four days only.

BOARD CONVENED.

Board convened to meet at Washington, D. C., Oct. 3, 1904, for the examination of candidates for appointment as assistant surgeon in the service. Detail for the board Surgeon W. P. McIntosh, chairman; Surgeon G. M. Guiteras; P. A. Surgeon John F. Anderson, recorder.

PROMOTIONS.

Assistant Surgeon D. H. Currie commissioned as P. A. surgeon, to rank as such from July 28, 1904.

Assistant Surgeon J. M. Holt commissioned as P. A. surgeon, to rank as such from July 27, 1904.

Assistant Surgeon F. E. Trotter commissioned as P. A. surgeon to rank as such from July 27, 1904.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Sept. 9, 1904:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Aug. 27-Sept. 3, 1 case.
Florida: Jacksonville, Aug. 27-Sept. 3, 1 case.
Illinois: Chicago, Aug. 27-Sept. 3, 5 cases.
Louisiana: New Orleans, Aug. 27-Sept. 3, 4 cases, 1 case imported.
Massachusetts: Aug. 27-Sept. 3, Lawrence, 1 case; North Adams, 22 cases, 1 death.
Michigan: At 51 localities, Aug. 20-27, present.
Ohio: Cincinnati, Aug. 19-26, 1 case.
Pennsylvania: Aug. 27 Sept. 3, Philadelphia, 1 case; Williamsport, 1 case.
Tennessee: Aug. 27-Sept. 3, Memphis, 1 case; Nashville, 3 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, July 24-Aug. 7, 549 cases, 210 deaths.
Canada: Winnipeg, Aug. 13-20, 1 case.
France: Paris, Aug. 13-20, 8 cases, 1 death.
Great Britain: Glasgow, Aug. 19-26, 2 cases; Aug. 13-20, London, 2 cases; Nottingham, 2 cases; Manchester, Aug. 6-20, 6 cases.
India: Bombay, Aug. 2-9, 8 cases; Karachi, July 31-Aug. 7, 3 cases.
Italy: Palermo, Aug. 13-20, 37 cases, 4 deaths.
Mexico: City of Mexico, Aug. 14-21, 12 cases.
Russia: St. Petersburg, Aug. 6-13, 7 cases, 2 deaths; Warsaw, July 16-30, 44 deaths.
Spain: Barcelona, Aug. 10-20, 8 deaths.
Turkey: Alexandretta, Aug. 6-13, 6 deaths; Beirut, Aug. 6-20, present; Constantinople, Aug. 7-21, 16 deaths; Smyrna, Aug. 7-14, 2 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, July 24-Aug. 7, 6 cases, 2 deaths.
Ecuador: Guayaquil, Aug. 3-10, 2 deaths.
Mexico: Aug. 20-27, Coatzacoalcos, 5 cases, 1 death; Vera Cruz, 4 cases; Aug. 21-27, Merida, 3 cases, 2 deaths; Tehuantepec, 1 death.

CHOLERA.

India: Bombay, Aug. 2-9, 34 deaths; Calcutta, July 30-Aug. 6, 4 deaths.
Persia: Teheran, Aug. 6, nearly extinct.
Turkey: Bagdad and vicinity, July 16-23, 314 cases, 138 deaths.

PLAGUE.

Brazil: Rio de Janeiro, July 24-Aug. 7, 15 cases, 6 deaths.
China: Amoy, July 16-30, 15 deaths estimated.
Egypt: July 30-Aug. 6, 12 cases, 7 deaths.
India: Bombay, Aug. 2-9, 5 cases, 51 deaths; Calcutta, July 30-Aug. 6, 8 deaths; Karachi, July 31-Aug. 7, 5 cases, 2 deaths.
Peru: Eten, Sept. 1, present.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

International Congress of Arts and Science, Department of Medicine, at Universal Exposition, St. Louis, September 19-25.
Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.
Colorado State Medical Society, Denver, October 4-6.
Idaho State Medical Society, Lewiston, October 6-7.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, October 12-14.
Assn. of Military Surgeons of the U. S., St. Louis, October 10-15.
Mississippi Valley Medical Association, Cincinnati, October 11-13.
Vermont State Medical Society, Rutland, October 13-14.
New York State Medical Association, New York, October 17-20.
Medical Society of Virginia, Richmond, October 18-21.

CALIFORNIA ACADEMY OF MEDICINE.

Meeting held in San Francisco, Aug. 23, 1904.

The President, Dr. T. W. Huntington, in the Chair.

Bacterial Etiology of Gallstones.

DR. LARTIGAU described his experimental studies on the production of gallstones. At least two important conditions must be fulfilled in order to produce gallstones experimentally. In the first place it is necessary to infect the bile passages with organisms of low virulence, for if virulent organisms are used a serious infection results, but no gallstones are produced. The second factor necessary is an obstruction to the outflow of bile, for without this no gallstones will result from the infection. By complying with these two conditions Dr. Lartigau was able to produce gallstones by infections with a variety of organisms, among them the colon bacillus, the typhoid bacillus, the hog cholera bacillus, the bacillus pyocyaneus, staphylococci, and even tubercle bacilli. Stagnation of the bile was produced by placing bits of cotton in the mouth of the gall bladder and by partially ligating the duct. It made little difference which organism was used provided the above-named conditions were complied with, but it seemed as if the motile bacteria were more likely to give rise to stones. Pure cultures and mixed cultures were equally effective. The shortest time necessary to produce a stone was six weeks, but usually it took from four to twelve months. The longer the time, the larger was the stone. The reaction of the bile made but little difference. After infection the bile became more watery and of a lighter color. No relation could be discovered between the nature of the infection and the chemical character of the stone. The introduction of sterile material such as silk or sand did not give rise to gallstones. It seems probable that the infection in man is by way of the portal vein and not through an ascending infection of the biliary passages. A number of facts favor this view. Adami and Ford have elaborated the theory that there is a constant passage of bacteria through the mucosa of the intestines. The bacteria of cholecystitis are not those commonly found in the duodenum. If the common duct be tied, we get an infection of the bile passages. Finally, if an enteritis be caused by the administration of arsenic or bichlorid of mercury, and if then the animal is fed with some easily recognized organism, as the *Bacillus prodigiosus*, this organism may be found in the bile passages. From a consideration of these facts it seems not only possible, but probable, that the infection of the gall bladder in man is by way of the portal vein.

DISCUSSION.

DR. W. W. KERR asked: What is the condition of the wall of the gall bladder in these experimental animals? Is it not possible that carcinoma of the biliary passages might give rise to gallstones? It would produce the necessary stasis and the diseased condition of the wall might favor the formation of stones. The ordinary duration of a carcinoma would also allow time for the formation of stones. Cholesterin stones are probably produced by a perverted secretion of the mucous membrane of the gall bladder.

DR. GEORGE BLUMER mentioned Cushing's suggestion that agglutinated clumps of typhoid bacilli might form the nuclei of gallstones, and asked if there was any evidence of such a process in the present series of experiments. Human stones differ from those produced experimentally in that they are present in very great numbers in most cases, and all the stones seem to be of about the same size.

DR. HUNTINGTON asked if normal bile is sterile. The stasis is an important factor in the infection of such a series of tubes as the bile passages. It has been shown, for example, that the injection of virulent bacteria into the normal appendix is without effect, whereas if the appendix be ligated a severe appendicitis will result. Recurrence after the removal of gallstones is not very common. According to Mayo, it occurs in from 5 to 6 per cent. of all cases.

DR. LARTIGAU stated that the gall bladders in his animals showed a thickened mucous membrane, with some cicatricial tissue and some necrosis. Many gall bladders containing stones show adenomatous growths resembling carcinomata. He was not prepared to say what effect the agglutination of bacilli might have on the formation of gallstones. As is the case with many other fluids in the body, ordinary cultures made from the bile are usually sterile, but by special methods, using large quantities of bile in large amounts of bouillon, a few organisms can usually be demonstrated to be present even in normal bile.

Maldevelopment of the Ear.

DR. C. M. COOPER exhibited a young man who complained of dizziness. The left external ear was small and deformed, the external auditory canal closed. In such cases the middle and internal ears also are usually poorly or not at all developed. In this case, however, the enstachian canal is open and the middle ear can be inflated. An examination with the *x*-ray shows the presence of the semicircular canals and a fully developed mastoid bone. The right side of the tongue is somewhat smaller than the left, and when protruded the tongue deviates somewhat to the right. The right side of the palate is paretic. The posterior cervical glands are enlarged. The condition is probably due to a congenital syphilis.

DR. STAPLER asked about the possibility of the deformity of the ear being a sign of degeneracy. The general intelligence of the patient should be examined and his family antecedents gone into.

DR. COOPER stated that the boy was quite bright and that the paresis in his mouth was typical of congenital syphilis.

A New Method of Examination with the X-Ray.

DR. C. M. COOPER described a new method of examining the abdomen with the *x*-ray. The patient lies face downward on a piece of canvas and the *x*-ray is placed beneath him. The colon is then blown up with gas and at the same time he is exam-

ined with the fluoroscope. By this method the spleen and kidneys can be seen and tumors of these organs differentiated from those of neighboring organs.

DR. H. C. MOFFITT stated that he could confirm the value of Dr. Cooper's method. He believed it more satisfactory than the older method of distending the colon and then using percussion to differentiate the spleen from the kidney. It may prove of great service in the examination of the left hypochondrium.

THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, June 2, 1904.

The President, Dr. Richard C. Norris, in the Chair.

Report of a Case of Ovarian Cyst with Retained Menstrual Blood.

DR. MARIE K. FORMAD reported a patient, 45 years of age, single, who had never menstruated and always had a large abdomen, but suffered no discomfort nor pain from it. Six or seven weeks before coming to the hospital she noticed that the abdomen became rapidly larger and the skin tense. Her feet began to swell, and she had dyspnea when going upstairs. Otherwise she felt well and worked at her trade, that of an operator in a hosiery mill, until three days before she entered the hospital, April 28, 1904. Abdominal inspection showed enlargement of the abdomen, most prominent on the left side; dullness on percussion to and above the umbilicus. On palpation, the mass fluctuated, fluid seemed to be encysted, as there was no bulging in flanks, nor change in location of tumor with patient in different positions. The right side was tympanitic to median line below the umbilicus. The vaginal examination showed vagina very short; absence of cervix. Bulging of both fornices. Uterus not palpable. A clinical diagnosis was made of bicornate uterus with retained menstrual secretion. Correct diagnosis: Multilocular ovarian cyst. Complete congenital atresia of the uterus. Left horn of uterus was dilated and ran out into the fallopian tube and directly passed into a single loculus of the multilocular cyst. Right tube ended in blind extremity. In the cornu just outside of the occlusion a tubal calculus was found.

DISCUSSION.

DR. L. J. HAMMOND—This very instructive case is the exception, not the rule, in ovarian cystoma, the typical fluid found being characteristically straw colored. This chocolate-colored content is not uncommonly found in the broad ligament cysts of the paroöphoritic type. It is instructive, therefore, to note this condition of papillomatous change existing in ovarian cysts. These masses, as described in this specimen, might readily account for the blood-mixed fluid found in such large quantity in the cyst.

DR. FORMAD—This is not a broad ligament cyst, but an ovarian cyst. This was shown by the microscopic examination.

The Ultimate Results of Induced Labor for Minor Degrees of Pelvic Contraction.

DR. RICHARD C. NORRIS read a paper reporting in detail thirty cases, with their results, for mother and child, the degrees of contraction varying in the conjugate diameters between 8 and 10 cm. There was neither maternal mortality nor morbidity. The infantile mortality was 10 per cent. after following the histories of the children subsequent to their leaving the hospital. Dr. Norris took issue with those who recommend hasty cesarean section for these grades of deformity. He quoted Williams' statement that hardly more than 50 per cent. of the infants survive the first few months of life, and said that that statement could only be true of induced labors for high grades of contraction, a field no longer to be tested by induced labor, but by the elective cesarean section. He also referred to Reynolds' statement that cesarean section is indicated when with any definite pelvic contraction there is a history of repeated childbirths during previous operative labors and for healthy primiparæ with conjugates between three and four inches, that the amount of difficulty which will occur should be estimated by observations of the progress of labor; but that the possibility that an indication for the cesarean section may arise should always be borne in mind in such a case, and that all the preparations for it should be made beforehand, or at least during the first stage of labor. Norris referred to his tables and asserted that it was in just such cases that his best results were obtained by induction of labor, not more than four weeks, and usually two weeks before term. The assistance given Nature by skillful induced labor, and the employment of the Trendelenburg-Wellcher posture, had repeatedly avoided the necessity for a difficult operative delivery which ordinarily gives the high fetal mortality. He discussed the difficulties of accurate estimation of the duration of pregnancy and outlined the plan he followed to eliminate, so far as possible, the induction of labor at too early or too late a period of pregnancy. An analysis of his tables of thirty cases was presented and a plea made for the adoption of this method of treatment in place of the hasty and oftentimes spectacular cesarean section which, in his judgment, had sometimes been an exhibition of experimental and unnecessary surgery.

DISCUSSION.

DR. GEORGE M. BOYD—While Reynolds may do a long series of cesarean sections, and Norris still another series of induction of premature labor without death, we do have cases of death from cesarean section and from induction of premature labor. Dr. Norris is to be congratulated on his results, which show a much lower fetal mortality than many of us have enjoyed. It has been the high fetal mortality which has caused many to refrain from performing the induction of premature labor. In my own experience in the Lying-in Charity for fifteen years, I confess that I have only in exceptional cases resorted to induction of labor, because of my inability to measure the length of gestation. It seems to me there must almost always exist a latitude of two or three weeks, and it is just that latitude which makes the operation uncertain. If the operation is of any real benefit it must be done sufficiently early. Then, again, some patients will go into labor right after the introduction of one or two bougies, and other patients not until after many hours. In some cases I have seen the unfortunate rupture of the membranes with the best operators. There is some danger also of striking the placental site, and some slight danger from infection, so that fearing the early rupture of the membranes, I have preferred to allow my patients to go to term. I feel that the only really accurate way of measuring the pelvis is by the test of labor and noting whether the head is or is not adapting itself to the birth canal. So far as my experience goes I feel that the patient would be best served by permitting her to go to term, and after the test of labor, resorting to the operative measures that seem best indicated.

DR. DANIEL LONGAKER—It seems to me that the indications for this particular operation are clearly set forth in limiting the induction of premature labor to the lesser degrees of pelvic contraction. Going back some considerable time in my own experience, I remember different cases in which the operation of induced premature labor was ill-advisedly applied to degrees of pelvic narrowing which were entirely too great to permit of even the safe delivery of a child that had only reached the twenty-eighth week of gestation. For instance, a child that had not attained a weight of more than five and a half pounds, and, as nearly as we could determine, a period of gestation of from twenty-eight to thirty weeks, with a difficult extraction in a woman whose direct conjugate was estimated to be 7½ cm., or a little under, too great a degree of contraction to permit safe extraction, and the child had to be delivered by version. If one selects the operation for that class of cases it must fall into disrepute. That particular woman was safely delivered twice after that by symphysectomy of a living baby of large size at term. The cases in which induced premature labor will have brilliant results are the lesser degrees of contraction, the direct conjugate being not under 8 cm. I do not know whether I am correct in my conclusion, but my impression is that in these cases there is a tendency, for some reason which I do not care to discuss, to protracted gestation. I have knowledge of cases

which have been carefully studied in which the gestation has gone to almost 300 days, 28 to 30 days beyond the computed time, and where the size of the child was an additional evidence that it had been carried beyond the average time. I think that where we have reason to know from external measurements, and from the history of preceding labors that there is pelvic contraction, it behooves us to watch the case with extreme care and to estimate not only the size of the pelvis, but the size of the fetal head, which can best be obtained by the Miller method. In a case of this kind we should not allow the gestation to be protracted, and much will be gained by timely interference.

Dr. William R. Nicholson—It strikes me that the induction of premature labor is one of our most useful obstetrical procedures, since the smaller grades of pelvic deformity are the common ones met with. It seems to me that to allow a woman with a contracted pelvis to go into labor with her first child, to determine whether she can give birth to that child spontaneously is in certain cases a pretty dangerous method to follow, unless the patient be of the best class of society, since in certain grades of practice it is not possible to do cesarean section in private houses; and it strikes me that a method which offers an alternative in the largest number of cases, is a very valuable thing to have in one's possession. I think Dr. Boyd has stated all the possible objections. The only thing that occurred to me in listening to him was that a man who was unfit to put in a bougie, so far as sepsis was concerned, was unfit to do a cesarean section. While I have not induced labor 100 times, I have never seen the slightest difficulty in regard to the rupture of the membranes, and have never had a case which has shown temperature after the bougie was in place, unless the induction was prolonged and the membranes ruptured.

Dr. R. C. Norris—We talk about the difficulty of estimating the duration of pregnancy. I would like to ask Dr. Boyd when he predicts for his patients the probable date of confinement how many times his patients go three or four weeks over that time. We do miss it once in a while, but in my hospital and private practice I find quite accurate estimates are made. When the estimates have been inaccurate I have explained the error in two ways: either the woman herself has made a mistake in her recollection of her last period and of the date of quickening, or she was that type of woman who conceives just before her first missed period rather than just after her last period. The estimation of the duration of pregnancy is not difficult when we have a reliable history. It is usually in the lower classes that the women forget or disregard the date of their last sickness, and in these cases I admit it is often difficult to determine the duration of pregnancy solely by fetometry. You can not do so as accurately as by the history of menstruation and quickening. All these facts should harmonize: the history of menstruation and of quickening, and the estimated size of the child, and height of fundus. I have known the advocates of hasty cesarean section to make the same error in calculation and to deliver six-pound babies that have to be put in incubators. The plea of my paper is emphasized by Dr. Longaker when he speaks of confining our discussion to minor degrees of pelvic narrowing. The period of time required for the termination of an induced labor has varied from 6½ to 64 hours. The rubber bag is of the greatest value. The bougies used alone often will not be efficient. I remember Dr. Parvin on one occasion putting in a series of bougies which remained for a week or more without bringing on pains. In cases of that kind, the rubber bag is essential, and in my cases I accomplished the result in an average of 29 hours, and without danger of sepsis. Premature rupture of the membranes when passing the bougie carries with it a certain amount of danger. Partial separation of the placenta I have noticed several times, but never with an ill effect on mother or child. The danger of infection is a matter of individual equation, and depends on one's aseptic technic. The test of labor is justifiable in most degrees of pelvic deformity, and I do not see any disadvantage if the labor is brought on two to three weeks before time. You have a smaller baby's head, and if the test shows that the mother is going to fail, you are in a better position to do version or use the forceps with a baby two weeks under its time than with a baby ten days or two weeks over its time. I have read nothing in literature, nor heard remarks from men doing frequently the cesarean section for the same grade of cases that would make me change my position, and my own records carefully studied have convinced me more than ever that many cesarean sections can be safely avoided by skilled induction of labor.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Muscular Cramps.

Revue Medico-Pharmaceutique suggests the following formula:

℞ Vini opii
Chloroformi
Olei hyocyami, āā ..... ℥i 30

M. Sig.: Apply locally with friction. If relief is not soon experienced, sodium bromid should be administered internally.

Syphilis.

In *Lyon Medicale* Molle gives the following prescription of Simonet for secondary manifestations:

℞ Hydrarg. chloridi corrosivi
Sodii chloridi, āā ..... gr. xxx 2
Aquæ dest. ..... m. xc 6
Pulv. gluten ..... ℥ss 15
Ext. opii ..... gr. xxss 1.50
Glycerini ..... m. xlv 3

M. Ft. pil. No. cc. Sig.: Two pills three times daily.

INFANTILE SYPHILIS.

Mercurial frictions, according to *Journal des Practiciens*, are well borne by children. The Neapolitan ointment is made as follows:

℞ Metallic mercury ..... 500 parts.
Benzoinated lard ..... 460 parts.
White wax ..... 40 parts.

M. Sig.: One to five drams to be rubbed into the skin. For an infant the ointment should be rubbed in with a piece of flannel on a different part of the abdomen every morning. The ointment should be allowed to remain. After a month of such treatment, it should be suspended for a week and then recommenced, and this procedure should be kept up for a year.

Local lesions may be treated with:

℞ Hydrarg. ammoniati ..... gr. xlv 3
Petrolati ..... ℥i 30

M. Sig.: Use locally.

After one year's treatment potassium iodid should be given 1½ grains (10 centigrams) daily for three weeks, ten days' intermission, then three more weeks of treatment. Every three months, inunction should be resumed for two weeks.

Prophylaxis is important; careful choice of wet nurse, forbidding of kissing, use of cow vaccine exclusively, with aseptic instruments.

In hereditary syphilis, at the end of a year of inunction, half to one teaspoonful may be given daily of Gilbert's syrup.

℞ Hydrarg. iodidi rubri ..... gr. ivss 30
Potassii iodidi ..... ℥i 30
Aquæ dest. ..... ℥i 2/3 50
Syrupi cinchonæ ..... ℥xxxi 2/3 920

M. Do not filter. Sig.: One half to one teaspoonful daily.

At the end of the second year, 3 grains (20 centigrams) of potassium iodid may be given daily.

The liquor of Van Swieten is sometimes substituted:

R. Hydrarg. chloridi corrosivi ..... 1 part.
Aquæ dest. ..... 900 parts.
Spiritus rectificati ..... 100 parts.
M. Dissolve the sublimate in the alcohol, then add the water. Sig.: Ten drops daily for each month of age.

The prophylaxis of hereditary syphilis consists of the treatment of the parents, of the syphilitic pregnant woman, discouragement of marriage between syphilitics, and the nursing of the syphilitic child by its mother, never by a nurse.

Neuralgia.

Revue Medico-Pharmaceutique recommends the following formula as valuable in neuralgia:

R.	Quinin valerianatis ..... gr. iss	10
	Extracti hyoseyami ..... gr. 3/10	02
	Extracti cinchonæ ..... gr. ¾	05

M. Ft. pil. No. i. Sig.: Take two to four such pills daily.

Eye Bruises (Black Eye).

Merck's Archives recommends the following:

R.	Acidi acetici dil. ..... ʒv	150
	Tinctnræ arnicæ	
	Ammon. chloridi, āā ..... ʒi	30
	Aquæ dest. ..... ʒv	150

M. Ft. lotio. Sig.: Apply locally.

Cystitis.

The *Critical Review* attributes the following prescription to Keyes, who recommends it as of value in the treatment of acute cystitis:

R.	Liq. potassæ ..... ʒiv	16
	Ext. hyoscyami fl. ..... ʒvi	25
	Syrupi aurantii cort. ..... ʒiii	90
	Aquæ cinnamomi q. s. ad ..... ʒvi	180

M. Sig.: Teaspoonful in water three times a day.

Pepper recommends the following:

R.	Potassii bromidi	
	Sodii bromidi, āā ..... ʒii	8
	Ext. belladonnæ ..... gr. iv	25
	Ext. buchu ..... ʒi	4
	Syrupi sarsap. comp. q. s. ad ..... ʒiv	120

M. Ft. sol. Sig.: Tablespoonful three times a day after meals.

Diet in Diseases of the Liver.

Linnosier (*Bull. et Mem. de la Societe de Therapeutique*, February, 1904) says that it is necessary to exercise care in regard to quantity as well as quality of diet in the treatment of liver diseases. Meats are to be more or less completely excluded, according to the severity of the disease. Lean ham and fresh fish are the most suitable meats. Milk is an excellent article of diet; there is no necessity of excluding the fat from the milk, as it is commonly advised, because the fat, on account of its emulsifying properties, is in many cases well tolerated. Fresh vegetables (peas, beans, salads, etc.) are to be recommended in cases where digestion is as good as normal. Turnips and cabbage, etc., are not to be permitted. Bread and dishes prepared with flour may be given to some extent; foods, however, the ash of which is rich in phosphoric acid, are not to be permitted, as they increase the already existing acid intoxication. Potatoes, the ash of which is alkaline, are allowed. Ripe fruits are suitable on account of their laxative powers and their contents of vegetable acid salts. The latter are changed to carbonates, and therefore have a favorable influence on the existing hyperacidity. Water is the best drink, alkaline waters when there is hyperacidity. Small quantities of coffee may be allowed, but chocolate, on account of being rich in fats and oxalic acid, is to be prohibited.

Constipation in Infants.

Infants who are being fed exclusively on milk, either breast or bottle, which is low in percentage of fat are very likely to suffer from constipation. Roteh has noticed that when breast milk contains a low percentage of fat and a high percentage of proteids the stools are feeble and watery. Boiling and pasteurizing are very apt to cause constipation. In breast-fed babies it is best to correct the constipation by proper attention to the mother's diet in order to increase its fat. First it is important to secure undisturbed rest for the nurse at night. She should be relieved of the care and nursing of the infant during the night and the bottle should be substituted if necessary. Fresh air should be obtained in abundance by driving and walking when she is able. Thomas of New York considers massage of the breast as one of the most powerful stimulants to the secretion of milk. It should be done with great care and gentleness, and every precaution taken against infection. A mild antiseptic ointment may be used with the massage, and it should be done two or three times a day for ten minutes at a time. The diet should be abundant, with a large amount of milk and meat, especially beef. If anemia is present iron should be given. If drugs must be used to overcome the difficulty the following are to be recommended:

	Milk of magnesia ..... ʒss-ʒi	2-4
Or:		
	Olive oil ..... ʒi	4
Or:		
	Sodii phosphate ..... gr. ii	12

Other drugs recommended, but of less value than the above, are:

	Calcined magnesia ..... gr. viii-x	50-.65
Or:		
	Aromatic fl. ext. cascara sagrada, m. v-xxx	.30-2
Or:		
	Pulv. glycerrhizæ comp. ..... gr. x-xv	.65-1

When only local stimulation of the rectum for defecation is required glycerin, gluten, or soap suppositories may be used. Enemata of soapsuds and water, or equal parts of water and glycerin are very efficacious to effect temporary relief. Large injections of fluid (more than 2 to 4 ounces should be avoided); they may produce overdistention and paresis. In bottle-fed infants the first attention should be given to the proper modification of the milk so that the correct percentage of fat obtains. The other treatment as outlined above may likewise be used in these cases. After six months orange juice may be added to the diet and a little later the juice of stewed prunes. Massage of the abdomen in certain cases of obstinate constipation has been a most successful treatment.

Work as a Therapeutic Measure.

This is the subject of an editorial in the *Boston Medical and Surg. Jour.* "Among the many rational therapeutic measures which have been advocated of late years, small attention has been paid to the efficacy of work." Rest, exercise, massage, electricity, hydrotherapy, etc., have been used with much success and enthusiasm by many, both within and without the profession. The so-called "rest treatment" introduced by Dr Weir Mitchell has been demonstrated beyond doubt to be most successful in appropriate cases. It has undoubtedly many times been misused and indiscriminately used and consequently has given its best results in the hands of its founder. "In view, however, of all the time and attention which has been given to treatment by so-called rational methods, it is somewhat extraordinary that no systematic attempt has been made to systematize a method of treatment which shall have work, either physical or mental, as its fundamental principle. Of course physicians are continually advising physical exercise and physical labor, but with the possible exception of Moebius no one has mapped out a work cure in the same systematic fashion as the rest cure." The author considers that invalidism is quite often due to other causes than those for which rest and recreation could work a cure. It is a very rare experience to come in contact with a person who is really suffering from overwork. The work may be uncongenial, the hours long, and physical strength insufficient to meet the demands. It is the author's belief that the lack of suitable employment is rather the source of the various failures which are familiar to every physician. If it be true that overwork is rare, and that the moral and physical stimulus which work gives is desirable, systematic treatment by work is as rational, as systematic treatment by other means. Employment of the mind, as well as the body, is conducive to health, and physicians would accomplish far more definite results if they insisted on the necessity of work with anything like the frequency that they insist on the necessity of rest.

Antidiarrhea Mixture.

The following formula has been used in certain cases in the King's County (N. Y.) hospitals:

R.	Morphin acetatis	gr. i	06
	Plumbi acetatis	gr. xii	75
	Aquæ camphoræ	ʒii	60

M. Sig.: One teaspoonful every three to four hours.

Hemorrhoids.

The following formula has found favor in the hospitals of the Department of Charities of New York:

R.	Morphin oleatis	1 part.
	Camphoræ	2 parts.
	Olei sassafras	4 parts.
	Resinæ	8 parts.
	Ceratæ flavæ	16 parts.
	Adipis benzoated	24 parts.

M. Sig.: To be applied on lint.

The foregoing is best compounded by melting the wax, resin, and benzoate lard together by gentle heat, and digesting the camphor in this until it is dissolved. While the mass is cooling and before it solidifies, add the morphin oleate and sassafras oil, and mix thoroughly.

An Inhalant in Respiratory Diseases.

R.	Iodin	grs. x-ʒi	.65-4
	Carbon disulph.	ʒi	30
	Guaiacol	ʒi	4

M. Sig.: To be used as an inhalation in the various respiratory disorders, including the early tubercular stages, bronchitis, asthma, etc.

Drs. Stovall and Twitty, Columbia, Ala., send the above formula, and say they have been using it in their practice for about seven years, and that the results from its application have been very favorable, so much so that they have come to regard it as a specific in that class of post-grippal coughs which have such a direct tendency toward the tubercular state. The addition of guaiacol is advantageous when not objectionable to the patient. The variable quantity of iodin is due to differences in effects and requirements as regards individual cases. The weaker solution is for catarrh of the upper tract and for nasal inhalation; the stronger in the deeper seated disease and for mouth inhalation. The inhaler must be of glass; its style depending largely on the inspiratory powers of patients. When the lung capacity is good enough the simple tube inhaler with gauze inserted will usually suffice. In other cases the bulb vaporizer will be required.

Medicolegal.

Death from Disease Caused by Wound; Dying Declarations.—The Supreme Court of Alabama holds, in Pitt vs. State, that if death resulted immediately from a "bowel trouble," which had been brought on or superinduced by the gunshot wound charged or the amputation of the deceased's leg, rendered necessary by the gunshot wound, the fact that the "bowel trouble" was the cause of death would furnish the accused no protection against a charge of unlawful homicide. It also holds that the fact that the deceased asked that a physician be sent for was not in itself and alone sufficient to affect the admissibility in evidence of his dying declarations, as showing a hope of recovery, it having been shown that he was at the time suffering with severe pain in his bowels, and it being natural that he should want the physician to allay his suffering.

Physicians and Certain Opticians Not Merchants.—The Supreme Court of Iowa says, in City of Waukon vs. Fisk, that a surgeon specialist who treats deformities of the body by the use of straps and braces made according to his measurements would not be classed as a merchant simply because he habitually supplies his patients with the necessary apparatus by orders on the manufacturer, and receives or collects payment therefor. Neither would we so class a physician who receives a commission on prescriptions filled by a pharmacist. Likewise, it holds that a traveling optician who does not carry spectacles or eyeglasses for sale, but examines and tests the eyes of persons applying to him therefor, and writes the description of the glasses required on a "prescription blank," which is mailed to a dealer, in Chicago, who fills the order by grinding and preparing the glasses according to the directions, and sends them direct to the customer, is not a merchant, and can not be subjected to a license tax as one, by a city authorized to define by ordinance who shall be considered transient merchants; to regulate, license and tax their sales. The court says that such an optician's business may not rank professionally with that of a surgeon or physician, but his business bears a close relation to theirs, in that he assumes to diagnose, and, to a certain extent, remedy, a physical defect. His skill and experience in this respect constitute his capital and his "stock in trade," and the fact that he finds his compensation in a profit or commission on the apparatus by which he aids defective sight does not make him a merchant.

Compulsory Vaccination of School Children.—The Supreme Court Commissioners of California say, in French vs. Davidson, that in the case of Abeel vs. Clark, 84 Cal. 226, the title of the "Act to encourage and provide for a general vaccination in the state of California" was shown to be in substantial compliance with the requirements of the constitution, and many authorities were cited illustrating its sufficiency. The uniform operation of the act on a natural class of persons, to wit, school children, was asserted, and its compliance with the constitution in that behalf was declared. That the vaccination act came within the police power of the legislature of the state, and that it was for the public good, was clearly maintained by the opinion. It was also shown that the act in no way impaired any constitutional provision against special legislation. The soundness of that decision has never been questioned, so far as the commissioners have been able to ascertain. The case has been frequently cited, and the principle of it approved, both in California and in other states. The legislature, the commissioners go on to say, no doubt was of opinion that the proper place to commence in the attempt to prevent the spread of a contagion was among the young, where they were kept together in considerable numbers in the same room for long hours each day. It needs no argument to show that, when it comes to preventing the spread of contagious diseases, children attending school occupy a natural class by themselves, more liable to contagion, perhaps, than any other class that we can think of. This effort to prevent the spread of contagion in a direction where it might do the most good was for the benefit and protection of all the people, and there is in it no element of class legislation. It in no way interferes with the right of the child to attend school, provided the child complies with its provision. Police regulations generally interfere with the liberty of the citizen in one sense, but it is no valid objection to a police regulation that it prevents a person from doing something that he wants to do, or that he might do if it were not for the regulation. When it has been determined that the act is within the police power of the state, nothing further need be said. The rest is to be left to the discretion of the lawmaking power. It is for that power to say whether vaccination shall be had as to all school children who have not been vaccinated all the time, or whether it shall be resorted to only when smallpox is more than ordinarily prevalent and dangerous. Nor does the fourteenth amendment or any other part of the federal constitution interfere with the power of the state to prescribe regulations to promote the health and general welfare of the people.

Defenses for Charging Insanity of Person Not Insane.—The Supreme Court of California says, in the case of Griswold vs. Griswold, an action by a sister against a brother for charging her with being insane and causing her arrest and imprisonment in the insane ward of the county hospital when she was not insane, that it was incumbent on her to prove both want of probable cause and malice, to recover damages. On the other hand, the brother had the right to prove that he acted in good faith, without malice, and on probable cause; that is, on such facts and information as would induce a reasonably prudent man to believe that his sister was insane. It was not necessary that the statement to and advice of the family physician

should have been sufficient to constitute probable cause as a matter of law to make it admissible in evidence. He was supposed to be skilled in his profession, and to know more about the mental condition of the sister than any attorney-at-law could have known. If the brother had not consulted the family physician, but had gone to an attorney-at-law, it would certainly seem that he had much less ground for the prosecution than by pursuing the course he did. He was accused of acting maliciously. Did it not tend to disprove malice if he went to the family physician and fully and fairly stated the facts? It is the policy of the law to encourage prosecutions when there are facts and circumstances that would induce the belief in the mind of a reasonably cautious man of the guilt of the party accused. And so in case a party is insane and dangerous to be at large. It would not do to bold honest parties in heavy damages for an error of judgment. If so, it would be difficult to get responsible parties to make complaints. All that the law requires as a defense to this kind of an action is the existence of such facts and circumstances as would induce the belief in the mind of a reasonably cautious man that the party was insane at the time the charge was made. If such facts and circumstances existed, the plaintiff ought not to recover damages. Again, the court holds that an instruction was clearly erroneous which told the jury that, it being admitted by the brother in his answer that his sister was not insane at the time he had her arrested, the law presumed that in procuring her arrest he acted without probable cause and maliciously, and the burden of proof was on him to show probable cause and want of malice on his part. The court says that the question before the court and jury was not as to the sanity or insanity of the plaintiff at the time of her arrest, but as to whether or not there was probable cause for her arrest, as that term is understood by judges and the legal profession. And the burden is always on the plaintiff to show that the suit or proceeding was instituted without probable cause and maliciously. Moreover, language which might be construed as holding that malice is legally presumed from want of probable cause should be avoided.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

September 3.

1 *How May the Public School Be Helpful in the Prevention of Tuberculosis? S. A. Knopf.
2 A Study of the Vagus Reflex in 380 Individuals; a New Physical and Prognostic Sign in Pulmonary Disease. Thomas J. Mays.
3 Chronic Splenic Anemia; Report and Presentation of a Case. E. F. Conyngham.
4 Pruritus Ani. A. B. Cooke.
5 Constipation as a Habit. Charles B. Forsyth.
6 *Value of Local Treatment, Preparatory to Operation. H. C. Coe.
7 Hypernephroma as a Result of Traumatism. Nephrectomy. Recovery. George Chandler.
8 Case of Anophthalmus. Charles Graef.
9 Resuscitation from Apparent Drowning. Joseph Baum.

1. **The Public School and Tuberculosis.**—In discussing the subject of how may the public school be helpful in the prevention of tuberculosis, Knopf takes up the duties of the school board with reference to choosing a site for a school and the construction of the school; the duties of the superintendent of a public school in arranging the curriculum so as not to overtax the brain and the nervous system of the children; the duties of the school teacher in carrying out the ideas of the superintendent, and those of the school physician in relation to the prevention of tuberculosis. He has compiled a set of rules, a copy of which is given to every child, who is urged to read them, to take them home, and to show them to their parents:

Do not spit, except in a spittoon or a piece of cloth or a handkerchief used for that purpose alone. On your return home have the cloth burned by your mother, or the handkerchief put in water until ready for the wash.
Never spit on a slate, floor, sidewalk, or playground.
Do not put pins in your mouth.
Do not put your fingers into your mouth.
Do not pick your nose or wipe it on your hand or sleeve.
Do not wet your fingers in your mouth when turning the leaves of books.
Do not put pencils into your mouth or wet them with your lips.
Do not hold money in your mouth.
Do not put anything into your mouth, except food and drink.
Do not swap apple cores, candy, chewing-gum, half-eaten food, whistles, bean blowers, or anything that is put in the mouth.
Peel or wash your fruit before eating it.
Never cough or sneeze in a person's face. Turn your face to one side, and hold your hand or handkerchief before your mouth.
Keep your face and hands and finger nails clean; wash your hands with soap and water before each meal.
When you don't feel well, have cut yourself, or have been hurt by others, do not be afraid to report to the teacher.

A systematic examination of school children, and the supervision of the sanitary condition of the school buildings, are two things that should receive the most careful attention from the school physician. Public school sanatoria for the treatment of tuberculous and scrofulous children are an urgent necessity. They will serve as places for the cure of tuberculous children, many of whom, without this, will ultimately develop the more severe type of the disease, and will become burdens either to their parents or to the community at large.

6.—See abstract in THE JOURNAL, xlii, p. 1585.

American Medicine, Philadelphia.

September 3.

10 *Meteorologic Conditions in the Causation of Lobar Pneumonia. J. M. Anders.
11 Latent Malaria, as Seen in the Mountains. Lawrence E. Holmes.
12 On the Significance of Heart Murmur. James S. McLester
13 Thoracic Empyema. W. R. Jackson.
14 Hypertrophy of the Lingual Tonsil. J. J. Richardson.
15 The Antiblennorrhagic Drugs in Gonorrheal Urethritis; the Question of Their Value. A. Nelken.
16 Who Is Your Physician? H. Winnett Orr.

10. **Meteorologic Conditions and Pneumonia.**—Anders has made an extensive study of the relation of meteorologic phenomena to pneumonia and concludes that the seasons exert a marked effect on the prevalence of lobar pneumonia, the maximal mortality being observed during the winter and spring months. That insular climates probably manifest the greatest rise in pneumonia mortality in winter, while that of continental climates coincides mainly with spring. That the mortality of the epidemic form of the disease is, to a less extent, influenced by the seasons, and may occur in the third or fourth quarter of the year. That an apparently close relationship exists between periods of low temperature and the death rate from pneumonia. That the mortality rises and falls with the barometric pressure, the maximal level being reached during periods of highest pressure and vice versa; that the barometric pressure, however, is governed by the temperature, being inversely as the latter, is to be recollected. That the average velocity of the winds and the death rate from this disease would appear to stand to one another in the relation of cause and effect. That the coincidence of existing low temperatures, high barometric pressure, the direction and velocity of the winds and maximum mortality from pneumonia, is so uniformly constant as to merit serious consideration and suggest a close and direct relation between their combined influence and the progress of mortality from pneumonia That the mean relative humidity of the atmosphere shows equally decided variability during the periods of abeyance in the prevalence and fatality of the disease with that of the cold or annual pneumonia season. That the major influence exerted by the seasons, however, is probably not direct, but indirect, namely, by bringing about that effective element in the causation, concentration, and increased virulence of the specific poison in consequence of closed doors and windows and lack of free ventilation.

Medical News, New York.

September 3.

17 Comparative Progress of Medicine and Law. W. W. Goodrich
18 High-frequency Currents; Their Physiological Action and Methods of Application. A. D. Mabie.
19 Arthritis Deformans and Its Treatment. Louis Kolipinski.
20 Paratyphoid; a Case of the Hemorrhagic Variety. T. H. Evans.
21 *Intestinal Obstruction Following Appendicitis Operations. Report of 86 Cases. Clarence A. McWilliams.
22 Case of Ludwig's Angina. C. M. Harris.
23 *Endermol, a New Vehicle for Ointments. Virgil Cohlentz.
24 Simple and Accurate Method for Estimation of Sugar in the Urine. Harvey G. Beck.
25 Present day Treatment of Tuberculosis. J. W. Kime.

21. **Intestinal Obstruction Following Appendectomy.**—McWilliams summarizes his paper as follows:

1. The rarity of intestinal obstruction in comparison with the innumerable operations for appendicitis is noteworthy.
2. Obstruction may follow an attack of appendicitis which has not undergone operation. Nine such cases occurred in this series of 86 cases, or 10 per cent.
3. Obstruction may follow the "interval" operation. Eight cases, or 9 per cent., belong to this category.
4. Obstruction is most apt to follow appendicitis with abscess formation. Sixty-nine, or 81 per cent., were of this class. Hence the necessity for early operation.
5. Mechanical obstruction may come on within a short time after the appendicitis operation, when the differential diagnosis from that due to peritonitis may present great difficulties. When in doubt, operate, for many patients have undoubtedly died, unoperated on, with an unrecognized mechanical obstruction (with or without peritonitis) where the erroneous diagnosis was made of simple, uncomplicated peritonitis.
6. Obstruction may occur years after the original attack, or operation (e. g., 10 cases occurred in the second year), when it may come on suddenly in perfect health, or preceded by a period with symptoms denoting "partial" (chronic) occlusion, the right interpretation of which symptoms, from a prophylactic standpoint, is of the greatest importance.
7. There may be several attacks of true, mechanical obstruction. In the above series of 86 cases, several attacks occurred in 5, or 8 per cent., of the 57 patients who survived the first operation for obstruction.
8. Of the 86 patients, 57, or 66.3 per cent., recovered after operations for obstructions. Twenty-nine patients, or 33.7 per cent., died.
9. The small intestine was occluded in all of the 50 cases where it was noted.
10. The cause of the obstruction was given in 53 cases as follows: Constrictions by bands in 28 patients; volvuli in 10; kinkings, or angulations, in 11, and internal hernias in 4 cases.
11. Gangrenous bowel was encountered in 5 cases, necessitating resection, resulting in three recoveries and two deaths.
12. We may expect a much smaller death rate in the future, due to the earlier recognition of the symptoms and their more prompt relief by operation. Fecal vomiting should not be waited for.
13. Prophylaxis consists in operating on appendicitis before the formation of pus, the use of as little drainage as possible, and the least possible amount of handling of the intestines, at the time of operation.
14. Vigorous abdominal massage with elevation of the hips may avert an impending obstruction. Frequent change in patient's position is likewise recommended.
15. Since the exciting cause is in many cases an attack of acute indigestion, patients should have their diet carefully regulated for from four to six weeks after an attack of appendicitis or after an operation.

23. **Endermol an Ointment Base.**—This is a combination of stearic acid amide and paraffin hydrocarbons forming an almost white mass of about the consistency of lard, inodorous, of neutral reaction, and fusing at 78 to 80 C. Coblentz says that when exposed to the air and sunlight under adverse conditions, samples of endermol retained their color, consistency and blandness. When applied to the skin by inunction, endermol forms a smooth, soft, unctuous mass, which is readily absorbed. Applications of endermol ointments of iodin and also aconite were followed by the excretion of iodin in the urine after about five hours in the former, and the characteristic dryness of the throat in the latter. There is absolute freedom from any tendency toward rancidity, although as much as 15 per cent. of water may be incorporated. It is pliable, smooth and free from all irritating properties.

Boston Medical and Surgical Journal.

September 1.

26 *Clinical Topography of Lymph Nodes. F. J. Cotton.
27 Surgery on Old Men. Wm. H. Artbur.
28 *Mental Defectives. Bertha C. Downing.
29 Operations on the Stomach, with Report of Cases. (Concluded.) John C. Munro.

26. **Clinical Topography of Lymph Nodes.**—Cotton calls attention to the fact that the lymph nodes are frequent sources of infection, and that we neglect such aid in locating the primary foci as may be obtained by applying our knowledge of the topography of lymph channels. We need to know more of the practical anatomy of the lymphatics. Such knowledge will insure the identification and proper treatment of local foci of infection that might otherwise be overlooked and also assist us in understanding the glandular conditions. More exact attention to and some familiarity with the grouping of glands and their drainage areas will set us right in regard to: 1. Many so-called "scrofulous" neck-glands in children, which show up first in the posterior deep and superficial glands. Sometimes they are tuberculous; in nearly all cases, however, they are septic; in all cases they are traceable to primary scalp irritation, usually from pediculi. Remove the pediculi make small incisions for the pus, and the great majority will get well promptly without the enucleation now so frequently carried out for these as well as the really tuberculous cases. 2. Buboes of unknown origin, non-venereal, lying low in the groin, due to a septic focus on the foot or leg, which is often overlooked by patient and physician. 3. True inguinal buboes, associated with gonorrhea, but almost never due to it, but secondary to some septic process under the prepuce which should be, but rarely is, found. The writer cites 67 cases in confirmation of his theory.

28. **Mental Defectives.**—Downing makes an earnest plea for the examination of every school child by a competent commission, under state supervision, and if found to be mentally defective should at once become a ward of the state for proper training and care. The fact that feeble-mindedness often is inherited, supplies a solid foundation on which to base restrictive and preventive measures. Downing examined 3,000 entrance blanks and found tuberculosis to be the chief factor in the generation of idiocy. The exanthematous diseases furnish a rather high percentage of causation of feeble-mindedness. Consumption is a more common hereditary cause than are epilepsy and insanity.

Medical Record, New York.

September 3.

30 *Arteriosclerosis of the Spinal Cord. Joseph Collins and Edwin G. Zabriskie.
31 *Treatment of Tuberculosis of the Larynx and of the Prostate Gland by the X-ray, High-frequency Currents and the Cooper-Hewitt Light. Sinclair Tousey.
32 Internal Urethrotomy in the Treatment of Stricture of the Membranous Urethra. Charles C. Miller.
33 Alcoholism and Insanity; an Etiological Study. T. D. Crothers.
34 Minus Cylinders. F. W. Higgins.
35 Gastrostomy for Stoppage at the Cardia. H. W. Lincoln.
36 Stomach Reflex and Percussion of the Stomach. Albert Abrams.

30. **Arteriosclerosis of the Spinal Cord.**—The authors describe a case which they believe is typical of arteriosclerosis of the spinal cord, a condition which, though much less common than cerebral arteriosclerosis, yet is worthy of careful study. The patient, a fireman, 51 years old, complained of the following symptoms in the order of their development: (1) Weakness and easily induced fatigue of the legs; (2) peculiar sensations in the lower extremities, described as "jerky," "numbness," "heavy" and occasionally sharp pain. (3) Progressive incontinence of urine; (4) progressive paraplegia. Aside from the fact that the tendon jerks were absent and that the Babinski phenomenon was present, the objective symptoms were those usually found in chronic transverse lesions of the cord, namely, slight disorder of sensibility, paraplegia, and trophic manifestations. The cause of death apparently was cardiac weakness. An autopsy was permitted, and the brain and cord were removed. The naked-eye appearance of both was normal. In dividing the cord into different segments several areas in the lower dorsal segments were seen to contain small hemorrhages in the posterior horns on the right side and a similar condition in the left anterior horn. Microscopically, the arteries and veins everywhere throughout the cord and brain were sclerotic. Spinal arteriosclerosis is a condition that permits of being diagnosticated with considerable readiness, especially if there are symptoms, subjective or objective, pointing to generalized arterial sclerosis.

31. **The X-Ray in Tuberculosis.**—Tousey is of the opinion that judicious application of the *x*-ray or of the ultra-violet ray and high-frequency currents is indicated in every case of tuberculosis, especially tuberculosis of the larynx. One case in point is reported in which the treatment was remarkably successful. The expectoration ceased inside of three weeks, there was great improvement in the voice, marked gain in strength, normal temperature, and a gain in body weight of about two pounds. The local condition also has improved; an area of infiltration has diminished, the abrasions have healed, with a whitish appearance which may be due to cicatricial tissue. The treatment consisted, first, in exposure to the *x*-ray once every four or five days; exposure to the Cooper-Hewitt light and application of high-frequency currents once in each interval between the *x*-ray applications. In applying the

x-ray he used an eight-inch Wappler coil, run by the street current (110 volts direct current), using a liquid interrupter. This consists of a beaker of tough porcelain with three or four pinholes near the bottom; this is set in a large jar full of dilute sulphuric acid, and a lead plate connected with one wire dips into the acid outside, while a lead ring from the other wire dips into the acid outside of the beaker. When the current is turned on electrolysis takes place in the dilute acid through which the current has to pass, and the resulting bubbles of hydrogen and oxygen gas block up the pinholes and interrupt the current. The current ceasing, the bubbles of gas escape and the current recommences. A special application was made to the larynx by means of a specially constructed x-ray tube. The tube is held close to the outside of the larynx, and directs the rays through the exact tissue we wish to influence, and requires no shield of any kind. In the treatment of tuberculosis of the prostate and bladder, the author allowed the light from an ordinary x-ray tube to shine obliquely downward through the lower portion of the abdomen and also, occasionally, through the perineum. Each application lasts about five minutes. Alternating with this perineal application, a special x-ray tube was introduced into the rectum. The other portion of the treatment consists in the application of high-frequency currents over the lower portion of the abdomen; and in the rectum on occasions when the intra-rectal x-ray tube is not used. For the intra-rectal applications of high-frequency currents a special vacuum electrode is employed in which the tube is insulated except for its distal two or three inches by a separate external cylinder of glass. In this way all the effect reaches the interior of the rectum. The application lasts five minutes. His results have been excellent.

Cincinnati Lancet Clinic.

September 3.

37 The proper Attitude of the Medical Profession, as Such, to Existing Political Parties. Henry Beates, Jr.
38 Nephritis: Water—Diet—Drugs. Irvin Lindenberger.

American Journal of the Medical Sciences, Philadelphia.

September.

39 Apnasia and the Cerebral Zone of Speech. Charles K. Mills.
40 Traumatic Hemorrhage Over the Third Anterior Frontal Convolution; Operation; Recovery. Present Status of Brain Surgery. William C. Krauss.
41 The Adams Stokes Symptom-Complex, with Report of a Case. Clarence Quinan.
42 *Borated Food as the Cause of Lesions of the Kidney. Charles Harrington.
43 *Inhalation of Gasolene Vapors. Torald Sollmann.
44 Case of Suture of the Heart, with Recovery. Francis T. Stewart.
45 Treatment of Penetrating Wounds of the Heart. John H. Gibbon.
46 *Medical and Surgical Considerations in Pyopericarditis, with Reports of Cases. J. A. Scott and Robert G. LeConte.
47 Pericarditis; Its Symptoms and Diagnosis. Davis Riesman.
48 Two Cases of Paracentesis of the Pericardium. John B. Roberts.
49 *Cancer of the Pancreas and Glycosuria. Richard M. Pearce.
50 Ascarides in the Bile Ducts Simulating Gallstone Seizures. A. M. Pond.
51 *Acute Primary Cholecystitis, with Report of Four Cases. John G. Sheldon.
52 Varieties of Splenic Anemia. Alfred Stengel.

42. **Borated Food and Nephritis.**—Harrington says that the two most commonly employed chemical preservatives of food are borax and boric acid. They are used so extensively that persons of all ages are likely to receive frequent, if not daily, doses of one or of the other or of both. They are added to milk, butter, oleomargarin, some forms of cheese; they are almost always present in opened clams and oysters; they are applied externally to fresh meats to prevent sliminess and to freshen salted fish. They are important constituents of the brine in which meats are pickled and corned. Their solutions are injected into ham and other pork products, and they are found in almost every known make of sausages, to prevent the sausage contents from contracting and thus causing the casing to appear loose and wrinkled. Moreover, they preserve the natural color. Once established in the tissues borax can not be soaked out, not even boiled out. The author points out that many cases of slight kidney disturbance may be due to the continued ingestion of the boron compound. Experiments have been performed from time to time with a view to establishing the relationship between these food preservatives and kidney lesions. Unfortunately, most of these experiments extended over too short a period of time to lend any weight to the results obtained. Harrington submits the details and results of a feeding experiment which he conducted for a period of nineteen weeks. Twelve healthy male cats were selected and kept under precisely the same conditions in separate cages. All were fed on the same food with this difference: One received no preservative; six received borax from 48 to 112 grams in daily doses extending over a period of from 56 to 133 days. The average minimum dose was .544, the average maximum dose .857; the remaining five cats received another preservative which proved to be innocuous. Of the dozen animals under observation but three showed any sign of illness and they were of the borax group. One died at the end of the sixth week; the other two were sick occasionally, but during the last weeks of the experiment appeared to be normally active. Each cat was weighed at the end of each week; all showed occasional losses, but with the exception of the one that died there was a net gain ranging from 230 to 990 grams. When the animals were killed a careful autopsy was made and all the tissues were examined microscopically. The control animal showed no lesions whatever. The animals that were fed on borated food all showed kidney lesions and changes in the liver. The five cats that were given another preservative showed no marked changes in the kidneys or elsewhere. The kidney lesions of the cats fed on borated food were of the same general character, but differing in intensity. They consisted in degeneration of the tubular epithelium, most marked in the convoluted tubes. The normal fat vacuolation was greatly increased and there was focal swelling and disintegration of epithelial cells, with fragmentation of nuclei. The lumen of many of the collecting tubes contained irregular granular masses representing cell fragments. Some tubules were completely stripped of epithelium. In one kidney the change was confined entirely to degeneration of an intense character, with hyaline casts in the small tubes. In other cases the degeneration was not so intense, but was accompanied by foci of cellular infiltration, most marked at the cortex, and also around single glomeruli. Where this was most intense the tubules were entirely destroyed. The lesions were analogous to those found in subacute and chronic nephritis in man, although they do not conform to any type.

43. **Inhalation of Gasoline Vapors.**—Some years ago Sollmann began an investigation of the effects of gasoline vapors with a view to finding a cheap anesthetic for laboratory work. The results were not practical, hence their publication was delayed. The renewed interest in the subject aroused by the employment of petroleum ether in Schleich's inhalation mixture is the reason for publishing at this time a brief summary of his work. In most of his experiments he employed commercial gasoline and in the others he used a pure sample of petroleum ether. The effects were identical. The experiments were confined to dogs and frogs, and the following mixtures were used: Pure gasoline; gasoline 1 to alcohol 8; gasoline 1 to alcohol 5; gasoline 1 to alcohol 3; pure gasoline preceded by an injection of half a dose of morphin. He summarizes his results as follows: Gasoline (or petroleum ether) when inhaled has a comparatively slight anesthetic action. However, the anesthesia is very dangerous, since gasoline also causes convulsions, weakening of the heart, vasomotor depression, paralysis of respiration and irritation of the kidneys. The effects are produced very promptly, but recovery under artificial respiration is also prompt.

46. **Pyopericarditis.**—The medical aspects of pyopericarditis are described in detail by Scott, who also reports four cases. LeConte presents the surgical side, and the authors summarize their paper as follows: 1. Purulent pericarditis is quite frequently overlooked in lobar pneumonia and in other pyemic states. 2. Its presence modifies pre-existing disease to a considerable extent. 3. In diseases with high temperature the presence of purulent pericarditis depresses the fever range and increases the respiratory and pulse rate without sufficient clinical evidence of trouble elsewhere than in the pericardium. 4. It is yet to be proved that the heart, in case effusion is

present in the pericardium, is always dislocated backward and upward. It is probable that in some cases the presence of fluid in the pericardium dislocates the heart either to the right or to the left. 5. The diagnosis once made, the only treatment should be incision and thorough drainage (paracentesis will at times relieve temporary urgent symptoms and should be performed without the slightest fear). 6. That exploratory puncture can be made with safety and is essential for diagnostic purposes before operation is undertaken. 7. That such puncture should be made in the fourth or fifth left intercostal space, as close to the sternum as possible, with a fine needle. 8. That pericardial dilatation does not alter the relations of the pleuræ to the anterior thoracic wall. 9. In the presence of pyopericarditis the overlying pleural space is usually obliterated by extension of the inflammation. 10. That incision under local anesthesia is the preferable operation in the majority of cases. 11. That Roberts' condroplastic flap is preferable to an ordinary excision of costal cartilages when incision fails to give adequate drainage.

49. **Cancer of the Pancreas and Glycosuria.**—Pearce studied the pathologic histology of the islands of Langerhans with a view to ascertaining, if possible, what relation these structures may have to the glycosuria seen occasionally in connection with cancer of the pancreas. That some of these changes, such as hyaline degeneration, chronic interacinar pancreatitis involving the islands, etc., might result from the involvement of the organ by cancer, is known to be true; on the other hand, however, there is no adequate explanation of those cases in which, though the pancreas is extensively or completely replaced by the new growth, diabetes does not exist. Pearce made a careful histologic study of 30 cases of cancer of the pancreas, in 3 of which glycosuria was present. The cancers are classified as follows: Primary in the head of the pancreas, 9; in other portions of the organ, 4; secondary to gall bladder or ducts, 5; to stomach, 8; to breast, 1, and to uterus, 1. Glycosuria occurred in 3 cases, in 2 of which the cancer was primary in the head of the pancreas; concerning the third, no data were available. The changes in the immediate neighborhood of the new growth were the persistence and increase in size of the islands, which remained unaltered in the midst of newly formed connective tissue and occasionally were even enclosed by a mass of tumor cells. The changes at a distance from the tumor apparently are dependent on the location and size of the tumor. Small tumors of any portion of the pancreas are unaccompanied by changes in the islands of the normal portion of the gland; on the other hand, if the new growth is large, definite hypertrophy of the islands is apparent. Only two cases of profuse involvement of the gland occurred; in neither was glycosuria present. As a result of his examinations, Pearce believes that there is a definite basis for ascribing a certain portion of the cases of diabetes to lesions of the pancreas, and ultimately to lesions of the islands of Langerhans. He believes, further, that we can include the permanent diabetes of cancer of the pancreas in this group, but that more extended observation must be made before the intermittent glycosuria can be attributed to destruction of large numbers of islands. The absence of diabetes in cases of extensive involvement of the pancreas would appear to be due to the survival of small fragments of pancreas, including a number of islands sufficient to carry on their peculiar function. The persistence of the islands under the adverse conditions described supports the observations heretofore made concerning their anatomic independence, while their enlargement, suggesting as it does a compensatory hypertrophy, is corroborative of the theory that they have an independent special function.

51. **Acute Primary Cholecystitis.**—Sheldon emphasizes the fact that acute primary cholecystitis does occur, that it can be diagnosticated, and that in most cases it can be treated successfully. All acute cases should be operated on as soon as the diagnosis is made. If the patient refuses surgical aid, the stomach should be washed out, rectal feeding resorted to, morphin given if necessary, and cathartics avoided. Cholecystostomy meets the indication in the early stages, and is not so severe on the patient as is cholecystectomy. He advises removal of the gall bladder only in cases with extensive gangrene, and drainage of the gall bladder in all other acute cases. The presence of stones does not modify the treatment. In acute infected cases cholecystostomy has a smaller mortality than has cholecystectomy. Secondary operations may occasionally be required, but this is not especially objectionable, inasmuch as secondary operations on the gall bladder usually are safe and are not complicated with acute infection.

American Journal of Obstetrics, New York.

August.

53 Anatomy, Pathology and Development of the Hymen. George Gellhorn.
54 Two Cases of Ectopic Pregnancy Going to Term. Operation Recovery. J. G. Van Marter and E. R. Corson.
55 The Streptococcus in Gynecologic Surgery. Hunter Robb and W. U. Smith.
56 *The Results of Suspensio Uteri (Kelly's Operation) in Washington, D. C. I. S. Stone.
57 Hemorrhage Before, During and After Labor. Julius Rosenberg.
58 Relative Indications for Cesarean Section, with Report of a Case. Charles D. Lockwood.
59 Abscess of the Liver and of the Lung After Appendicitis. J. Thomas Kelly, Jr.
60 Paradoxical Measles. Adolph Rupp.
61 *Ligaments of the Uterus and Their Functions. James N. West.
62 The Perineum and Perineal Body. Churchill Carmalt.
63 Atmospheric Pressure as a Support to the Uterus. Sumner Shailer.

56. **"Suspensio Uteri."**—A strong point in favor of ventrosuspension, says Stone, is that it generally succeeds in holding the uterus in position, and its new position does not interfere with the progress of labor. All of the "difficulties" are due to "fixation," and while the operation may not be intended for this purpose, a certain number result in firm adhesion of the uterus to the abdominal wall instead of the formation of a suspensory ligament. He considers this operation among the useful and important methods of treating retrodisplacements, although he is limiting its application to carefully selected cases. One should not rely on suspension for prolapse, even when added to plastic operations on the pelvic floor, but rather on fixation instead. Inquiry shows that suspension of the uterus is comparatively free from danger to the parturient woman, and that the operation is the chief reliance of local physicians and surgeons for the surgical treatment of retrodisplacements. However, correspondence reveals the fact that a large number, perhaps the majority, of physicians in general family practice do not advise their patients to have this or any other operation performed for displacements.

61. **Ligaments of the Uterus.**—West says that it would never occur to anyone that the stability of a modern skyscraper is due to any single factor, as the stone, the mortar, the framework or any one element of strength, but rather to the happy union of interdependent elements, all cemented and riveted together into one firm and rigid structure. So with the maintenance of the uterus in a normal position, the areolar connective tissue, the ligaments, the pelvic diaphragm composed of fascia and muscle, the perineum, intraabdominal pressure and gravity all unite to maintain the natural position. The broad ligaments, which arise from the upper, outer and posterior parts of the uterus, are composed largely of plain muscle fibers and give support to the ovaries and tubes, blood vessels, nerves and lymphatics and prevent lateral displacement of the uterus, acting as one of the most important agents in sustaining the uterus in its normal plane in the pelvis. The more dense tissue in the base of the ligament and the muscular fibers tend to fix and sustain the cervix in its position, while the thin and more lax areolar tissue in the upper part of the ligament facilitates a backward or forward movement by which the organ may accommodate itself to the full or empty bladder or rectum. The function of the round ligaments, which are continued from the upper, outer and anterior aspect of the uterus beneath the peritoneum of the anterior layer of the broad ligaments and pass out through the inguinal canal, is chiefly that of guys to prevent backward displacement of the uterus and to guide it forward to the normal position after childbirth. Under ordinary circumstances they contribute nothing to the maintenance of the uterus in its normal plane. The uterosacral ligaments, together with the uterovesical fascia, form a chain of muscu-

ligamentous tissue from the pubes to the second and third sacral vertebræ, maintaining the cervix at its proper level and position in the pelvis. During labor, when the pains set in, the round ligaments tend to draw the fundus forward so that the expressive forces shall act more in the pelvic axis, and the uterosacral, uteropubic and bases of the broad ligaments offer a counterforce on the periphery of the cervix to that of the expulsive forces from above and gravity, thus tending to dilate the cervix and aid in the expulsion of the fetus.

Archives of Otology, New York.

August.

64 *Report of a Fatal Case of Brain Abscess of Otitic Origin. Gorham Bacon.
65 *Report of a Fatal Case of Latent Temporo-sphenoidal Abscess of Otitic Origin Followed by Multiple Secondary Cerebral Abscesses. Alice E. Wakefield.
66 Double Cerebellar Abscess. Operations and Recovery. Wells P. Eagleton.
67 Affections of the Facial Nerve in Diseases of the Ear. C. Zimmermann.

64. **Brain Abscess of Otitic Origin.**—Bacon reports a case, the subject dying a few months after operation. The remarkable features of the case were the absence of the usual symptoms found in such cases. There was no history of a chill, nausea, vomiting or vertigo. The pulse was not slow at any time, nor was the temperature below normal. In fact, the diagnosis pointed to an abscess in the temporo-sphenoidal lobe, especially because the patient gave a history of two operations on the mastoid, while for the preceding two months he suffered from severe and persistent headache on the same side, and an ophthalmoscopic examination showed choked disc with hemorrhages in each eye. There was considerable difficulty in draining the abscess cavity. The external opening was large, but there was always a tendency for the pus to burrow, and finally it burst into the later ventricle. Smears or cover-glass preparations from the abscess cavity showed mixed infection—streptococcus, staphylococcus, a diplococcus (possibly streptococcus) and a short thick bacillus.

65. **Latent Temporo-Sphenoidal Abscess.**—The first evidence of any disturbance in the case reported by Wakefield was a slight purulent discharge from the left ear. The patient had had measles, diphtheria and typhoid fever, when two, four and five years of age respectively. About a year before the present illness (at ten years of age) the girl had attacks of headache, dizziness, nausea, vomiting and constipation, and gradually lost flesh and strength. One day she became much overheated while jumping rope, and on the following day she had severe headache, chills and fever, restlessness and a slight cough. Following a very severe attack of right, irregular, lobar pneumonia, there was a profuse purulent discharge coming from the left ear. There was no special pain or tenderness in the mastoid region, but there was violent frontal headache. In spite of operative interference on two different occasions, the patient died. The autopsy showed a large temporal sphenoidal abscess. The history of this case emphasizes the fact that cerebral abscess may develop insidiously and remain quiescent until some acute illness or violent physical exertion renders the latent process manifest. Uncomplicated acute cerebral abscesses may be accompanied throughout by repeated chills, high temperature, and rapid pulse and respiration. Localizing symptoms may be absent, unless the abscess itself or the surrounding encephalitis encroaches on cortical areas whose functions are definitely known. Chronic suppurative otitis media, attended with persistent localized headache and occasional attacks of dizziness, nausea and vomiting, and with progressive loss of flesh and strength should, in the absence of tuberculosis or other malignant disease, suggest the possibility of latent cerebral abscess.

Journal of Advanced Therapeutics, New York.

August.

68 Electricity in the Treatment of Diseases. Charles H. Shepard.
69 The Radiant-light Bath in the Treatment of Neuroses. T. D. Crothers.
70 *High Potential Currents and Currents of High Frequency. Wm. Benham Snow.
71 Vibrations and Nerve Vibrations Without the Medium of Machines, Their Technic and Therapeutic Value in Acute and Chronic Diseases. R. Strensch.

70. **High Potential Currents.**—According to Snow, currents of high potential and moderate frequency, associated with the production of muscular contraction, are the currents best calculated for the treatment of local inflammatory conditions and the influence on general metabolism, while the currents of high potential and great frequency are better suited to the treatment of superficial conditions and localized septic processes.

Therapeutic Gazette, Detroit.

August 15.

72 *The Treatment of Alcoholism in the City Hospital of New York. Joseph Collins.
73 Alcoholism and Its Treatment Among the Insane. H. W. Mitchell.
74 The Treatment of Acute Alcoholism. Fred C. Johnson.
75 The Treatment of the Summer Diarrheas of Children. H. Lowenburg.
76 Tubal Menstruation. E. E. Montgomery.
77 Lead Poisoning from Therapeutic Use of Lead Acetate in Capsule, with Report of Two Cases. D. J. M. Miller.

72. **Treatment of Alcoholism.**—Collins outlines the treatment of alcoholism as pursued in the City Hospital of New York. The cases are divided into three classes: (1) Those with frank delirium tremens; (2) those with such nervous manifestations as tremor, mental agitation, unrest and apprehensiveness, with an insight into their condition; and (3) those who present the mild psychoses characterized particularly by amnesia, slight confusion, psychical and physical inertia. Other kinds of alcoholic disorder or disease, such as Korsakow's symptom-complex, multiple neuritis, the so-called alcoholic polyneuritic psychosis and subacute gastroduodenitis, are looked on as individual diseases of manifold causation, excess in alcohol being merely one of the commonest causes. In cases of delirium tremens, treatment is directed toward maintaining the patient's vitality and overcoming the motor unrest and emotional agony, and to secure sleep. Patients of average robustness are given 15 gr. of gray powder, followed in six hours by a saline and copious draught of hot water to facilitate the action of the latter, as well as for its diuretic and diaphoretic effects. Before any medicine or food is given by mouth an attempt should be made to overcome the gastroduodenal congestion which invariably attends these cases. In many instances the mercury with chalk is repeated on the second or third day, and in certain cases where the bowels are in a very sluggish state 3 gr. of powdered jalap are added. Alcoholic stimulants are used rarely in any case of uncomplicated delirium tremens, whatever its gravity. When complicated with pneumonia, whiskey and brandy are given freely if there are cardiac and pulmonary indications that call for stimulation. Proper feeding is one of the most important features of the treatment. Predigested, partially digested, concentrated nourishment administered hot by the stomach or rectum or both, is depended on to maintain the vitality of the average severe case. The second indication in treatment is accomplished by the use of a hot bath, the hot pack, and the hypodermic administration of hyoscin. Nothing pulls the patient's pulse up so quickly and makes him breathe more slowly, quells his delirium and soothes him physically and mentally so much as a brief, very hot bath, from two to five minutes, temperature 110 to 115 F., and especially if the patient is given at the same time a dose of trional or veronal. Similar results are obtained from the hot blanket pack, although this is not as good a vasomotor stimulant as the hot bath. In cases of threatened collapse the hot bath is used. In less severe cases or in individuals whose tissues are free from organic disease, and in febrile cases the wet sheet pack, the water at a temperature of 65 F., the patient being enveloped from one to two hours, is advisable. Over-heating is avoided by withdrawing most of the covering as soon as reaction is well established. When these measures do not suffice hyoscin hydrobromate, in doses of from 1/100 to 1/50 gr., is given hypodermically; if necessary, this dose may be doubled. Morphin and chloral do more harm than good and should not be given. The third indication for treatment is met by giving trional, veronal and paraldehyd. The eliminative organs should be stimulated in every possible way. The treatment of the second class of patients consists of the administration of gray powder, jalap, alkaline diuretic drink, peptonized milk, and an occasional dose of sleep-producing

medicine. The evacuants and proper feeding are valuable. In the third class of cases the most important feature in the treatment in addition to the ordinary treatment of delirium tremens is stimulation. These patients must have stimulation early, and the stimulant par excellence is alcohol. Digitalis is used when the pulse is weak, feeble and rapid, and the delirium undergoes a corresponding change—that is, becomes asthenic in character. Collins believes that sedatives are used too often and too indiscriminately. The greatest care should be taken in the application of mechanical restraint lest the encroachment on respiratory mechanism lead to supplemental complication and jeopardize the life of the patient. There will rarely be any necessity for mechanical restraint in any case of delirium tremens if the indications above outlined are followed.

Richmond Journal of Practice.

July.

78 The Treatment of Prostatic Hypertrophy. Lewis C. Bosher.
79 Wet Dressings. Southgate Leigh.

Physician and Surgeon, Detroit and Ann Arbor.

August.

80 Two Cases of Accessory Pancreas (Omentum and Stomach). Aldred Scott Warthin.
81 Electric Currents in the Treatment of Disease. Arthur F. Fischer.

Kansas City Medical Record.

August.

82 Functional Nervous Disorders. T. C. Bulware.
83 Leukemia. M. P. Overholser.

American Practitioner and News, Louisville, Ky.

August.

84 Case of Abscess of the Brain Following Acute Suppurative Otitis Media, with Remarks. Isaac Lederman.
85 Chronic Gastritis. John J. Moren.

Southern Medicine and Surgery, Chattanooga.

August.

86 Treatment of Prostatic Hypertrophy. Lewis C. Bosher.
87 Medicinal Treatment of Pneumonia. E. G. Wood.
88 Case of Acute Yellow Atrophy of the Liver, Complicating Appendicitis. Lewis C. Bosher.

Western Medical Review, Lincoln.

August.

89 The Diagnosis and Treatment of Early Tabes. H. Douglas Singer.
90 Clinical Laboratory Methods of Diagnosis. H. H. Waite.
91 Pain as a Diagnostic Factor in Cholecystitis and Cholelithiasis. A. F. Jonas.
92 Notes of a Few Surgical Cases. A. B. Anderson.
93 Diagnosis and Treatment of Stricture of the Urethra. A. C. Stokes.

Journal of Medicine and Science, Portland, Maine.

August.

94 A Few Points on Eczema. R. W. Bucknam.
95 Recent Discoveries in Some Medical Specialties. Baron Munchausen.

Alienist and Neurologist, St. Louis.

August.

96 Forensic Aspect of Double Suicide. James G. Kiernan.
97 Outlines of Psychiatry in Clinical Lectures. (To be continued.) C. Wernicke.
98 Quarter and Semi-Decade Treatment and Curability of Epilepsia. C. H. Hughes.
99 Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-Ethics. (To be continued.) James G. Kiernan.
100 Morbid Exhibitionism. C. H. Hughes.
101 A Psychologic Incident in the Court Room. T. D. Crothers.
102 The Erratic Erotic Princess Chimay; A Psychologic Analysis. C. H. Hughes.

Medical Sentinel, Portland, Ore.

August.

103 Address, Washington State Medical Society. F. H. Coe.
104 Laboratory Committee, King County Medical Society. Kenelm Winslow and J. P. Sweeney.

The Laryngoscope, St. Louis.

August.

105 Malignant Growths of the Nose and Nasal Pharynx. Frederic C. Cobb.
106 Malignant Growths of the Mouth and Pharynx. M. A. Goldstein.
107 Primary Malignant Disease of the Larynx. Chevalier Jackson.
108 Brief Discussion of the Pathology of Malignant Growths of the Upper Air Passages. D. Braden Kyle.
109 Paraffin as a Cosmetic Remedy. M. Delmar Ritchie.
110 Four Unusual Tumors in the Nasopharynx. Walter F. Chappell.
111 Pedunculated Bony Tumor of the Nasal Septum. John D. Richards.
112 A Valuable Adjunct (Method of Keeping Spray Solution at Even Temperature). B. S. Galley.

Pacific Medical Journal, San Francisco.

August.

113 Our Knowledge of the Therapy of Gonorrhea as It Stands To Day. Louis Gross.
114 Medical Profession: Its Politics and Politicians. B. M. Jackson.

Old Dominion Journal, Richmond, Va.

August.

115 The Treatment of Prostatic Hypertrophy. Lewis C. Bosher.
116 Prevention of Tuberculosis. Henry W. Cook.
117 Some Remarks on the Diagnosis of Typhoid Fever. Greer Baughman.

Southern California Practitioner, Los Angeles.

August.

118 Diagnosis and Prognosis of Common Diseases of the Chest. George L. Cole.
119 Reports of Mastoid Cases. H. Bert Ellis.
120 Earache. Frank W. Miller.
121 Eucalyptus Oil: Its Therapeutic Value. Edward G. Binz.
122 The Trained Nurse and the Larger Life. Norman Bridge.
123 Anteroir Uveitis; Its Early Diagnosis and Treatment. Samuel Outwater.
124 Report of Out-Patient Obstetrical Department College of Medicine, University of Southern California. Titian Coffey.

Wisconsin Medical Journal, Milwaukee.

August.

125 Surgical Treatment of Dyspepsia. Roswell Park.
126 Clinical Course and Diagnosis of Arteriosclerosis. Alfred Stengel.
127 Indications for Enterotomy in Some Forms of Intestinal Obstruction, with a Report of Cases. G. F. Shimonek.

Medical Bulletin, Philadelphia.

August.

128 Epilepsy. John V. Shoemaker.
129 Bright's Disease, Renal and Vesical Calculi, and a New Aphrodisiac. John A. Cutter.
130 Tuberculous Pleurisy in the Course of Typhoid Fever. F. Mosny and O. Beufume.

Iowa Medical Journal, Des Moines.

August 15.

131 Pneumonia; Consideration of Its Treatment, Based on the Conception of Its Morbid Changes. Walter L. Bierring.
132 Professional Courtesies. L. W. Littig.
133 Adenoids; Their Diagnosis and Treatment. Harold Bailey.
134 Alopecia Symptomatica Following Scarlet Fever. W. G. Little.

Nashville Journal of Medicine and Surgery.

July.

135 Pseudo-Leukemia. Frank Swope.
136 Report of a Case of Concurrent Ectopic and Uterine Pregnancy. Pruritus Uteri (?), with a Report of a Case. F. J. Runyan.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of excentional general interest.

British Medical Journal, London.

August 27.

1 Discussion on the Control of the Milk Supply.
2 Discussion on Poverty and Public Health.
3 The Teaching of Hygiene in Public Elementary Schools and the Influence on the Public Health of the Infants' Departments of Such Schools. W. Naylor Barlow.
4 School Diphtheria in the Metropolis. C. J. Thomas.
5 *A Plea for Oral Hygiene. K. W. Goadby.
6 *The Segregation of Tuberculous Patients Among Factory Workers. C. W. J. Brasher.

5. Oral Hygiene.—Goadby believes that the far-reaching and widespread effects of the ravages of oral sepsis as a factor in disease are by no means always attributed to their proper cause. Among children, in particular, chronic inflammation of the mouth should be regarded with the utmost suspicion as a mode of hibernation of infectious diseases. Among children we find impaired nutrition, and with it impaired growth; with this, again, badly developed maxillæ, thus completing the vicious circle. Among diseases associated with oral sepsis are the following: 1. Chronic infection of the lymphatic glands of the neck by septic mouth lesions. 2. Anemia and lowering of the resistance of the gastric mucous membrane by the swallowing of staphylococci which are present constantly in suppurating gums. 3. Impaired nutrition due to inefficient mastication owing to carious teeth. The persons who require treatment fall into three classes: 1. Children in schools and children before they reach the school age. 2. Young adults, such as the domestic servant, shop assistants, etc., who, generally, are unable to pay for services. 3. The general mass of the working class population, many of whom can afford small payments. For children under the school age efficient cleansing of

the teeth is all that is required. In order to take care of the teeth of school children properly the author favors the appointment of dental surgeons, whose work should consist of: 1. Periodical inspection once in three months, at least, of the children at the schools. 2. The treatment of dental caries and conditions of oral disease at some central place to which the children could be sent. 3. The superintendence of the periodical cleansing of the mouths of all the younger children by an intelligent assistant, under the supervision of the dental surgeon. For the care of the second and third class Goadby suggests the following: 1. The appointment of dental clinical assistants, at a salary, by the various dental hospitals. 2. That a nominal payment be made by the patients to cover the working expenses. 3. Only the treatment of dental caries and of oral sepsis be allowed. 4. The clinical assistants should be under the jurisdiction of the hospital staff. In this manner oral cleanliness can be given the attention it deserves, and much harm averted.

6. **Tuberculous Factory Workers.**—Brasher describes the method of procedure at a large factory in Bristol having in view the segregation of tuberculous patients. Applicants for work are examined as for life insurance, particular attention being paid to the condition of the lungs and heart. Those having very unhealthy tonsils or suffering from adenoids are required to submit to operation before being admitted to the factory. The superintendents are instructed to report any evidence of failing health in any employe. All girls suffering from phthisis are suspended from work and put on the "sick fund." Until they can be sent to a sanatorium they are treated at home or at the factories, and are instructed as to proper diet, ventilation, rest and other details of the "open-air treatment." Patients who have suffered from phthisis are not encouraged to return to the factories after apparent cure, but rather to seek some outdoor employment, and are assisted as far as possible to obtain such. Patients with tuberculous lymph adenitis or peritonitis are allowed to resume work if cured, but no phthisical patient would be allowed to return to work until repeated examinations of the sputum had given uniformly nega ive results. The results obtained have been excellent, such as warrant the institution of similar methods in all factories employing much help.

The Lancet, London.

August 27.

7 *The Serum Treatment of Exophthalmic Goiter. George R. Murray.
8 The Radical Cure of Patent Urachus. B. C. Stevens.
9 A Case of Acute Diabetes Insipidus with Fatal Coma. Alfred H. Carter.
10 Meningeal Infection by the Diplococcus Pneumoniæ, Simulating Infective Cerebrospinal Meningitis. W. G. Barras.
11 *Hemorrhagic Smallpox. Charles Fraser.
12 Formaldehyd In Milk. W. Scott Tebb.
13 Two Cases of Poisoning by Mussels—One Fatal. R. Rolfe.
14 A New Pathogenic Bacterium Causing Basal Meningitis in Infants. W. D. Emery.

7. **Serum Treatment of Exophthalmic Goiter.**—Murray prepared an antitoxic serum to be used in the treatment of exophthalmic goiter by injecting rabbits with from five to ten minims of liquor thyroidei daily for a period of about five weeks. After thorough coagulation of the collected blood the serum was decanted into small sterilized glass bottles, 0.2 per cent. carbolic acid was added, and the glass stoppers were sealed with paraffin. Two cases were treated with this serum, the dose varying from 5 to 10 minims, given three times a day. Although the condition of both patients improved considerably, the subjective symptoms being diminished in severity, Murray is inclined to ascribe this improvement to the rest in bed and not to the serum. He believes it quite possible that if larger animals were employed—he used rabbits—and larger doses of thyroid extract given, a serum might be obtained which could be used for hypodermic injection in acute cases, or for administration by the mouth in chronic cases, where prolonged treatment would be required.

11. **Hemorrhagic Smallpox.**—Fraser calls attention to the variation in the number of cases of hemorrhagic smallpox in different epidemics and presents a clinical note of 36 cases. He recognizes three types of hemorrhagic smallpox: 1. Characterized by the appearance during the initial stage of the disease of hemorrhagic changes in the skin and visible mucous membranes, resulting in the production of petechiæ and ecchymoses, the patient almost invariably dying before the characteristic smallpox eruption has had time to declare itself. 2. Cases in which the hemorrhagic element involves not only the region of the pock but areas free from eruption. 3. Cases in which the area of the pock alone is involved. A review of Fraser's report brings out one or two prominent points. In the first place, the unvaccinated person suffering from smallpox appears to be more liable to this type of the disease than the vaccinated. In his cases 3.3 per cent. of unvaccinated persons suffered from the hemorrhagic type, as against 3.1 per cent. of the vaccinated. Only 3 out of his series of 36 cases were under 10 years. Out of a total of 1,200 treated at the Dagenham Hospital during the epidemic of 1902—from which Fraser takes his 36 cases of hemorrhagic smallpox—198 persons were under 10, practically all of them being unvaccinated; 1.5 per cent. of these suffered from the hemorrhagic variety as against 3.3 per cent. of all cases over that age. Men were more frequently affected than women, in the proportion of 20 to 16. Fraser directs attention to an interesting fact, the voraciousness of the patient's appetite and his ability to retain and utilize nourishment. In a few cases gastric derangement with vomiting was prominent, and even in these cases the patients displayed an anxiety for food which they were unable to retain. This seemed to be a characteristic of smallpox patients in general; the increased gravity of the hemorrhagic type did not appear to diminish the desire for nutriment.

Glasgow Medical Journal.

August.

15 *Case of Chronic Lymphatic Leukemia. John W. Findlay.
16 Intraperitoneal Hemorrhage and Hematocele Arising from Tubal Abortion or Rupture, with Records of Illustrative Cases. G. Balfour Marshall.

15. **Chronic Lymphatic Leukemia.**—Findlay reports a case of this kind occurring in a man aged 60 who complained of weakness and breathlessness of sixteen years' duration, and of pallor and of enlargement of the lymphatic glands of two years' duration. There was a well-defined history of syphilis contracted over forty years ago, but until two years ago the symptoms of the present trouble were not very marked, except the weakness and breathlessness. The patient first noticed lumps under his chin, which increased steadily in size for two or three weeks, after which they got smaller until they became little larger than haricot beans. Next the glands on both sides of the neck swelled, then the glands in the left axilla, followed by those in the right. All these glands first became large and then small and hard. Edema of the face and eyelids, feet and legs has existed for about one year. There have never been any fainting fits or attacks of giddiness and palpitation. The dyspnea became so bad as to confine the patient to the house For several months there was pain and tenderness over the lower half of the sternum. The appetite has been good throughout and gastric and intestinal disturbances have been completely absent. Repeated blood examinations showed a marked falling off in the number of red cells as low as 1,175,000, and a leucocytosis of 152,500. The increase in the white cells was confined solely to the small lymphocytes, which equaled 95 per cent. of the total number. The polymorphonuclear neutrophiles fell to 2.5 per cent. All the other white cells had fallen below the normal percentage. The hemoglobin fell to 25.5 per cent. All the glands are freely movable under the skin; no very large glandular masses were seen; the glands were all soft, though not at all of that softness which suggests fluctuation The tonsils were not enlarged nor was there any excess of lymphoid tissue about the base of the tongue. Thyroid is normal. Examination of the heart and abdominal organs did not show anything markedly abnormal. The case, beyond a doubt, was one of chronic lymphatic leukemia. A slight improvement in the general condition of the patient followed the use of Fowler's solution, 15 minims per diem; the red corpuscles and hemoglobin percentage have increased slightly, but the leucocytosis has become much worse.

Medical Press and Circular, London.

August 17.

17 The Study of Bionomics in Relation to the Diminishing Birth Rate. W. R. MacDermott.
18 Acetozone; a Note on Its Value as an Antiseptic and Germicide. James Burnet.
19 Case of Suppurative Knee-joint. A. R. Brackett.
20 *Thyroid Grafting in Human Beings. H. Christiani.

20. Thyroid Grafting.—Christiani continues his study of homo-thyroid grafting. He made use of three classes of thyroid: 1, normal thyroid substance; 2, slightly altered substance; 3, manifestly altered. The recipient organisms were normal in one case, apparently normal in the second, and distinctly diseased in the third case. By combining these different elements the grafts paved the way to the following eventualities: 1, graft of normal thyroid substance in a normal organism; 2, graft of thyroid tissue manifestly altered in a normal organism; 3, graft of thyroid tissue apparently but slightly altered in an apparently normal organism; 4, graft of normal thyroid tissue in an organism clearly diseased; 5, graft of manifestly diseased thyroid tissue in a manifestly diseased organism, and, 6, graft of slightly changed thyroid tissue in a manifestly diseased organism. Some of these tissues were removed in from six to fifteen months after their implantation and subjected to microscopic examination, from which the author concludes that thyroid grafts are possible in man, and that by this means we can obtain permanent neo-thyroid glands. The results from an anatomic point of view are excellent, provided normal gland be employed. They are positive even when moderately changed gland substance is employed, as in cases of slight goitrous degeneration. They are negative, on the other hand, when an obviously diseased gland is used. Further observation will be required to establish within what limits goitrous tissue may be employed with this object in view. From a clinical point of view it may be concluded that the preventive thyroid graft, that is to say, a graft made in cases where, after too radical extirpation of the organ, the subject is threatened with cachexia strumipriva, may avert the impending manifestations. In idiopathic myxedematous hyperthyroidea grafts are equally apt to develop and persist, provided always that the tissues employed have not undergone too marked changes. Since experiments on animals show that the thyroid organ, when it persists with its normal histologic characters, is perfectly capable of fulfilling the function, there is no obvious reason to question the probability of a similar result when it persists in man. With the object of avoiding the immediate transplantation of the organ from the donor to the recipient, Christiani investigated the preservation of thyroid tissue in various liquids, and, so far as they go, these researches tend to show that this preservation, at any rate in respect to the thyroid of the rat and the rabbit, is possible in artificial serum and in the blood serum of certain animals, but only for a comparatively short period of time (rather under an hour instead of ten seconds in the air). The author is carrying on another set of experiments having in view a simplification of the implantation of the thyroid tissue. Thyroid tissue, reduced into very small fragments by the aid of a sharp knife and with every precaution to avoid crushing, which would destroy its vitality, may be emulsified in the preservative liquid and injected into the selected organism through a trochar or large hollow needle. These experiments, which are still in progress, have not as yet given results sufficiently conclusive to warrant the formation of definite conclusions. Thyroid grafting probably never will take the place of thyroid medication. Not only does the latter method of treatment remain indicated in cases where grafting is impracticable, but it may be required as a preliminary step to grafting in order to prepare the soil in the presence of grave disturbances of nutrition, and, indirectly, to assist in the development of the transplanted thyroid tissue by avoiding the risks inherent to too early and exaggerated functional demands.

Revue de Chirurgie, Paris.

Last indexed page 228.

21 (XXIV, No. 7.) *Evolution anatomique des fractures mobilisées dans le but de provoquer des pseudarthroses. Rôle des muscles dans la consolidation des fractures et dans les pseudarthroses. V. Cornil and P. Coudray.
22 *Des ostéomes de l'intestin. E. Quénu.
23 *De la perforation des ulcères de la petite courbature (perforations hautes, high gastric ulcers). E. Villard and L. Pinatelle (Lyons). (Commenced in No. 5.)
24 (No. 8.) *Du traitement des fractures récentes fermées par l'agrafage métallique (wire fixation of recent, uncomplicated fractures). C. Dujarler.
25 *Bactériologie de l'appendicite. O. Lanz (Amsterdam) and E. Tavel (Berne). (Commenced in No. 7.)
26 *Leucocyte Curve in Surgical Affections. C. Julliard (Geneva). —De la valeur clinique de la combe leucocytaire dans les maladies chirurgicales et en particulier dans l'appendicite. Etat de la question. (Commenced in No. 5.)

21. Consolidation of Mobilized Fractures.—The extensive experimental research described demonstrates that daily displacement of the fractured stumps does not prevent consolidation. It may be retarded and the callus may be unduly large and misshapen, but the consolidation is very firm. The mobilization was much more vigorous than in therapeutic massage and mobilization. When a pseudarthrosis forms it is due more frequently than generally supposed to interposition of a fragment of muscle. In other cases it is due to the *chevauchement* of the fractured bones. A rarefying osteitis may be incriminated in certain cases, and in others a fatty rarefaction of the bone. Syphilis is the only general cause known to date, but certain local causes may co-operate, among them the interposition of a scrap of bone, effusion of blood or suppuration.

22. Osteomata of the Intestine.—Quénu had occasion to operate on a patient exhibiting symptoms of constriction of the small intestine. The stricture was caused by patches of bone formation, the only case on record, to his knowledge, of such ossification, neoplasia and consequent stricture formation. He gives eight views of the resected portion of the intestine, and cites the experience of veterinarians with osteomata in the intestines of horses. An osteoma may exist without any other alteration in the intestinal walls. In the case described the first clinical sign of its presence was colic pains, very severe. Colics from this cause may terminate in rupture of the intestine. The osteoma may be associated, probably secondarily, with a vegetating adenoma of the intestinal mucosa and form a tumor entailing obstruction of the gut. The osteoma is also liable to induce ulcerative lesions in the intestinal mucosa (with or without a true neoplasm, according to the interpretation placed on the specimens illustrated), entailing in time a tight, cicatricial stricture of the small intestine.

23. Perforation of Ulcers in the Lesser Curvature.—Villard and Pinatelle remark that in the surgical treatment of perforated gastric ulcer too little attention has been paid hitherto to the site of the ulcer as an indication for the mode of intervention. In 2 cases they found it impossible to expose and suture the perforation on account of its location high up on the lesser curvature. They proceeded, therefore, to wall off the perforation by throwing up a barrier below. This was accomplished by suturing the anterior aspect of the stomach at the middle to the anterior wall of the abdomen. This formed two separate pockets. The upper pocket included the perforation and the focus of perigastritis. It was drained. The lower pocket corresponded to the large abdominal cavity. In the 350 cases of perforation of a gastric ulcer on record, 115 are mentioned as being on the lesser curvature or cardia, that is on the upper and less movable part of the stomach. Perforation occurs in only about one-third of these "high" ulcers. This comparative infrequency of perforation is due to the high, protected site, its immovability and frequent existence of adhesions. These adhesions limit the peritoneal infection and impress certain characteristics on it, peculiar to the region, when it does occur. Clinically, the persistence of vomiting is a constant sign; antecedents of an ulcer are found more frequently, and the symptoms assume a subacute course or recur in successive exacerbations. These clinical findings suggest that it may be better to operate in a preventive sense whenever a patch of perigastritis develops rapidly, accompanied by indications of a reaction on the part of the peritoneum. The intervention should be the walling off of the patch with gauze, supplemented by gastroenterostomy. After perforation has occurred, a laparotomy should be done at once and the per-

foration be sutured, if possible. If not, owing to peripheral adhesions or friability of the edges of the perforation, the intervention may have to be restricted to walling off the perforation. The protecting adhesions should always be respected. In case of extreme friability or extent of the lesion, sutures may be applied at a distance or the perforation may be sutured to the skin or to the omentum, or all three methods may be combined, walling off the site with gauze. The bibliography to the end of 1902 is reviewed.

24. **Clamp Fixation of Recent, Uncomplicated Fractures.**—Dujarier describes 4 cases with a number of illustrations, in which the usual measures for treatment of a recent fracture proved ineffectual. Radioscopy showed malposition of the parts, and there was pain and ulceration was feared. Under these circumstances an incision was made down to the bone and a couple of two metal clamps, like double-headed tacks, were driven into the shaft of the bone to hold the stumps in place after reduction. The holes were drilled for the clamp to the exact size and depth of the legs of the clamp, and it was driven into place with light blows on the alternate legs, using a light steel hammer with a tapering head and a nail-set to insure that the blows fell axial to the points of the clamp and without danger of injury to the soft parts. The results in the 4 cases showed that when the clamps are driven in a bone covered with thick soft parts, such as the radius or femur, they remain solidly implanted with no tendency to work loose. In a superficial bone they are exposed to this tendency. In one of his patients the fracture of the tibia consolidated in less than a month, but the patient returned after a certain time

with signs of fistula formation over the callus. The clamps were removed without anesthesia and there has been no disturbance since. A second patient complained of slight discomfort at the point where the tibia had been fractured and the clamps applied. They were removed as a prophylactic measure, fearing that they might work loose later. They were found so solidly implanted, however, that some injury was done to the bone in removing them. No attempt should be made to remove them until they give signs of being loose. In other cases they healed perfectly in place and insured ideal consolidation of the femur and radius, with perfect functional results, after failure of the ordinary measures. The indications for their application may be deduced from the results observed in these 4 cases. The age, general health, occupation, etc., should be considered in determining the indications for the use of the clamps or agrafes, as the French call them. The latest approved model is shown herewith. The side toward the bone is flat and the clamp is made extra thick at the bend to straighten this, the weakest point.

25. **Bacteriology of Appendicitis.**—Lanz and Tavel's communication is based on the bacteriologic study and clinical description of 130 cases of appendicitis. Their findings indicate that the normal appendix presents the same microbian flora as the large intestine. In case of inflammation leucocytes are attracted to the spot, with active phagocytosis, with the result that the pathologic appendix was found sterile in 10 per cent. of the cases (mostly examined *à froid*), while the normal appendix was never found sterile.

26. **Leucocyte Curve in Surgical Affections.**—Julliard concludes his comprehensive study of this subject and its literature with the statement that the leucocyte curve is a valuable diagnostic aid in appendicitis, peritonitis, and all affections in which there is suppuration not accessible to exploration. It is destined to increase in importance in comparison with the ordinary diagnostic measures consecrated by long experience but which sometimes prove indecisive. It is certainly as valuable a sign as the temperature, if not more so. In many instances in which the temperature was indecisive the leucocyte curve supplied the missing information. The few cases which give paradoxical findings according to our present knowledge may possibly be explained some day, and they should not induce us to disregard such a precious symptomatic element as the leucocyte curve. It should be determined in every case of appendicitis in which the surgeon is not absolutely sure whether the case is tending toward aggravation or improvement of the infectious process. In such dubious cases the leucocyte curve may prove extremely valuable, both for the diagnosis, prognosis and treatment. In non-suppurative appendicitis the leucocyte curve approximates the normal (9,000) or ranges between normal and the lower limit of suppuration, that is, between 10,000 and 25,000. There may be considerable rise at first, but it is briefly transient. Suppuration sends the curve above 25,000 for two or three days, and purulent peritonitis causes it to remain high unless the resisting powers are enfeebled. When the leucocyte curve remains above 25,000 it indicates suppuration, and this testimony should be given the predominance over that of other, possibly conflicting symptoms. The leucocyte curve enables a suppurative appendicitis to be differentiated from typhoid fever, from a non-inflammatory tumor of the cecum or fecal stasis therein. In the first case it is high; in the others it persists normal. The absence of a high leucocyte curve, however, does not preclude the existence of suppuration, as, in exceptional cases, there may be suppuration without hyperleucocytosis. Julliard reviews the leucocyte findings in a number of other surgical affections. Perirenal abscesses cause a leucocytosis of 12,000 to 25,000, and may thus be differentiated from a cold abscess or tuberculous process. Abscesses in the liver send the leucocyte curve higher than any other purulent collection in the organism. The leucocytes may number 45,000 to 90,000. In peritonitis a leucocytosis over 25,000 for two or three days is presumptive evidence of pus formation. In septicemia the general infection sends the leucocytes up to 37,000 or even 57,800 in some cases, and the curve is a valuable means of information in regard to the evolution of the infectious process and the resistance offered by the organism. One case of septic meningitis has been reported in which the leucocytes numbered 20,000, while in a tuberculous meningitis they numbered merely 6,000 to 8,000, although the temperature was high. Abscesses at the periphery cause much less leucocytosis than deep-seated abscess formation. In erysipelas the leucocyte findings are frequently absolutely opposite to the temperature findings. The leucocytosis increases with the progress of the affection. Wassermann observed one case in which the leucocytes increased from 9,600 to 30,500 without any rise in temperature, although terminating fatally. The leucocyte findings seem to be contradictory in case of malignant disease, although extensive ulceration is generally accompanied by an increase. Another point generally admitted is that the leucocyte curve rises when there is generalization of a primary neoplasm. When the metastasis occurs in the bone marrow, myelocytes are usually encountered in the blood. In case of ulcer and cancer of the stomach the leucocytosis of digestion may afford diagnostic information. In case of cancer there is no leucocytosis of digestion, while it can be noticed in case of round ulcer. The leucocytosis of digestion should always be examined before surgical intervention on the stomach, in order to determine the condition of the mucosa and the possibility of its functioning. Hence the normal condition of the blood in case of a duly diagnosed cancer of the stomach may impel to early intervention. There does not seem to be any parallel between the leucocytosis and the temperature. They are not symptoms which can be substituted one for the other, but, on the contrary, they complete and throw light on each other. Their nature and final causes are not necessarily identical. The leucocyte curve varies more sensitively than the temperature curve. The fluctuations of the morbid process are frequently reflected in the leucocyte curve long before they are manifest in the temperature.

Münchener medicinische Wochenschrift.

27 (LI, No. 31.) *Cause of Colic. Wilms.—Die Ursache der Kolikschmerzen bei Darmleiden Gallensteinen und Nierensteinen.

28 *Studien über die Temperatur erkrankter und hyperämisierter Gelenke (joints). R. Kothe.
29 *Action of Radium on Animal Tissue. H. Heineke.—Zur Kenntnis der Wirkung der Radiumstrahlen auf tierische Gewebe.
30 Zur Kasuistik der Meningocele sacralis anterior. W. Nieberding.
31 *Ein Riesen-Ovarial-Cystoma. P. Zacharias.
32 *"Steeple Skull" and Optic Atrophy. K. Velhagen.—Ueber Turmschädel und Sehnervenatrophie.
33 Tip of Whiplash Imbedded in Eye. Nöldeke.—Eine ungewöhnliche Fremdkörperverletzung des Auges.
34 Cutting Forceps for Nose. Voss (Passow's clinic, Berlin.)—Eine neue schneidende Zange für die Nase.
35 Mouth Lamp Spatula with Mirror. H. Kricheldorf (Freiburg.—Mundbeleuchtungspatel mit ansetzbarem Mundspiegel.
36 *History of Medicine and Hippocrates. M. Roth.—Geschichte der Medizin und H.

27. **Cause of Colic.**—Wilms ascribes the pains to the pulling and stretching of the distended biliary passages at their points of fixation. This pulls on the sensory nerves there, and is the cause of gallstone colic pains. When the gall bladder is normal it is more flexible and is able to pull harder than when it has become hard and thick. This causes more violent pains, and it may be accepted as an axiom that the nearer to normal the condition of the gall-bladder walls, the severer the colic. Intestinal colic is due to the same cause, traction on the sustaining mesentery. The contraction of the intestinal wall tends to straighten out the gut, and the resistance to this straightening out offered by the mesentery is the cause of the colic in this case. The conditions are similar in renal colic. Occlusion of the ureter causes stagnation of urine with dilation of the pelvis of the kidney and consequent pulling and stretching of the capsule. There do not seem to be any sensory nerves in the mucosa of the ureter.

28. **Temperature of Diseased Joints.**—Kothe has devised a means of taking the temperature over large areas of the body. It shows that when there is a disturbance in the circulation within, the circulation in the skin over the part also varies from normal to correspond. The application of dry hot air raises the local temperature, sometimes as much as 8 degrees centigrade. Alcohol compresses likewise raise the temperature of the part, but constriction, inducing passive hyperemia, gradually reduces it.

29. **Action of Radium on Animal Tissue.** Heineke's studies have demonstrated that the action of radium rays is approximately the same as that of the Roentgen rays. Lymphoid tissue is affected by them through the skin in the same way, but not to the same extent as with the Roentgen rays, unless the radium is brought into close contact, when a brief exposure will induce astonishingly extensive changes in the lymphoid tissue, apparent in a few hours.

31. **A Giant Ovarian Cystoma.**—Zacharias tabulates 14 of these giant tumors from the literature, including Barlow's case, in which the total weight of the tumor was 135 kilograms, more than 270 pounds. He describes a case personally observed in which the distance between the xiphoid process and the symphysis was 110 cm. and the circumference of the abdomen 187 cm., over two yards. The patient was a small, thin woman, but she weighed 264 pounds before evacuation of the cyst and 125 pounds afterward. The weight of the fluid evacuated must thus have been about 139 pounds. An exploratory laparotomy is advisable when an operation is contemplated, in order to discover a point for the incision where there are no adhesions. If extirpation is found impossible, repeated puncture is the next resource, but the fluid reaccumulates constantly in most cases and the intervals have to be made shorter and shorter. It is possible by this means to keep the patients for years in comparative health. Ford thus tapped a cystoma forty nine times in five years, withdrawing 2,786 pints. Wagner reports 299 punctures during eight years in one case, withdrawing 9,867 pounds of fluid contents.

32. **"Steeple Skull" and Optic Nerve Atrophy.**—Velhagen has had occasion to observe 3 cases in which the skull tapered upward, causing the orbits to be abnormally shallow, and inducing atrophy of the optic nerve. He theorizes that this atrophy may be due partially to the excessive bone growth in these parts, and partially to the facts that the skull attains its principal growth in the period terminating with the seventh year, and that a large number of ossifying centers are grouped at the small end of the orbit funnel. His patients were 6, 17 and 23 years old, and the eyeballs protruded to a marked extent in each case. They applied for relief from the typical symptoms of choked disc. Friedenwald found 12 of these "steeple skulls" among 19 cases of visual disturbances accompanying skull deformities. In the cases described the symptoms of choked disc became suddenly aggravated and, as suddenly, took an unexpected turn for the better. The visual disturbances may subside completely if the cranial deformity is not very pronounced. The bone growth in the part is liable to become so excessive that the "physiologic congestion" of normal growth becomes so intense that exudation results, with consecutive ocular disturbances. They subside as the exudate is reabsorbed.

36. **History of Medicine and Hippocrates.**—Roth remarks that the question whether Hippocrates or several authors wrote the great work which we call by his name can be decided only by the discovery of works preceding or contemporaneous with him. None is known to date. It is the most ancient and the only monument of Grecian medicine, and its contradictions and problems can be solved only by study of its pages by some physician familiar with the history of medicine. Professional philologists or historians are not required for the task. Roth sketches the influence of Hippocrates' writings on the history of medicine.

Wiener klinische Wochenschrift.

Last indexed page 289.

37 (XVII, No. 25.) New, Independent Exanthem. D. Popischil (Vienna).—Ein neues als selbständig erkanntes akutes Exanthem.
38 *Klinischer Beitrag zum Hydrocephalus syphilitischen Ursprungs. D. Galatti.
39 *Ueber einen Wangen-Tumor (of cheek). W. Wienert.
40 Das Neue physiologische Institut in Vienna. S. Exner.
41 *Pseudo-Hermaphroditismus. N. Swoboda. From society report.
42 (No. 26.) *Ueber die Sekundar-Infektion bei Tuberkulose. J. Sorgo (Alland).
43 *Zur Kritik der Pilzvergiftungen (mushroom poisoning). J. Hockauf.
44 Neuritis bei einem unter Serum-Behandlung geheilten Fall von Tetanus traumaticus. V. Grünberger.
45 Ueber bazilläre Dysenterie, speziell im Kindesalter. K. Leiner
46 Hydrophobia in Germany. C. Sternberg.—"Die Tollwut in Deutschland und ihre Bekämpfung."
47 (No. 27.) *Ueber experimentelle Leber-Cirrhose. G. Joannovics.
48 Ueber 2 Fälle von Pulmonal-Stenose. G. Pommer.
49 *Superinfektion und Primär-Affekt. L. Detre-Deutsch
50 *Struma und Tetanie. J. Jacobi.
51 Gedächtnissrede auf Otto Kahler. F. Kraus.
52 (No. 28.) *Bericht über die von der erweiterten Uterus-Carcinoma Operation zu Erwartenden Dauer-Erfolge (remote results of more extensive operating). E. Wertheim.
53 *Nieren-Chirurgie und funktionelle Diagnostik (of kidneys) G. Kapsammer.
54 Radio-Aktivität der Karlsbader Thermen. A. Herrmann and F. Pesendorfer.
55 Biologische Reaktionen mit Bandwurm-Extrakt (of tape worm). R. Fleckseder.
56 2 Fälle von subkutaner Zerreissung des Musculus biceps brachii (laceration of). R. Hahn.
57 (No. 29.) Experimental-Untersuchungen über die Folgen parenteraler Einverleibung von Pferdeserum (parents treated with horse serum). R. Dehne and F. Hamburger.
58 Ueber abdominelle Infektionen mit Mikrococcus tetragenus. R. Müller.
59 *Stools in Cholelithiasis. von Oefele.—Der Kot bei Gallensteinen.
60 (No. 30.) *Ueber Behandlung des endemischen Kretinismus mit Schilddrüsen-Substanz (thyroid). J. Wagner von Jauregg. Official report.
61 Diabetes in Relation to Kidney Affections. B. Vas.—Der Diabetes in Verhältnis zu den Albuminurien bezw. Nierenkrankheiten.
62 Hypersusceptibility of Tuberculous Animals. O. Ball (Prague). Ueberempfindlichkeit bei tuberkulösen Tieren.
63 (No. 31.) Consequences of Parental Injection of Various Albuminoids. F. Hamburger and A. v. Reuss.—Die Folgen parenteraler Infektion von verschiedenen genuinen Eiweiskörpern.
64 Ueber die Gruber-Widalsche Reaktion bei Ikterus. V. Zeyl.
65 *Ueber Botulismus; 3 geheilte Fälle von Wurstvergiftung (sausage poisoning). O. Pelzl (Budapest).
66 Verwechslung von Enzianwurzel mit Belladonnawurzel (confusion of gentian and belladonna root). J. Hockauf.
67 Pemphigus des Oesophagus. R. Tamerl. (Commenced in No. 29.)

38. **Hydrocephalus of Syphilitic Origin.**—Galatti describes a family with a syphilitic taint which manifested itself in an early hydrocephalus. It was not recognized in the first of the 3 children, and the child succumbed to marasmus. Energetic

mercurial treatment restored the other children to health. The heads were all within normal limits, merely rather large, a rapid increase in size having been noted. Attacks of screaming and restlessness in early infancy were retrospectively regarded as further evidence of hydrocephalus. The case emphasizes the little dependence that can be placed on parents' statements—both scouting the idea of a possible syphilitic origin for the symptoms observed in the first fatal case in the family. Galatti advocates immediate mercurial treatment in every case of hydrocephalus of uncertain origin. The Neapolitan school treats every case of hydrocephalus with inunctions, and the successful results observed are probably due to the fact that so large a proportion are of syphilitic origin.

39. **Cystadenoma Papillare.**—Wienert reports and illustrates what he believes is a hitherto undescribed tumor, a papillary cystadenoma originating in the outlets of the glands in the mucosa of the cheek, with cystic degeneration.

41. **Pseudo-Hermaphroditism.**—Swoboda remarks that male pseudo-hermaphroditism is of much more frequent occurrence than the female, and yet, in doubtful cases, physicians generally advise that the child should be brought up as a girl. He protests against this practice, thinking that the arguments are all in favor of bringing such children up as boys, if the parents refuse their consent to a diagnostic operation, or one proves indecisive. He urges legislation to recognize, besides males and females, persons of an "indeterminate sex." There used to be a law in Prussia allowing persons belonging to this category to choose for themselves, on reaching their majority, the sex to which they should nominally belong. This law has been repealed, but he thinks it is better than the present law, according to which such a person runs the risk of being referred to one sex or the other in turn by different physicians who may examine him in succession.

42. **Secondary Infection in Tuberculosis.**—Sorgo states that 10 febrile tuberculous subjects were examined for the supposed secondary infection. In 9, pure cultures of the tubercle bacilli were obtained, and in only 1 did the findings indicate mixed infection.

43. **Mushroom Poisoning.**—Hockauf writes from considerable personal experience and acquaintance, presenting an extensive study of mushroom poisoning as observed in Austria.

47. **Experimental Cirrhosis of the Liver.**—Joannovics was able to induce lesions, similar to those in man, by administering to guinea-pigs ammonium carbaminate and carbonate by the mouth, by inhalation of alcohol, repeated subcutaneous injections of chloroform, and by the action of poisons like tolylendiamin which destroy the red corpuscles and indirectly induce icterus and lesions in the liver tissue.

49. **Super-Infection and Primary Lesion.**—Detre-Deutsch is chief of the Jenner-Pasteur Institute at Budapest, and has had fine opportunities for the research described. It was undertaken to study the question of super-infection in syphilis. We know that a syphilitic subject can not acquire the primary bubo again. This has been assumed to mean that he was immune to reinfection, but the results of the research described show the matter in another light. They demonstrate that the initial symptoms induced by a virus in an already infected subject may differ widely from the initial symptoms observed in the primary infection. The presence or absence of the initial symptoms is, therefore, no criterion as to the success or failure of a superposed inoculation. The altered biochemistry of the organism may cause the primary symptom-complex to vary from the standard type as effectually as in case of acquired immunity. The animal organism may have acquired a super-infection notwithstanding that the typical initial symptoms of a new infection are entirely absent. The research was conducted with tuberculosis on guinea-pigs—as many of the conditions approximate those observed in human syphilis.

50. **Struma and Tetany.**—Jacobi has observed coincident struma and tetany in a mother and 2 children in a working family. The children were 19 and 15 years old when the tetany developed. In a fourth case the tetany developed and recurred only during pregnancies, the patient exhibiting constantly a mild form of exophthalmic goiter. This case confirms the assumption of a connection between the thyroid gland and the tetany.

52. **Remote Results After Extensive Uterine Cancer Operations.**—It is now four years since Wertheim proclaimed the necessity for more radical extirpation in cases of cancer of the uterus. He now announces from his six years' experience that the remote results are incomparably better since he has extended the operation. Out of 14 cases, representing an operability of 29.2 per cent., 9 are free from recurrence after four years. Out of 31 cases, representing an operability of 45 per cent., 19 are free from recurrence after three years. Out of 43 cases, representing an operability of 51 per cent., 26 are free from recurrence after two years. In the cases of recurrence the new growth always originated in the iliac glands. He has never found one in the inguinal glands. It is impossible to remove all the glands, and the superiority of his remote results is evidently due to his more thorough extirpation of the cancer itself. As soon as he adopted his technic of more extensive operating, the proportion of operable cases increased from 29 to 45 and 51 per cent. He never operates through the vagina except in case of incipient cancroid of the portio vaginalis. He believes in extirpating the glands as completely as possible, if only from the prognostic standpoint. Recurrence was noted in less than a third of the cases in which the extirpated glands showed no trace of cancer.

53. **Functional Diagnosis of the Kidneys.**—Kapsammer denies that cryoscopy of the urine has any diagnostic value beyond that of a mere hint that something is possibly wrong when the freezing-point is much below normal. He cites a number of instances from his experience to show how misleading it is liable to be. In a case of bilateral pyelonephritis, for example, the freezing-point of the urine was, left, —1.17 C., and, right, —1.82. In a healthy subject he found the figures respectively —.40 and —.50 C. Such anomalies may be due to polyuria of one kidney, and, to guard against false deductions, the amount of urine secreted by each kidney during a given period should be determined, if possible. In another case there was bilateral, gonorrheal pyelitis and stones in the right kidney, and yet the freezing-point of the blood was —.56, the normal figure, as also in another subject, a man with bilateral renal tuberculosis. In another patient it was also normal, although the operation revealed bilateral pyelitis, the left kidney reduced to a loose sack whose walls were nothing but a layer of kidney parenchyma not more than 1 to 2 mm. thick. The right kidney was contracted and much inflamed, only one-fifth of its substance being capable of functioning. The Voelcker-Joseph indigo carmine test has established its value for revealing the mouths of the ureters, for study of the type of the secretion, and, associated with catheterization, is a valuable functional, diagnostic measure, much superior to the methylene blue test. Kapsammer modifies the phloridzin test and has thus applied it in 70 cases. Thirty of the patients were operated on and the findings exactly confirmed those of the test in every instance. The main point for the diagnosis is the interval before the glycosuria appears. He makes a subcutaneous injection of .01 gm. phloridzin in an aqueous solution, just boiled, so that it is still warm. Sugar appears after twelve to fifteen minutes in normal subjects. If it does not appear until after twenty to thirty minutes, the kidney is somewhat impaired, but still able to assume the total function. If no sugar appears until after thirty minutes, the conditions forbid nephrectomy. In a number of instances this test was the only one that could be relied on as an indication for surgical intervention. This was recognized too late for some of the cases—the findings at the operation confirming the results of the test which had not been heeded by the surgeon. The greatest benefit from these new functional tests—at the head of which he places simultaneous catheterization of both ureters—is in the possibility of an early diagnosis, and enlargement of the sphere of nephrectomy at the expense of nephrotomy. He adds in conclusion that we need not dread any reflex anuria of the second, sound kidney. The anuria noted and assumed to be of this nature is always in reality due to insufficiency of the second kidney, already

diseased. For the Voelcker-Joseph test, see page 69, of the last volume.

59. **Feces in Cholelithiasis.**—The results of 85 examinations of feces are tabulated. They indicate that the composition of the feces varies materially from normal in case of stoppage of the flow of bile or a supply of abnormal bile.

60. **Thyroid Treatment of Cretins.**—Seventy-two cases of endemic cretinism improved to a remarkable extent under mild thyroid treatment. The majority of the subjects were restored apparently to normal conditions.

65. **Three Cured Cases of Meat Poisoning.**—Pelzl found high irrigation of the intestines, with some irritating substance, such as glycerin or magnesium sulphate in the water, the best means to promote the removal of the cause and induce copious stools. Calomel and other purges afforded no relief. Another extremely important measure was the prompt resort to artificial feeding through the stomach tube, which abolished the distressing swallowing movements, liable to induce foreign body pneumonia or death from suffocation. The mechanical stimulus from the stomach tube and the moistening of the esophagus improved conditions to such an extent that fluids could be safely ingested in two days. A favorable effect was also obtained from pilocarpin, which was given throughout the week, 20 drops of a 1 per cent. solution by the mouth every morning. No indications of collapse were observed with this dosage, but they followed a warm bath. The diet was at first milk, with a little wine, but as soon as the paralysis of the swallowing mechanism was overcome, a streng hening diet was taken. Moist sausages and other moist meat conserves are much more liable to cause meat poisoning than the dry. Pelzl reviews the literature and explains the symptoms of botulism observed in his 3 cases as due to the action of the poison on the nuclear region from the end of the third ventricle to the beginning of the spinal cord in the neck. He gives a diagram to sustain this assumption, grouping the symptoms in 7 phases, appearing in turn, as 1, mild gastrointestinal disturbances, paresis of the intestines in 1 subject and vomiting and diarrhea in the others; 2, extreme dryness of skin, mouth and conjunctivæ; 3, paralysis of pharynx and esophagus muscles; 4, ditto of ocular muscles; 5, reflex paralysis of muscles used in closing the lids, coughing, vomiting, etc.; 6, general weakness of all the muscles, pallor, emaciation, and 7, paresis of the bladder muscles. The gastrointestinal symptoms were in inverse proportion to the intensity of the poisoning. The essential symptoms of the botulism did not appear until thirty-six hours after partaking of the poisonous meat. It was in the form of sausage, and had been well cooked just before being eaten. There was nothing to suggest to the sight, taste or smell that the sausages were spoiled. The ocular disturbances were the first symptoms that brought the three soldiers to the physician, about twelve days after eating the sausages, the three previous phases of the poisoning having been borne without interfering materially with their military duties. As will be noted, the clinical histories differ in several points from those previously on record.

Gazzetta degli Ospedali, Milan.

Last indexed XLII, page 1193.

68 (XXV, No. 40.) *Il sintoma di Kernig nella sciatica. A. Plessi.
69 Sulla febbre ittero ematurica da quinina. A. Brancati.
70 Ricerche sperimentali sull' eliminazione dell' ammoniaca nell' urina. C. Ortali.
71 *L'influenza del trattamento calcareo sul decorso della tubercolosi sperimentale. A. Michelazzi.
72 (No. 43.) Influenza dell' attività muscolare sulla distribuzione del sangue alla periferia. C. Cesarini.
73 *Nuovo contributo alla conoscenza dei sieri citotossico. S. Sartirani (Turin).
74 *Due casi di trachoma trattati col raggi di Röntgen. Ruggero Pardo.
75 Due casi di tubo anomalo. M. Ragazzi.
76 Il suo indizio anormale della poliomielite crupale. G. Antonucci.
77 (No. 46.) *Sahli's Test of Pancreas Functioning. G. Galli.—Valore diagnostico della prova di Sahli per la funzione pancreatica.
78 Per la diagnosi di rene mobile (movable kidney). A. Bocchi.
79 Le afasie motorie. G. Mattenucci.
80 Il fegato infettivo acuto in una forma morbosa non ancora cognita (new form of infectious liver). S. Pascoletti.
81 Guarigione di un caso di tetano con sostanza cerebrale (recovery). E. de Benedetti
82 *Due anni di profilassi malarica tra gli impiegati della rete ferroviaria dell' agro cerignolano (malaria prophylaxis on Italian railway). F. Buono.

68. **Kernig's Sign in Sciatica.**—Plessi observed this sign in a typical form in 2 cases of sciatica; in both instances it vanished with recovery. Abadie has stated that he found that this sign persisted in 3 cases after spinal cocainization had abolished all feeling in the parts. In his cases the slow dropping of the cerebrospinal fluid and its normal composition showed that the meninges were intact. Plessi thinks that he probably had not induced complete anesthesia of the parts, and that sensibility was retained in certain fibers, enough to induce this "reaction of defence," the sign called by Kernig's name.

71. **Calcium Treatment of Tuberculosis.**—Michelazzi restricts this report to his experimental research, not entering on his clinical experiences. He commenced to treat experimental tuberculosis with calcium salts in 1902. All the control animals have died, while only 9 died of the 30 rabbits and guinea-pigs treated with 2 to 3 gm. a day of calcium phosphate, mixed with their food, and supplemented by repeated daily injections of lime water. The tubercles in the animals were found more or less calcified or walled off by a fibrous enclosure. The rabbits were not only clinically cured, but the pathologic anatomy also demonstrated a cure. Some rabbits were kept alive for eight months, and they were apparently in the best of health. The results were less evident in the guinea-pigs, but still sufficiently promising. A characteristic cirrhosis of the liver was manifest in these animals, and inoculation of other guinea-pigs from their lesions gave positive results. He thinks this difference in the results observed in the rabbits and the guinea-pigs may be due to the fact that the former were inoculated with tuberculosis by intravenous injection, the latter by subcutaneous injection into the abdomen. The calcium salts are deposited at the points of inflammation and afford a mechanical stimulus which starts and aids the process of repair, with a probable additional antagonistic action on the tubercle bacillus.

73. **New Research on Cytotoxins.**—Sartirana has previously announced that the injection of defibrinated blood alternating with an emulsion of brain substance (guinea-pig), induces the production of a powerful hemolytic and neurotoxic serum. On the other hand, alternate injections of defibrinated blood and of an extract of suprarenal capsule did not confer any hemolytic power on the serum, and only a slight suprarenal-toxic action. These observations suggested that the capsule extract and the defibrinated blood annulled each other's action. He reports here the results of a number of varying experiments in this line on guinea-pigs, rabbits and fowls, using the organs from the first. No cytotoxic power was conferred on the serum of rabbits repeatedly injected with an emulsion of guinea-pigs' suprarenal capsules. Contemporaneous injection of brain substance and blood conferred both cytolytic and hemolytic power on the serum. He thinks that this new technic of mixing various emulsions of different organs, combining or alternating them, is liable to solve some of the problems in regard to alexins, etc., as well as those of cytolysis.

74. **Radiotherapy of Trachoma.**—The 2 cases described were of long standing and rebellious to all the usual measures. Six exposures, with a total of 44 minutes in one case and of 47 in the other, caused such marked improvement, both subjectively and objectively, that a cure is confidently anticipated. The tube had a spark length of 650 to 700 mm.; the distance varied from 30 to 45 cm.; the applications were from 4 to 10 minutes at a time, and only one eye was treated, the eyeball protected with a sheet of lead at some of the sittings.

77. **Sahli's Test of Pancreas Functioning.**—A glutoid capsule, made of gelatin hardened with formaldehyd, is not affected by the organic juices except the pancreatic. A capsule of this kind, containing iodoform, is supposed to pass unchanged through the alimentary canal until it encounters the pancreatic juice, when it is rapidly dissolved and the absorbed iodoform can be detected in the saliva and urine. Sahli has proposed this technic as a means of testing pancreas functioning, but Galli reports from Baccelli's clinic a case of cancer of

the pancreas which renders dubious the reliability of this test. There could not have been any pancreatic juice as the organ was entirely destroyed, but the capsules were dissolved as effectually as in health.

82. **Prophylaxis of Malaria in Italy.**—Since the houses of the employes of a certain railroad have been screened, the number of cases of malaria has dropped from 69 in 1900 to 4 in 1903, while a control line has had 33, 40, 33 and 24 cases during the same interval. The railroad officials comment, also, with delight on the improvement in the general health and working capacity consequent on the refreshing sleep and well-ventilated rooms free from the plague of mosquitoes. [In the Italian army, quinin prophylaxis has reduced the number of cases of malaria from 404 recurrences and 312 new cases—the figures in 1898—to 155 and 87, respectively, in 1903. The total number of persons thus "prophylacted" in 1903 was 19,021, and only 5.6 per cent. showed symptoms of malaria.—ED.]

Russkii Vratch, St. Petersburg.

Last indexed page 437.

83 (II, No. 44.) Physical Measures in Various Affections. I. V. Zahludowsky (Berlin).—Physitcheskiya uprazhnenia pri bolyeznennykh processakh.

84 *Signs of Tetany. R. A. Peters.—2 novykh i 1 starii priznak tetanii- ikh primyenenie k raspoznavaniiu nervnykh bolyeznei u dyetei i k voprosu o "skrytoi tetanii." (Commenced in No. 43.)

85 *Raw Meat Treatment of Tuberculosis. B. S. Knotte.—Zomoterapi bugortchatki legkikh.

86 Valne of Cystoscopy and Catheterization of Ureters. B. G. Sheftel.—Znatchenie cystoscopii i catheterizaizii motchetotchnikov voobshtche e dlya chirurgii potchek v oeobennosti (s pryedyavlenieum ureterocystoscopa Nitze).

87 Ophthalmologic Notes on Foreign Bodies. S. P. Reshtchersky.—Iz ophthalm. nablindenii.

88 (No. 45.) Results of Modern Otology. N. P. Trophimoff.—Uspyekhi sovremennoi otiatrii.

89 *Case of Cirrhosis of Liver Without Ascites. E. A. Ratner.—Bezvodyanotchnii vennii tzirroz petcheni.

90 Case of Successful Arthrodesis in Treatment of Paralysis of Shoulder. Heikuing.—O lyetchenii paralititcheskago bolt aiushtchagosa pietchevogo sustava postredstvom iskysstvennago ankiloziravaniya (artrodeza).

91 (No. 46.) Rare Case of Vascular Murmur in Liver Region. A. K. Znbert.—Ryedkii slutchai sosudistago shuma v oblasti petcheni.

92 Cancerous Degeneration of Ovarian Dermoid Cysts. T. V. Zalensky.—O rakovom pererozhdenii kozhevikov yaitchnika.

93 *Vomiting of Blood in Peritonitis. V. P. Gerasimovitch.—O krovavoi rvetye pri peritonitye.

94 *Periodltcheskaya paraplegia. A. Shtchepinsky.

95 (No. 47.) *Double Heart Beat. O. F. Helsingius.—K voprosu ob udvoenii verkhushetchnago toltchka serdtza.

96 *Relations Between Physical and Mental Development. O. D. Enko.—O svyazi mezhdu physitcheskim i umstvennym razvitiem.

84. **Tetany in Children.**—Peters expatiates on the importance of the information to be derived from two new signs which, in connection with Trousseau's symptom, enable even latent tetany to be differentiated. The "jumping-jack sign," is particularly valuable. This is the jerking induced in the arms and legs when the galvanic current is turned on, the anode on the chest and the cathode on the cervical or lumbar enlargements. The other sign—Quincke's lumbar puncture—has direct therapeutic as well as diagnostic value. After the spinal canal has been relieved of the excess of cerebrospinal fluid, it is impossible to elicit the jumping-jack sign for some time. His work is based on examination of 600 children between four months and three years old. Latent tetany was discovered in 22, associated with evidences of rachitis in 17, but not dependent on the latter, the coincidence being merely casual, he is convinced. Examination of 77 children with a severe form of rachitis revealed latent tetany in only a single one. Among the children with latent tetany were a number with excellent digestion, normally nourished, while, on the other hand, no signs of it could be detected in a large number of cases of severe debility and infectious processes. All the signs and the tonic character of the spasms indicate a spinal origin for them. The jumping-jack and the Trousseau signs indicate a localization of the process in the region of the roots, while the latter sign suggests that the process develops on the side toward the dura, where ganglia accompany the roots. The jumping-jack sign on galvanization of the cervical and lumbar enlargements, together with the increased amount of cerebrospinal fluid, indicates further that other tissues besides the nerve elements participate in the process, the bones, muscles and meninges. Hypertension alone, without other signs, has no differential significance, but the Trousseau sign is pathognomonic, or at least, when it is absent, tetany can be diagnosed only when the other signs are pronounced, either the jumping-jack or the Chvostek, Erb or Bekhtereff signs or the Timikhoff reaction to the galvanic current in the peripheral nerves and muscles. In case of organic affections of the spinal cord or brain, none of these signs is observed, nor in organic affections of the peripheral nerves. In one case the jumping jack sign was noted with some rigidity in the muscles of the back of the neck, throwing doubt on the correctness of the diagnosis, and suggesting rather poliomyelitis or dystrophy, with compression of the cord in the cervical region. In fact, digital examination through the mouth revealed a cystic abscess on the anterior aspect of the spine, a result of spondylitis of the upper cervical vertebræ. In 2 cases of epilepsy the occurrence of the jumping-jack symptom, with excessive pressure in the cerebrospinal fluid, suggested the assumption that, besides the cerebral affection, there was also some complication on the part of the spinal cord. Some of these signs of tetany were observed in 2 cases of hysteria. In 5 out of 9 cases of eclampsia the positive findings of these 3 signs revealed the presence of tetany. In respect to "latent tetany," he does not agree with those who regard it as a physiologic property of early childhood (Goltmann's spasmophilia). Latent tetany represents, *per se*, the participation of the spinal cord in the morbid process, but it may develop into the extreme type of eclampsia in which the symptoms seem to be exclusively cerebral. Latent and declared tetany should be accepted as a single morbid process, but latent tetany and rachitis are two distinct entities.

85. **Raw Meat in Treatment of Tuberculosis.**—Knotte summarizes the reports of this method of treating tuberculosis published by various authors, and then relates his own experience with over 30 patients. The first was a man of 30, of a consumptive family, infected with syphilis ten years before, which had required energetic specific treatment, suffering also from neurasthenia and exposed to severe climatic vicissitudes. Notwithstanding all these unfavorable circumstances, the patient made marked improvement under the "zomotherapy," according to Héricourt and Richet's directions. The other patients were put on the raw meat for longer or shorter periods, and all were objectively improved. Eight patients followed the course systematically for from three to six months, about 300 to 350 gm. of raw meat being taken as the daily dose. His experience confirms the efficacy of zomotherapy as a powerful aid in the treatment of tuberculosis, especially when it is impossible for the patient to seek a more favorable climate. His patients all improved both objectively and subjectively, but none was actually cured. The liver and kidneys must be watched during this treatment to prevent disturbance in their functions from the raw meat. When this is done, zomotherapy can be regarded as an efficient builder up, with a certain specific action on the morbid process, the improved nutrition, in turn, having a further specific action on the infection. Richet believes that the elements of the meat combine with the cells of the body in such a way that the latter lose their chemical affinity for the tuberculous toxins.

89. **Cirrhosis of the Liver Without Ascites.**—The interest in the case described lies in the fact that Nature had established a collateral circulation such as is sought by the Talma operation. The result is that there has been no ascites during the eight or nine years of the liver affection. The enlarged veins of the collateral circulation can be distinctly traced through the skin over and on both sides of the median line from the groin nearly to the mammary line. The patient was a fairly well-nourished man of 41; the spleen was not enlarged.

93. **Hematemesis in Peritonitis.**—Gerasimovitch concludes from an experience with 11 patients and culling of the literature on the subject, that toxic hematemesis is not a sign of appendicitis, as Dieulafoy contends, but of general septic purulent peritonitis. In case of appendicitis without peritonitis it

is a sign that the bacteria have passed from the appendix into the stomach and indicates septicemia. In the first category the hematemesis is due to diapedesis of blood, the erosions being secondary. Besides the toxic changes in the walls of the vessels, the paralysis of the vasomotor system of the stomach, local congestion and increase in the blood pressure, all co-operate in the production of the hemorrhage in the stomach. Toxic hematemesis may be observed both in children and adults, and is a bad omen.

94. **Periodic Paralysis.**—Shtchepinsky has collected the data obtainable in the literature, and from this and a case personally observed he draws the clinical picture of periodically recurring paraplegia. He also discusses its nature, treatment, etc. The usual remedies for nervous affections are generally ineffectual. The essence of the trouble is still a mystery.

95. **Duplication of the Heart Beat.**—The case described can not be classed with Riegel's pulsus bigeminus nor with Leyden's hemisystolia, although it suggested both of them. The patient was a man of 30, with hypertrophy of both ventricles, mitral and aortic insufficiency, endocarditis and irregular rhythm. Death occurred in asystolia and general heart failure. The heart was found in fatty degeneration, and there was a second, supernumerary apex. It was the apex of the right ventricle, and, like a small aneurism, it increased in size at the end of the diastole under the impulse of the blood wave, becoming apparent in its interspace to the finger and eye, and thus inducing the first half of the double superficial heart beat. The apex of the heart was practically split into two parts, the walls of the right ventricle tapering to a point, the pouch consisting merely of endocardium and pericardium with a thin layer of fat cells between them. Doll has reported a somewhat similar case, although the left heart was the site of the anomaly in his patient. This is the only other case of which the author has knowledge. They show that in cases of double heart beat the causes may be various. Most frequently, however, the supernumerary beat is "active," and is caused by the manifestations of bigeminus of the heart. But cases do occur in which it has a "passive" character, and is due merely to some individual peculiarity.

96. **Relations Between Physical and Intellectual Development.**—Endo tabulates the findings of examination of hundreds of girls in a large school in St. Petersburg, comparing their standing in the classes with their physical development. He found it to be the rule that the girls who developed physically comparatively young were equally precocious in their studies. The girls who menstruated at an early age usually graduated younger than their mates.

Vratchebnaya Gazeta, St. Petersburg.

Last indexed page 586.

97 (XI, No. 10.) Problems of Medical Education. W. Strange.—Zadatchi med. obrazovaniya.

98 Influence of Veronal on Animal Organism. A. Korableff.—O vliyanii veronala na zhivotnii organizm.

99 Value of Nitrate of Silver in Gastric Affections. V. Mandelberg.—Arg. nitricum pri terapii bolyeznei zheludka.

100 *Yeast in Diabetes. G. A. Nandelstedt.—O primyenenii sukhikh prossovannykh drozhzhei pri sakharnom diabetye.

101 (No. 11.) Importance of Early Intervention in Case of Suppuration in the Lungs. G. Zeidler.—Ob operativnom vmyeshatelstvye pri legotchnykh nagnoeniyakh.

102 *Necessity for Phosphorus in Food. E. V. Ototzkaya.—O soderzhanii phosphora v pishtchevykh produktakh i o znatchenii ego dlya organizma. (Commenced in No. 10.)

103 Two Cases of Acute Mania After Grippe; Recovery. V. V. Stavsky.—2 slutchaya grippa, oslozhnivshiesya ostrym pomyeshatelstvom.

104 (No. 12.) O vliyanii pervikh myesyatzev kazarmennoi zhizni na physiychesksoe razvitie i zdorovo molodykh soldat (first months of military service). T. Glikman.

105 (No. 13.) Local Statistical Study of Tuberculosis. S. Generopitomtzeff.—Rugortchatka v Parafievskoi volosti. (Commenced in No. 12.)

106 (No. 14.) Power of Absorption of Pleura in Inflammations with Effusion. S. K. Gogitidze.—K voprosu o vsasyvaiushtchei sposobnosti plevry pri vypotnykh vospaleniyakh (Commenced in No. 13.)

107 Individual Prophylaxis of Venereal Affections. L. Jakobson.—Tchastnaya prophylaktika vener. bolyeznei. (Commenced in No. 10.)

108 Case of Acute Yellow Atrophy of Liver. S. Stankevitch.—Slutchai ostro zheltoi atrophie petcheni. (Commenced in No. 12.)

109 *Treatment of Diarrhea with Extract of Green Oranges. V. N. Vorontzoff. O letchenii ponosov, etc., (fructus aurantii immaturus).

100. **Compressed Yeast in Diabetes.**—Nandelstedt endorses Cassaet's experience in regard to the benefit to be derived from the use of compressed yeast in diabetes. The thirst is reduced, the glycosuria subsides and these results persist even under moderate ingestion of carbohydrates.

102. **Importance of Phosphorus in the Food.**—Ototzkaya proclaims that when the food does not contain the requisite physiologic proportion of phosphorus, the system suffers from phosphorus starvation. This is manifested in various ways, but chiefly in the nervous system. The normal proportion should be one part phosphoric acid to five parts nitrogen. The best means of determining the phosphorus balance is by the acidity of the urine. In case it shows phosphorus starvation, vegetables and milk should be ingested more freely or some preparation of phosphorus should be taken as a medicine or with the food. Phosphoric acid will be found useful and convenient for the latter purpose.

109. **Extract of Green Oranges in Diarrhea.**—Voroutzoff describes 4 cases in detail out of a larger experience to sustain his assertions in regard to the great efficacy of an extract of unripe oranges in the treatment of severe diarrheas. He has never heard of its application in dysentery, but it proved successful in several instances after failure of all the usual measures.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PATHOLOGICAL TECHNIC. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., Director of the Clinico-Pathological Laboratory of the Massachusetts General Hospital. Third Edition. Revised and Enlarged, with 156 Illustrations. Cloth. Pp. 469 Price, $3.00 net. Philadelphia, New York and London: W. B. Saunders & Co. 1904.

A TEXT-BOOK OF MATERIA MEDICA. Including Laboratory Exercises in the Histologic and Chemic Examinations of Drugs. For Pharmacentic and Medical Schools, and for Home Study. By Robert A. Hatcher, Ph.G., M.D., Instructor in Pharmacology in Cornell University Medical School of New York City; and Torald Sollmann, M.D., Assistant Professor in Pharmacology and Materia Medica in the Medical Department of the Western Reserve University of Cleveland. Illustrated. Flexible Leather. Pp. 400. Price, $2.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

SURGERY. A Manual for Students and Practitioners. Lea's Series of Medical Epitomes. By M. D'Arcy Magee, A.M., M.D., Demonstrator of Surgery and Lecturer on Minor Surgery; and Wallace Johnson, Ph.D., M.D., Demonstrator of Pathology and Bacteriology in Georgetown University Medical School, Washington, D. C. Cloth. Pp. 295, with 129 Engravings. Price, $1.00 net. Philadelphia and New York: Lea Brothers & Co. 1904.

APPLETON'S MEDICAL DICTIONARY. An Illustrated Dictionary of Medicine and Allied Subjects, in Which Are Given the Derivation, Accentuation and Definition of Terms Used Throughout the Entire Field of Medical Science. Edited by Frank P. Foster, M.D. Half-Leather. Pp. 1,091. Price, $10.00. Thumb Index, $11.00. New York and London: D. Appleton & Co. 1904.

THE DEVELOPMENT AND ANATOMY OF THE PROSTATE GLAND, Together with an Account of Its Injuries and Diseases and Their Surgical Treatment. (The Health Scholarship Prize Essay.) By W. G. Richardson, M.B., B.S., F.R.C.S., Assistant Surgeon at the Royal Infirmary, Newcastle-on-Tyne. Cloth. Pp. 121. Price, $3.75 net. London: J. & A. Churchill. 1904.

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians and Health Officers. By D. H. Bergey, A.M., M.D., Assistant Professor of Bacteriology. Illustrated. Second Edition, Thoroughly Revised and Enlarged. Cloth. Pp. 536. Price, $3.00 net. Philadelphia, New York and London: W. B. Saunders & Co. 1904.

A HAND-BOOK OF SURGERY. For Students and Practitioners. By Frederick R. Griffith, M.D., Surgeon to the Bellevue Dispensary, New York City; Assistant Surgeon at the New York Polyclinic School and Hospital. 12mo, Volume of 579 Pages, Containing 417 Illustrations. Philadelphia, New York, London: W. B. Saunders & Co. 1904. Flexible Leather, $2.00 net.

THE PHYSIOLOGICAL FEEDING OF INFANTS. A Practical Hand Book of Infant Feeding, and Key to the "Physiological Nursery Chart." By Eric Pritchard, M.A., M.D. (Oxon.), M.R.C.P. (Lond.). Second Edition, Greatly Enlarged and Entirely Rewritten. Cloth. Pp. 202. Price, $1.50 net. Chicago: W. T. Keener & Co. 1904.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., Formerly Professor of Gynecology in the University of Pennsylvania. With 225 Illustrations. Fifth Edition, Revised Cloth. Pp. 550. Price, $3.75 net. Philadelphia, New York and London: W. B. Saunders & Co. 1904.

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Original Articles.

APPENDICITIS IN CHILDREN.*

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NEW YORK CITY.

The subject of appendicitis has, during the last decade, received so much attention that one might suppose that there was but little more to learn concerning this rather puzzling disease. The term puzzling can certainly be justly employed, at least when speaking of its etiology, for we must frankly confess that our knowledge of this subject is but little further advanced than when the disease was first named appendicitis. We have, of course, learned much about its symptomatology, but even to-day I know of no surgical disease which more often offers surprises to the operating surgeon. The symptoms, or at least our interpretation of the symptoms, do not always indicate the actual condition of the appendix. I need not narrate to you cases where an appendix in a threatening or dangerous state is found when the symptoms have been comparatively trifling. It is this uncertainty which has mainly led surgeons to advise very early operative interference in all cases. No one can certainly tell at the beginning of an attack whether perforation has or has not occurred, or that gangrene of the entire organ will not result in the course of a few hours. Of course, if possible, it is desirable to await the subsidence of the acute attack before removal of the appendix. The experienced surgeon can very often, by careful and frequent observations, safely carry the case along to the quiescent stage. This, however, can not always be done, and it is because of the exceptions that all surgeons are now practically agreed that the best results, both for preservation of life as well as of the strength of the abdominal wall, are obtained if the appendix be removed in the early hours of the attack.

Unfortunately, for many reasons, this practice can not invariably be carried out, and many cases are, and will continue to be, thrust into our hands, which have passed beyond the early stages of the disease. In such cases immediate operation will not always give the best results. There can be no doubt, I think, but that this rule of treatment should be almost absolute, provided that the infection is confined within or to the appendix itself. When, however, the infection has spread beyond, whether through a perforation of its wall or through the transudation of pyogenic bacteria through its inflamed coats, the propriety of advising immediate operation in every case becomes to my mind doubtful. A few years ago it was almost the universal feeling, I think, that the appendix should invariably be removed as soon as possible, no matter what the stage of the disease. Personally, I have always felt that there were many exceptions to this rule, and for a year or two past the drift of surgical opinion has been, I think, toward less radical views on this subject. This drift has become still more pronounced since the treatment formulated by Ochsner has apparently shown that many a life can be saved by judicious delay. While I can not quite agree with Dr. Ochsner in his extreme position, yet I feel very strongly that his teachings on this subject are well grounded, and if followed intelligently, but not blindly, will tend to lessen decidedly the mortality of grave cases of appendicitis. Certainly my own experience during the past year or two has led me to this conclusion, for I feel that in some cases postponement of the operation for some hours has immensely aided the recovery of the patient.

For example: In cases where there has been a sudden perforation with resulting peritoneal shock of extreme degree, the patient is in a very poor condition for a serious operation, and the peritoneum as well is not as resistant against infection as it will be some twelve hours or so later. In such cases, where there is apt to be much abdominal distension, a weak and rapid pulse with symptoms of general shock, the postponement of the operation for twelve or twenty-four hours will often result in a very decided improvement in the patient's condition, provided that starvation be absolute. The abdomen will generally become less distended and the pulse will improve.

You may ask what bearing have these remarks on the title of my paper, "Appendicitis in Children." It is mainly concerning this point of treatment, however, wherein I think the treatment of this disease in children should differ from that among adults.

I do not think that it is properly appreciated, among general practitioners at least, how frequently appendicitis occurs in children. The operating surgeon very often encounters in the course of his operations on young adults the history of attacks of abdominal symptoms dating back to their earlier years, which undoubtedly, arguing from the state of the appendix found at operation, were due to mild attacks of appendicitis. It is often difficult to distinguish cause from effect, and unquestionably in many of these cases the previous abdominal symptoms may have been caused not by appendicitis, but by attacks of catarrhal enteritis, yet, at the same time, there are others whose attacks of indigestion, which have recurred at intervals since early childhood, immediately cease after removal of an appendix, which distinctly shows the results of years of recurring attacks of inflammation. Of course, I appreciate the fact that the surgeon encounters but a minute proportion of the intestinal cases among children, and because

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of the few cases where a later manifestation of appendicitis leads him to attribute the digestive ailment of childhood to that cause, he is, perhaps, apt to overlook the millions of young patients who have manifested similar symptoms, and yet whose appendices have never shown evidence of disease. I am willing to grant all this, but yet one can not avoid the conclusion that appendicitis in children is not an uncommon disease.

SYMPTOMS.

The symptoms on which we most depend for our diagnosis of appendicitis are pain, local tenderness, muscular rigidity, vomiting and abdominal distension. Pulse is often of value, as is also the temperature, but these two symptoms have more significance, perhaps, as regards the severity, rather than the actuality of the disease.

In children, especially those under 10 or 12 years of age, the important symptoms, with the exception of vomiting, are apt to be masked. Of course, the older the child the nearer the disease approaches the adult type.

As my experience increases, I am becoming more and more convinced that appendicitis in young children differs somewhat from the same disease in adults. The difference consists in the obscurity of the diagnostic symptoms, and in the more insidious progress of the disease. The younger the child the greater is the difference. The correct diagnosis of disease in young children is often beset with difficulties. Their inability to locate pain, their general restlessness and fretfulness and the unreliability of the significance of temperature are some of the causes of this difficulty.

Pain.—This, especially at the beginning of the attack, is, as a rule, probably as severe in the child as it is in the adult, but the uncertainty of its location impairs its value as a diagnostic symptom. A general pain in the belly is complained of, the child not knowing exactly where it is located, at one moment pointing to the upper, at another to the lower abdomen. It hurts everywhere, apparently not specially in the appendicular region. This symptom, which of itself in the adult is of great significance, can only help us in the case of children by its combination with other symptoms. In certain phlegmatic children there seems to be at times almost complete absence of pain. Tenderness to pressure is apt to be equally doubtful. The child generally dreads any palpation of the abdomen, and complains almost as much in one part as another.

Muscular Rigidity.—This symptom, which is, perhaps, our most important guide in the diagnosis of appendicitis in adults, is in children equally obscure. The child is suffering pain and is prepared to cry out, and unless taken unawares, to tighten its abdominal muscles as soon as or even before the skin is touched by the examiner's finger. The dread of being hurt causes the muscles to act on guard at almost any point of the abdomen. If the utmost gentleness and patience are practiced, along with diversion of the child's attention, sometimes this symptom can be elicited, and if certainly found, the diagnosis is at once confirmed.

Vomiting.—This is in children probably the most persistent symptom. It at least is the most evident. It is apt to continue in spite of starvation and medication. If it does so, and persists for many hours without other adequate reason, and if it be accompanied by severe pain with absence of intestinal movement, the suspicion of appendicitis should be very great. Persisting with severe abdominal pain for twenty-four hours or more, even with intestinal movements, the suspicion is still considerable. The accompaniment of diarrhea is, of course, unusual, and points more toward a gastroenteritis, but still it may occur with appendicitis.

If the abdomen becomes more and more distended the diagnosis of appendicitis becomes more and more probable. Of course, for a perfect picture we should also have either local tenderness or muscular resistance, but, as already stated, these symptoms in children are apt to be wanting.

The history of previous attacks of vomiting without adequate cause is of considerable diagnostic value. The surgeon is, perhaps, apt to lay too much stress on the importance of such "bilious attack," but if he does so it is because very frequently in the cases on which he operates such a history is given. It is important, however, that such attacks should be separated from those due to indiscretions in diet or an overloaded bowel.

The diseases from which, it seems to me, appendicitis in children is especially difficult to differentiate, are gastroenteritis, with the gastric element most predominant, diaphragmatic pleurisy and basal pneumonia. To my mind, certain of these doubtful cases are the most puzzling which the surgeon encounters. In certain cases of acute indigestion or of gastroenteritis in its early stages, the differentiation from appendicitis is not easy. The following points may be of some value: The persistence of vomiting with severe pain for more than twenty-four hours, especially if there be no diarrhea, favors the diagnosis of appendicitis. If the constipation be obstinate, the suspicion of appendicitis is generally sufficiently strong, should there be at the same time any one other symptom of this disease to warrant operation. If there be diarrhea, it generally, though not always, means that the case is at least less urgent.

The existence of high fever probably rather favors gastroenteritis. The blood examination may shed some light on the diagnosis. The differential count is of more value than the mere leucocyte count. There are, however, so many exceptions to the general rule that personally I do not feel much confidence in blood examinations in young children. Judging from a somewhat limited experience with the iodophilia test, it seems to me to offer more promise of valuable information than does either the leucocyte or differential count.

As an example of the difficulties, let me give the following history:

CASE 1.—Girl, aged 4. During her first year there were several attacks of pain, vomiting and fever, lasting a few days and then passing off entirely. In the second and third years these attacks occurred in milder degree. The child was always carefully dieted. In December, 1903, there occurred a sharper attack of pain, but there was no fever, no vomiting and no localization of the pain. Since that time until April, 1904, about once a week the child would complain of a sudden, sharp abdominal pain which would last, however, but a few minutes. It had no apparent connection with her meals and might occur when she was at play or out walking. The digestion was apparently always good, and the child looked well. There was considerable difference of opinion as to the diagnosis. The father, who was a physician, and myself felt, however, that the chances of the cause of the trouble was a chronically inflamed appendix. Accordingly, on April 11, 1904, it was removed. It was found markedly diseased, with the mucous membrane the seat of hemorrhages, and in a condition where perforation was imminent. Since the operation the child has been entirely free from pain.

To some of you it may appear foolish to dwell on the difficulty of differentiating appendicitis from diaphragmatic pleurisy, but it has been my lot to encounter sev-

eral cases where it has been for a time quite impossible to distinguish between these two conditions Within the last few years I have been called on at least half a dozen times to either operate or decide concerning the propriety of operation in such cases. In these half dozen cases time has shown that I have been as often wrong as right in my diagnosis, though, fortunately, in the cases that have proved to be pleurisy or pneumonia, a half day's delay has in every case saved the patient from an unnecessary operation. Let me briefly relate three of these cases:

Case 2.—Boy, aged 8, who had usually enjoyed good health, was seized on November 5, in the early morning, with severe abdominal pain. He was at once given a dose of castor oil and throughout the day this was followed by two doses of Rochelle salts. Later in the day vomiting began and continued more or less for twenty-four hours. There was some fever and a rapid pulse. The bowels refused to move in spite of enemata, the abdomen began to distend, the pain continued. The family physician called a children's specialist in consultation from New York (the child was in the country), and both were puzzled as to the diagnosis. There was no cough, and no pain was assigned to the chest. The vomiting continued, the abdomen was markedly distended, tender everywhere, and the child looked very ill. Prepared to operate. I saw the child toward midnight, twenty-two hours after the commencement of the attack. It was a question as to diagnosis, the vomiting, absolute constipation, abdominal pain and tenderness made a diagnosis of appendicitis or intestinal obstruction probable. There was a faint sign, however, of irritation of the lower left pleural surfaces, and we decided that a delay of a few hours was advisable. On the following morning the signs of pleurisy with probably a basal pneumonia were well developed. The child made a good though slow recovery.

In this case the entire absence for at least forty hours of any abnormal chest sounds and the severity of the abdominal symptoms seemed markedly to favor intraperitoneal inflammation Until the abnormal chest sounds developed, diagnosis was impossible. The case was a most puzzling one, and the delay in awaiting the pathognomonic symptoms would probably have caused a fatal termination had the appendix been involved.

I do not feel that I can express views of much value as to the differential points between appendicitis and diaphragmatic pleurisy. Of course, I am now referring to cases where abnormal chest sounds are absent. Perhaps in cases of pleurisy a certain fixation of the lower ribs or stoppage of the respiratory movements at this point may be noticeable. Perhaps also the child is more apt to toss about the bed than he would be apt to do were his appendix inflamed, but even in this latter condition the child is much more apt to be restless than is the adult. If the child be inclined to assume the adult position of rest, on the back with the thigh or thighs drawn up, the chances are in favor of appendicitis; but, as already stated, children often fail to assume this posture. The passive flexion and extension by the surgeon, of the thigh on the abdomen, is in appendicitis, even in children, apt to be more resisted and dreaded than it would be in diaphragmatic pleurisy. Sometimes, but not generally, this symptom is of considerable value.

Of course, if there be a tender spot or muscular rigidity, the diagnosis is easy. If a boardlike condition of the abdomen develops, we may be certain that the case is a very grave one of partial peritonitis

INSIDIOUS PROGRESS.

Another point to be considered is the progress of the disease and its treatment. The progress is often marked by insidiousness. A case that is apparently mild will sometimes gradually drift, perhaps, without any alarming symptoms, into a grave condition with general septic peritonitis in spite of the most careful watching. The pulse and temperature may remain normal, vomiting may cease, distension may not be marked and the bowels may even continue to move, and yet a general peritonitis is developing. I am inclined to think that there is not the same effort on the part of Nature to wall off the inflamed appendix in children that so often occurs in adults. Not only is this spreading tendency of the infection insidious, but it is often very rapid.

I have encountered dozens of cases where the disease followed such a course. The following are examples:

Case 3.—Girl, aged 13, was attacked in the early morning, April 21, 1904, with severe, sharp pain and vomited. The temperature reached 99½ and the pulse 100. The bowels moved during the day, the pain toward evening became less, and the whole aspect of the child seemed improving, the pulse became slower and the night was passed comfortably. In the morning, however, of the next day, in the course of a few hours, the whole aspect rapidly changed. The abdomen became boardlike, the countenance assumed an anxious appearance, and the pulse rose in frequency and was very wiry. There was also a tendency to vomit. At 11 a. m. of that day, April 22, an operation revealed an appendix almost entirely gangrenous and a general suppurative peritonitis. The child made a slow recovery.

Case 4.—Girl, aged 5, was seized on the evening of Nov. 23, 1903, with abdominal pain. She vomited, and during the night was restless, temperature 99½, pulse 90. The night was passed comfortably. On the next morning the child seemed brighter, and asked for her breakfast; temperature 99, pulse 85; very slight pain was complained of. When I saw the child at 11:30 of that day (November 24), the abdomen seemed to me rather tense, three hours later the tenseness was more marked and the child looked more ill. Operation performed at 4 p. m. revealed a perforated appendix and a general peritonitis. Thorough irrigation and drainage was employed and resulted in recovery.

I could narrate many other cases where the symptoms have for days been of the mildest degree, and apparently all abating, when suddenly the conviction is forced on the physician, that some change has occurred, and operation then reveals a hopeless general peritonitis. Dr. Brannan's[1] instructive case is another example of treachery in the behavior of the appendix.

In the children there also seems to me greater liability to rapid gangrene. Of course, in adults we often encounter cases where gangrene has been rapid and extensive, but this tendency strikes me as existing more frequently in children. The following case is an example:

Case 5.—Girl, aged 11, in the evening of July 2, 1902, while in an automobile, was seized with severe abdominal pain. During the night there was slight vomiting and some fever (101 degrees). On the following morning the abdomen was rather tense, and while the pulse was not over 80 Dr. W. K. Draper felt that immediate operation was demanded. The tenseness of the abdominal muscles was suspicious. The operation was done just twenty hours after the appearance of the first symptoms, and the long appendix was found absolutely gangrenous from its tip to its very base and even beyond. A spreading peritonitis had begun, but the child made a good recovery.

REMARKS.

Because of this treacherous behavior of the inflamed appendix in the child, as well as the inferior tendency to limit the inflammation by adhesive peritonitis, I feel very strongly that in every case of appen-

1. Medical Record, April 30, 1904

dicitis in children immediate operation should be advised. No matter what the stage of the disease may be, I feel it much wiser to operate at once, and not delay in hopes that at a later date an interval operation may be performed. This advice is in accord with that of many surgeons for appendicitis at any age, but, as already expressed in this paper, I am not entirely in accord with such views, except in cases of children. The older the patient the less tendency there seems to me to be to spreading peritonitis, and the more unfavorable are the results of operation in grave cases.

My own experience with operations for general septic peritonitis has demonstrated to my own satisfaction that the results of the operation on young adults, if they be rapidly performed, are apt to be favorable, while those on patients over 40 or 45 are almost invariably fatal.

I thought it might be of interest to give the age statistics of 1,000 cases of appendicitis, at the time of their operation. While my operative cases number more than this, I have not included those of the last few months, as a round number like 1,000 seemed to me more convenient. I have also tabulated in 1,500 cases which I have personally seen, the ages at which, as far as could be ascertained, the first symptoms of inflammation of the appendix manifested itself.

TIME OF OPERATION OF 1,000 CASES.

Age in years.	No. of cases.	Per cent.	Age in years.	No. of cases.	Per cent.
1-2	3				
2-3	1		15-16	14	
3-4	7		16-17	24	
4-5	6		17-18	28	
			18-19	27	
1-5	17	1.7	19-20	20	
5-6	8		15-20	113	11.3
6-7	10				
7-8	12		20-25	176	17.6
8-9	10		25-30	176	17.6
9-10	11		30-35	149	14.9
			35-40	99	9.9
5-10	51	5.1	40-45	65	6.5
			45-50	35	3.5
10-11	15		50-55	15	1.5
11-12	19		55-60	11	1.1
12-13	15		60-65	6	0.6
13-14	21		65-70	2	0.2
14-15	15		70-75	1	0.1
10-15	85	8.5			

RATIO OF AGE TO FIRST SYMPTOMS IN 1,500 CASES.

The proportion which had the first symptoms in the first year is .003 per cent. of all cases.

In first 2 years	1.33
In first 5 years	7.5
In first 10 years	17
In first 15 years	31
In first 20 years	46
In first 25 years	54
In first 30 years	70
In first 35 years	82
In first 40 years	86
In first 45 years	94
In first 50 years	96
In first 55 years	98
In first 60 years	99
In first 65 years	99.5
In first 70 years	99.75
In first 75 years	100

From these statistics it will be seen that young adult life furnishes the largest number of cases of appendicitis. In those that demanded operation, the greatest number occurred between the ages of 20 and 35, the proportion being over 50 per cent. After 35 the proportion of cases becomes rapidly and progressively smaller, between 40 and 50 being but 10 per cent.

Before the age of 20, the proportion is 26½ per cent.; before the age of 15 years, 15 per cent; before the age of 10 years, .068 per cent. The youngest cases in my series were 12, 12½, 16 and 20 months, respectively. Over 60 years the proportion was nearly 1 per cent (.009). The oldest case was 72½ years.

THE DIAGNOSIS OF APPENDICITIS.

SHOULD THE APPENDIX BE REMOVED WHEN THE ABDOMEN IS OPEN FOR OTHER CONDITIONS? *

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So much has been written and said about the case of diagnosing appendiceal disease, so little stress has been laid on the occasional difficulty of making a correct diagnosis, that condemnation is heaped on those who fail to appreciate the real condition. Sight is lost of the fact that the best diagnosticians and abdominal surgeons are occasionally put to it to determine whether the appendix is the seat of the trouble or not. Mistakes are made by the very best surgeons. Each of us should profit by his own mistakes and the mistakes of his fellows, and each of us should be willing to give the whole profession his experiences, fairly and unreservedly.

I have only removed 272 appendices of which I have accurate records. In forty instances, multiple operations were done at the same séance, and in many of them the diseased condition of the appendix was not definitely diagnosed before opening the abdomen.

In 71 of these cases appendiceal disease was associated with or masked by one or more of the following conditions: In 4 cases by renal calculi; in 5 cases by gallstones or gall-bladder adhesion; in 18 cases by vague symptoms of indigestion, biliousness and indefinite colic; in 5 cases by frequently recurring dysentery or rectal disease; in 3 cases by acute intestinal obstruction, and in 2 cases of typhoid fever; in 12 cases by floating and diseased kidneys; in 1 case by acute septic nephritis; in 1 case by retroperitoneal tubercular abscess; in 3 cases by tubercular peritonitis; in 11 cases by marked menstrual disturbances; in 11 cases by disease of the uterine appendages; in 2 cases, retrocecal herniæ were mistaken for appendicitis, the appendices only becoming involved incidentally. In 2 other cases no diagnoses were made, but exploratory operations demonstrated appendiceal disease. In 1 case, in a young girl, a ruptured dermoid cyst was diagnosed appendicitis, and in another, a right salpingitis was diagnosed appendicitis.

I have done at one sitting, on the same patient, without unusual shock or prolonged convalescence, the following operations: Dilatation of the cervix and curettement of the uterus, removal of a number of enlarged cervical glands and hemorrhoids, anchoring a floating kidney, and removal of a diseased appendix. At another time I removed at the same sitting a diseased appendix, and did a gastroenterostomy for contraction of the pylorus consequent on gastric ulcers two years before.

In the process of evolution, medicine and surgery have reached a stage of development when such terms as colic gastralgia, acute indigestion and intestinal indigestion can no longer be loosely used in diagnosis without subjecting the user to just criticism. They are but symptoms of some definite chemic or mechanic defect in the digestive process, and careful investigation would reveal the underlying pathology, i. e., a contracted pylorus, gallstones or appendiceal disease, or partial intestinal obstruction from old adhesions.

Since Edebohls, Deaver and other leading members of the surgical side of the profession called attention to

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

the frequent association of appendiceal and pelvic inflammatory disease, a vigorous discussion has been waged pro and con, the one side claiming that inflammatory disease of the appendix is apt to involve the uterine appendages, and that disease of the appendages is often the direct cause of inflammatory appendiceal disease, while the other side argues with equal zeal that the conditions are separate and distinct and seldom correlated. They hold, therefore, that the appendix should not be interfered with when bound up in adhesions due to pelvic inflammatory disease, and that the freed appendix is not likely to give future trouble.

REMOVAL OF APPENDIX DURING OTHER OPERATIONS, INCLUDED IN CLASS 1 TO 13.

S-O., Salpingo-oöphorectomy; R., right; D., double.

	Class.	No	Deaths
Acute intestinal obstruction	1	1	..
Acute intestinal obstruction	4	1	..
Exploratory laparotomy	6	1.	..
Exploratory laparotomy	5	1	..
Dilated stomach, contracted pylorus	5	1	..
Caseous deposit in R. kidney; nephrotomy	5	1	..
Tubercular peritonitis	5	3	..
Tubercular peritonitis	5	..	..
Ventral hernia, post. op.—repaired	5	1	..
R. S-O.	5	2	..
R. S-O.	5	..	..
Dermoid cysts of ovaries, D. S-O.	4	1	..
D. pyosalpinx, D. S-O.	5	1	..
D. pyosalpinx, D. S-O.	13	1	..
Gallstones and adhesions	5	2	..
Gall bladder adhesions	5	2	..
Gall bladder adhesions	5	..	..
Nephrorrhaphy, right	5	6	..
Nephrorrhaphy, right	6	1	..
Ovarian cyst	6	1	..
Cystic ovary, R. S-O.	5	1	..
Cystic ovaries, R. S-O.	5	1	..
Cystic ovaries, ovariotomy; retroverted uterus; D. ovariotomy	5	1	..
Sclerotic ovaries, morphia habitué, D. S-O.	6	1	..
Prolapsed ovary, retroversion, R. O.	5	2	..
Perineorrhaphy	5	1	..
Perineorrhaphy and trachelorrhaphy	5	1	..
Acute cholecystitis and general peritonitis	10	1	1
Endometritis, curettement	5	2	..
Retroperitoneal abscess	9	1	1
Acute nephritis; nephrotomy	1	1	1
Total		40	

APPENDICITIS (RECORD TO DATE, MAY 27, 1904).

Class.		Cases.	Deaths.
1.	Acute (first attack and operating during attack)	10	1
2.	Interval (operation after one attack)	9	..
3.	Acute (operation during attack) chronic relapsing	3	..
4.	Acute (operation during attack) recurring	5	..
5.	Interval (operation during interval), chronic relapsing	87	..
6.	Interval (operation during interval), recurring	29	..
7.	Unclassified (belonging to above 6 headings)	18	..
8.	Abscess (operating during interval)	5	..
9.	Abscess (operating during attack)	40	5
10.	Beginning general peritonitis	19	3
11.	Consultant (of which there is no record)	79	..
12.	Consultant surgeon (of which there is no record)	23	..
13	Appendices removed during other operations—		
	Class 2	1	..
	Class 3	1	..
	Class 5	4	..
	Class 6	1	..
	Total to May 27, 1904	232	9

			Per cent.
Total deaths, 9; cases, 232			= 3.87
Deduct for *septic nephritis and septic cholecystitis	2	2	
	7	230	= 3.43
Deduct for beginning general peritonitis	2	18	
	5	212	= 2.35
Deduct for acute abscess	5	40	
	0	172	= 0.00

	Cases.	Deaths.	Per cent.
Beginning general peritonitis	18	3	= 16.66
Acute abscess (delayed cases)	40	5	= 12.5

*One case belonging to class No. 1, the other to class No. 10.

Baldy, in a paper read before the Southern Surgical and Gynecological Association in Atlanta, December, 1903, argued very earnestly this side of the question.

Such argument, it seems to me, is contrary to our knowledge of these diseases, at variance with the best clinical experience, and is conducive to incomplete surgery and unsatisfactory results.

Kelly, in his classical work on gynecology, gives the opinions of a number of the leading surgeons and gynecologists in this country on this question. Most of them were of the opinion that the removal of the appendix, unless markedly diseased, should not be a routine practice, the author agreeing with these.

The by-no-means infrequent incomplete cures following pelvic operations where appendices have been left, condemning the victim to chronic invalidism, the ever-present anxiety and danger of a severe and fatal attack of appendicitis, have impressed me with the advisability of removing the appendix during all pelvic operations when it shows the least evidence of disease, or when it is accessible and can be removed without undue prolongation of the operation or hazard to the patient.

Had I an appendix, I would feel that any surgeon opening my abdomen and leaving the organ, if accessible, had grievously sinned against me. I entertain this same feeling and a similar opinion for members of my own family. Holding such an opinion, entertaining such a feeling for my own loved ones, could I advocate less for the loved ones of others. Nowhere is the Golden Rule more applicable than in surgery, and the surgeon who does more or less for those who submit their health and lives unreservedly to his skill and honor than he would want done for him or his, under similar circumstances, is recreant to the trust reposed in him, and is unworthy the respect and confidence of honest men and women.

CASE 1.—Mrs. P. W. G., 25 years old. Gave history of having ovaries removed per vaginam one year ago. Since then has had repeated light attacks of pain in the McBurney region and in right side of pelvis. Chronic indigestion for several years. At times has a dragging sensation over right kidney. Admitted to St. Joseph's Infirmary June 26, 1903. Has marked tenderness over appendix; slightly movable right kidney; uterus free, it and cervix being atrophied.

Operation.—June 30, 1903. Gas-ether. McBurney gridiron incision; appendix found in pelvis; was thickened, very much enlarged, and attached by small adhesions. Doyen amputation Layer closure.

CASE 2.—Miss E. S., 35 years old. Negative family history. Menstruation began at 13 years, was regular but always painful, so a curettement was done eight years ago. For the past four or five years she has suffered for five days before and five days after menstruation, with often severe pains over left ovary. A double salpingo-oöphorectomy, June, 1903, relieved her of all pelvic pain. Dysentery from November to February nine years ago. For years she has had general colicky pains lasting from a few hours to a day or so. Two years ago was in bed a month with "bilious" colic and suffered great abdominal pain. Five months after ovaries were removed she was taken with pain in epigastrium, which became localized in a few hours to appendiceal region. Since then any jolting or exercise caused pain in the *left* iliac region. A similar attack began ten days ago and pain continued until admitted to St Joseph's Infirmary March 25, 1904.

Operation.—March 28, 1904. Gas-ether. McRae transverse incision with longitudinal opening of peritoneum, enlarged by a transverse cut. There were thick, dense adhesions of omentum, passing from cecum into pelvis to stump of removed ovary; a retrocecal appendix was dissected out of adhesions by working over and behind border of friable cecum. Appendix tore out of cecum, its lumen being closed. This umbilication was covered over by peritoneum and adhesions, a cigarette drain being carried to this point. Peritoneum closed with No. 1 catgut, silkworm gut being used for the remainder. Very little discharge followed, patient going home well April 25.

CASE 3.—Mr. W. L. L., 30 years old; traveling salesman. History of typhoid at 7, rheumatism at 10 years of age. From five to two years ago he had a diarrhea each spring, ending in a dysentery, all lasting from five to eight weeks, being confined to bed three or four days with the latter. Eighteen months before operation he awoke with slight pains in appendiceal region, which soon went to left iliac region and passed off in about five hours. No nausea or soreness. In two months a similar attack, lasting six honrs, another in two months lasting eight hours, etc., an attack about every two months, each getting a little longer. Never any nausea or soreness after the third day, until six months ago, when he was in bed ten days with nausea, marked pain in the McBurney region, with a spasmodic pain in rectum, penis and perineum. Was sore for a week thereafter. Similar attack, lasting six days, two months later, with daily formation of gas in cecum since. Under stomach specialist for weeks, without relief.

Admitted to St. Joseph's Infirmary Aug. 14, 1902. Appendix could be felt (?) with thickening of cecum; urine contained a few casts.

Operation.—Aug. 21, 1902. Gas-ether. McBurney gridiron. Omentum and large intestine only found at wound. A median incision was made, when stomach and transverse colon came into wound; the latter could not be traced to the left, but seemed to enter pelvis on the right side. At first, no small intestine was found; was later located matted in pelvis and collapsed like an obstruction. Tracing the bowel for a short distance, a small Meckel's diverticulum was found; beyond this intestine was thickened, rough, granular, looked tuberculous, and soon became firmly fixed in pelvis surrounded by adhesions, so could not be brought up.

Through the McBurney wound, appendix was found in pelvis surrounded by adhesions. Doyen amputation done. Everything bled freely. Abdomen flushed with saline and each wound was closed in layers, a cigarette drain being placed in the lower angles.

Patient very much depressed for twenty-four hours. Rallied and made uneventful recovery. In two months weighed more than ever before.

CASE 4.—Mrs. H. V. J., 41 years old. Family history good. Oldest child 23 years. Was in labor twenty-four hours; placenta adherent to right side and had to be removed; was very sick for several days following. Never strong thereafter, having a dragging sensation in lower abdomen and pain when wishing to defecate instead of normal reflex. Second child 21 years old. Had hemorrhage after labor and was in bed five weeks. Two years later menses became irregular and she aborted at three weeks; was weak and had a leucorrhea thereafter, and when she walked, hemorrhage returned. Two years after abortion was in bed three weeks, at beginning of pregnancy, from weakness. Three months prior to labor, was "swollen all over" and could not lie down on account of difficult breathing. Four years after this labor was in weakened condition, when lacerated cervix and perineum were repaired, she becoming very much better, but could not walk long at a time. Was told she had prolapsus uteri. For past seventeen years menses have been regular, but she always had a dragging in pelvis and acute, general abdominal pain, which came on irrespective of quietude and lasted one to three hours, being relieved by a hot douche, enema or hot applications to abdomen. One year ago was in bed a day with acute pain over appendix and thereafter had a tearing pain in appendiceal region, when she rested on left side; much walking would also cause it.

Present Illness.—On April 21 was taken with acute pain in the McBurney region, which increased until relieved by morphia six hours later. In another six hours pain had returned and increased until bowels acted.

Admitted to St. Joseph's Infirmary April 23, 1903. Temperature 100, pulse 85, nauseated, weak, tender over right side of abdomen. Rectal feeding until operation, May 10.

Operation.—Gas-ether. Considerable débris from curettement. Laparotomy. Appendix found adherent to right ovary and tube; was much enlarged, brawny, tearing from slightest pressure. Appendix was too rotten to make cuff, so a chromicized catgut ligature was tied about same, end cauterized and stitched over. Right tube enlarged and thickened; ovary was a cyst, size of an orange; both were removed, the raw surface being closed over and stump stitched to abdominal wall to support the retroverted uterus. Layer closure. Uneventful recovery.

"Now in better health than in twenty years."

CASE 5.—Mrs. D. R. W., 33 years old. Bilious fever and later dysentery, seventeen years ago. Eighteen years ago she fell six feet and was unconscious for several hours and menstruation was delayed for six months. For twelve years after marriage she had a continuous leucorrhea, which was profuse at times. During summer of 1899 she had abscess of both vulvo-vaginal glands, followed by severe pain over left ovary, which continued, at intervals, until the fall, when an application of tincture of iodin and carbolic acid was made to interior of uterus. Peritonitis resulted, confining her to bed for two months, opiates being used to relieve pain. In January, 1900, left pyosalpinx was removed, after freeing adherent intestines, which formed a roof to that part of the pelvis. Was in good health then for a year, when she had la grippe, and tuberculosis was suspected.

Present Illness.—For two or three years has had attacks of pain in right kidney, lasting from two to three days. For a year these have been frequent, with almost constant aching, pain being relieved when she replaced the floating kidney. Has eaten little for the past two years. The smallest amount of food causes pain in right hypochondriacal region.

Operation.—March 29, 1904. Curettement, and sphincter divulsed. Ferguson incision and delivery of right kidney, which was large, hard, and capsule firmly adherent. Posterior flap of capsule stitched to muscles and anterior flap sutured between edges of wound, which was closed with silkworm-gut suture. A cigarette drain being used.

A McBurney gridiron incision was then made, when the cecum and a long appendix, surrounded by adhesions, were found under the border of the liver, the colon passing to left hypochondrium, thence to right iliac region and into pelvis. Layer closure and uneventful recovery.

CASE 6.—Mrs. J. C. H., 35 years old.

History.—Since she can remember, has had a chronic laryngitis. Always a dysmenorrhea, which was not so bad after first child, which is 11 years old. Has had hemorrhoids, almost a continuous leucorrhea and backache since birth of this child. During second pregnancy, eight years ago, she had a violent pain, like colic, in right side of abdomen; a mass soon developed in the right iliac region which was pronounced a "tubal abscess," which later "discharged through uterus" while she was pregnant! She was in bed nearly a year. At times since, has felt this mass in side of abdomen; had frequent attacks of colic, thought to be ovarian, but was conscious of two distinct kinds. Nausea, but no vomiting. Has not been able to walk much for several years on account of pain, and riding was torture. Amputation of cervix and ligation of piles one year ago.

Admitted to St. Joseph's Infirmary Jan. 13, 1904. Had right floating kidney and tenderness over appendix.

Operation.—January 14. Gas-ether. Ferguson incision and delivery of right kidney; posterior flap of capsule sutured to muscles, anterior flap brought between edges of wound. Silkworm-gut closure, with drainage. McBurney gridiron incision Appendix found in pelvis, surrounded by adhesions and stricture near base. Doyen invagination amputation, raw surface closed over and wound closed in layers.

These appendices ought to have been removed when the first operations were done, and might have been without difficulty, and far less danger than submitting to second operations necessitated. The patients would have been cured, and the operator would have saved himself the discredit of "successful operations that failed to cure the patient."

While laying more stress on removal of the appendices before closing the incisions after pelvic operations,

I also want to put on record as holding the same view with reference to other abdominal operations. How often is the focus of infection that lights up gall-bladder disease an inflamed appendix! The frequent association of chronic appendicitis and movable kidney is now so well recognized as to hardly require mentioning.

Where the two pathologic conditions obtain, the correction of one seldom cures the other. If I am not mistaken, I did the first combined operation for removal of the appendix and the anchoring of a movable kidney through the same incision. I reported two cases before the meeting of the Southern Surgical and Gynecological Association in Atlanta. Both the cases then reported have been kept under observation, and both seem to have been perfect cures.

I have latterly, however, preferred to make separate incisions for each operation, as it requires little more time, and the work can be much better done.

FACTORS IN THE MORTALITY OF APPENDICITIS.*

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Infectious inflammation of the vermiform appendix has occupied the attention of the medical profession for many years, has been discussed and debated at hundreds of society meetings, and has furnished a fertile theme for thousands of good, bad and indifferent medical authors. Books have been written on the subject in France, in Germany, in England, and in the United States describing the historic episodes, the pathology, the diagnosis and the treatment of the disease.

The vermiform has been cut off, tucked in and turned inside out; the patients have been purged, narcotized, packed in ice or baked in poultices; they have been starved or instructed to walk on all fours like quadrupeds; leucocytes have been gazed on through the barrel of the microscope and tested for glycogen, and the urine assiduously examined for indican, acetone or albumin, and yet, with all this study, all of the examinations, a fatal appendicitis caused by a little 8x1 cm. organ has doomed thousands of suffering humanity to an early and untimely end. The lack of common sense and ordinary intelligence in eliciting the history of the attack or the neglect of the use of the only instrument of any service in the diagnosis of this disease, the palpating hand of the practitioner, is responsible for much of the mortality.

ERRORS IN DIAGNOSIS.

Errors in diagnosis are to be considered under two headings:

1. The time that elapses between the onset of the disease and the production of sufficient symptomatic reaction to attract the attention of the patient.

2. The delay of the physician himself in reaching a diagnosis.

In regard to a period of latency, it is undeniable that in a few cases the most prompt diagnosis and early operation discloses advanced pathologic changes, with a thin, seropurulent fluid throughout the peritoneal cavity. The appendix may show little macroscopic evidence of disease, or may be perforated and gangrenous. Many of these patients recover, some of them die, and in the latter event neither the practitioner nor the surgeon can be reproached for an error in judgment. They were operated on at the time of election, and were the few exceptions to the rule. Some patients suffer habitually from colicky pain in the abdomen, due to intestinal fermentation and the accumulation of flatus; some women suffer abdominal pain at the menstrual epoch; many patients have acquired the too ready habit of using laudanum or paregoric for every abdominal ache or pain, and especially when the sufferer is a child.

In such the onset of serious symptoms may not have given warning that something unusual and more severe has occurred until the disease has advanced into the later stages. It is the duty of the practitioner to continually and persistently impress on his patients the danger that lies in the uncontrolled use of opiates, particularly in children, in whom the percentage of the more severe grades of appendicitis is greater than in adults.

The failure to make an early diagnosis of acute appendicitis is responsible for most of the factors entering into the mortality of the disease. With a nearly unanimous agreement among experienced surgeons that operation is indicated in the early hours of the attack, the great importance of prompt diagnosis can be clearly perceived.

In every sudden abdominal pain the probability of an appendicitis should be borne in mind, and no other diagnosis considered until that disease can definitely be excluded.

An abnormal position of the appendix may make the diagnosis difficult at times, and in certain of the fulminating types when there is a very obscure history, it is often difficult to locate the source of the peritoneal infection. Salpingitis, cholecystitis, perforated gastric ulcer, acute pancreatitis, intestinal obstruction, mesenteric thrombosis, enteric fever, basal pneumonia, diaphragmatic pleurisy and a few other conditions are often confused with appendicitis; but the history, the onset and the sensation experienced by the palpating hand will usually differentiate the true condition.

The subject of the differential diagnosis is outside the province of this paper.

In children abdominal pain is of such common occurrence that an appendiceal colic is very apt to be unrecognized. This is especially true in the first year of infancy, and cases with comparatively mild local symptoms are certainly rarely diagnosed. If the process goes on to abscess formation, the condition is more readily discovered if the possibility of an appendicitis is not forgotten.

One of the greatest fallacies which has ever been propagated to account for appendiceal symptoms is rheumatism. In an extensive experience with appendicitis I have always found true appendiceal symptoms to be due to a diseased appendix in every case, even where rheumatism has been held responsible for the symptom-complex prior to operation. Without dilating further on the diseases that may be diagnosed when appendicitis is the true lesion, it may be well to consider why such confusion continually arises.

Acute appendicitis in the great majority of cases is easy of perception, even in the earliest stages. The disease is so prevalent, the cases observed by every practitioner of medicine so numerous, that one can but wonder at the continuous stream of pus-bearing abdomens that flow into a large hospital yearly. Every physician

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

has had one case of severe acute appendicitis, which may have caused difficulty in diagnosis, has referred the patient to a surgeon, stood beside the operating table and observed a highly inflamed appendix, perhaps gangrenous, removed. And yet this same physician a few months or years later is called to see another patient in the throes of appendiceal colic, knows well what the disease may lead to, and yet gazes, fascinated, as if by a rattlesnake, temporizes and dallies until the right iliac fossa becomes "ripe" and filled with pus.

The history of the onset and early hours of appendicitis and the results of palpation of the abdomen are signboards pointing the way, and if misinterpreted the occurrence of peritonitis, even though local in extent, may confuse the most able clinician. To paraphrase Dr. Mumford: "Do not coquet with an infected appendix; cut it out and you will never regret it."

But if the hemocytometer and microscope are used to diagnose appendicitis to the practical exclusion of clinical experience, then, indeed, will the mortality of appendicitis be in the ascendency; and, furthermore, if the laboratory is wholly relied on to determine the time of operation, then will there be a still greater increase in the mortality. I do not wish to be considered as opposing scientific aids to practical medicine, but rather as objecting to the exaggeration of their importance in the diagnosis of acute surgical diseases at a time when operation promises a nearly absolute cure.

Twenty thousand leucocytes is considered by most hematologists to be the minimum count to diagnose pus with certainty, but by the time these figures have been reached, the abscess is crying out to be released. Only recently, in a French surgical journal, it was stated that "those who doubt the clinical value of the leucocyte count are those who have been content with an occasional count. The figure must remain at 25,000 or above for several days at least to affirm the positive presence of pus. The leucocytosis increases if the abscess has a tendency to spread and when the abscess perforates into the abdominal cavity the leucocytosis subsides at first, but rises again as peritonitis develops." I can not imagine a surgeon in this country waiting in cold blood for peritonitis to develop. It is just this class of statement to which I refer in my remarks.

The concluding lines of an editorial in a recent number of THE JOURNAL of the American Medical Association exactly states my views: "Some of the old-trained delicacy of observation could accomplish as much, with less waste of time, as is now accomplished by means of intricate mechanical appliances."

METHOD OF TREATMENT.

The next question that arises after the diagnosis of appendicitis has been established, is that concerning the method of treatment to be pursued. We must face a condition, not a theory, because the issue of an attack of appendicitis can not be foretold with even the slightest amount of assurance, nor can the nature of the pathologic lesions of the appendix be deducted from the clinical manifestations. We are not governed by the same reasons that influence us to perform the radical operation for the cure of a hernia, or for the removal of the uterus for a fibromyoma. In appendicitis we face the probable consequences of those dreadful factors in the mortality of the disease—suppuration, gangrene and perforation of the appendix, with varying lesions of the peritoneum. Early operation is, therefore, a conservative, not a radical, procedure.

To delay operation until there is evidence of the presence of pus, to defer it also if there be any doubt as to the pus formation, or to wait until the leucocyte count rises or falls, is unjustifiable and nearly criminal.

Such statements, however, have become hackneyed, as I believe that every surgeon of any experience, in this country at least, advocates the immediate operation if the case is seen early.

The principle may be stated: That in every case of appendicitis, seen early, operation is indicated regardless of the mildness of the attack and regardless of the severity of the attack in the absence of a spreading peritonitis.

In stating as the principle of the treatment of appendicitis that the diseased organ should be removed immediately if the diagnosis has been made early, I am not unmindful of the fact that, speaking broadly, the attending circumstances are of great significance in many cases in determining the treatment to be adopted. It is sometimes impossible to institute early operative procedures for one of several reasons. The patient may not live within reach of a competent surgeon; he or his family may not be willing to have surgical treatment pursued until it has become evident that the patient's only chance of recovery is by operation; or there may be some serious underlying disease, such as advanced nephritis, diabetes, tuberculosis, etc., that forbids active measures. Under such circumstances expectant or so-called medical treatment is the only alternative.

Operation is contraindicated in those cases of diffuse peritonitis in which the abdomen is distended, the temperature high, the pulse rapid and of high tension, the patient's expression most anxious and indicative of very serious intra-abdominal infection, the bowels constipated and unable to cause the expulsion of flatus and in which vomiting is continuous, and tenderness is diffuse over the entire abdominal wall. The tongue is dry and brown, the skin dry, and frequently delirium is shortly followed by coma and death.

In another class of cases the features are pinched, the skin cold and clammy, the temperature is normal or subnormal, the pulse rapid and thready, the leucocytes are below normal in number and the abdomen hard and rigid throughout, without much distension. In this type of diffuse peritonitis the patient is in a state of collapse, and operative interference is almost always followed by a fatal termination.

In every case of acute appendicitis the peritoneum reacts to the irritant and secretes a serous effusion, the quantity of which depends on the amount and virulence of the bacteria or their toxins, or both. Nature then offers two measures by which the toxins may be rendered harmless and the patient recover. The first and most common is by the formation of protecting and encircling adhesions which, for a time at least, confine the infection to a localized area and thereby limit the amount of absorption. But sooner or later the purulent products extend in the direction of least resistance, thus offering a much wider field of absorption. Nature does her best in the beginning, but the aseptic scalpel of the surgeon must complete the cure by providing an external opening for the pus.

The other method I referred to consists in the peritoneum reacting to the irritation by its entire effusing surface causing the accumulation of an amount of fluid proportionate to the irritation, diluting the toxins and furnishing an antitoxin which endeavors to check bacterial invasion after perforation of the appendix (Moszkowicz). If the operation has been done in time, this

effusion explains the rapid recovery of the peritoneum from infection after removal of the appendix.

If operation is delayed, the swollen belly, filled with thin serous fluid, so often encountered at the operating table, shows that there is no tendency to form adhesions, and that large amounts of virulent bacteria or their toxins are invading the abdominal cavity. Failure to remove a collection of pus in the right iliac fossa, no matter where the locality nor what the quantity of pus, is always a source of the greatest danger and exerts a powerful influence on the death rate of acute appendicitis.

Nearly two years ago I placed a number of cases of appendicitis with abscess on the rest or starvation treatment, without obtaining any results beyond an aggravation of the symptoms and an increase in the mortality. It was observed that even the etherization of these cases was more difficult than usual, and I have frequently remarked to my students that the way a patient takes ether is often an index as to the gravity of the intraperitoneal lesion. After opening the abdomen, it was a serious problem how to dispose gauze pads before opening the abscess; there were so many adhesions, not so complete as to effectually wall off the pus, but enough to interfere with the placing of the gauze. It was also found that the infected coils of intestine were so friable that the breaking of any adhesions would cause the serous coat to peel off. The latter remark might suggest that in the presence of a walled-off abscess the peritoneal cavity should not be opened; but it is often impossible to gain access to these abscesses in any other way, situated as they are behind the cecum and colon and well to the median line side of the flank.

I do not imply that every case of peritonitis must be operated on, but, on the contrary, as I have previously referred to in this paper, that operation in the presence of an acute general peritonitis of seventy-two or more hours' duration, is attended by great risks to life, and, therefore, it is often wise to defer operation in the hope that the inflammatory process will become localized. Adhesions may form about the source of infection, and the peritoneal effusion take care of the general cavity.

Such a result is best promoted by rest and the restraint of peristalsis. When these cases are operated on at the end of three or four weeks, or at a time dependent on the degree of recovery from the acute attack, the condition of the belly cavity in my experience does not agree with that found by some writers. Instead of reducing the operation to one like the ordinary interval operation for appendicitis, I have found it one of the most difficult. Inflammation of the peritoneal cavity of such severity as to warrant delay in operation must be accompanied by effusion and exudate, and the organization of such pathologic tissue is certainly one of connective tissue proliferation with the production of numerous adhesions.

When a nearly normal peritoneum is discovered at the interval operation, with perhaps a small localized abscess, it is quite apparent that the primary lesion could not have been a severe one. Bowel necrosis from pressure of pus, metastatic abscess of the liver, suppurative pylephlebitis, purulent lymphangitis and lymphadenitis, septic pneumonia, parotitis and pyemia are well-known to all of you as occasional results of late operation.

I have referred to the fact that difficulty in etherization is in direct relation to the gravity of the abdominal lesion. The board-like rigidity of the abdominal muscles never relaxes, the patient becomes cyanosed, the bronchi filled with mucus, and at times even respiration ceases. These cases influence the mortality by insufficient relaxation of the abdominal muscles impeding the manipulations of the surgeon, making gauze packing difficult and favoring the spread of infection.

Following operation the irritation and congestion of the bronchi favor their infection and the production of an inspiratory pneumonia. For this reason it may be argued that ether is not the best anesthesia for such cases, but after a thorough trial of nitrous oxid gas, I find the combination of ether and oxygen, always followed by oxygen, to be the most satisfactory.

The presence of pus is by no means necessarily fatal if the operator is experienced in dealing with this class of cases. The salvation of the pus case lies in proper drainage with protection of the healthy peritoneum during and after the operation. Successful drainage depends on a sufficient amount of gauze properly placed, with a glass tube in the pelvis if necessary. Gauze that does not drain is more harmful than beneficial, too much gauze, and especially if improperly placed, only adding to the number of adhesions and to the chances of an intestinal obstruction shortly after operation. The management of the gauze is also an important factor in the mortality of appendicitis. The time and method of its removal are important points to be considered in every case in which gauze has been employed. The tendency is to remove the gauze entirely too soon, and as this always requires force, adhesions are broken up, and infection is liable to be spread from the secreting pus cavity. To remove a gauze drain at the end of twenty-four or forty-eight hours is, in the majority of cases, removing the main hope of the patient.

Where a large localized collection of pus is accompanied with what appears to be a beginning general peritonitis with injection of the serous coat of the bowel and a considerable quantity of cloudy exudate, the question of general irrigation is to be considered. In the majority of cases the entire peritoneum is not infected, and this membrane can better take care of diseased products unaided. I rarely irrigate such an abdomen.

Failure to explore the pelvis is another factor of no little importance. In very many instances a collection of cloudy serum or pus may occupy the pelvis, and unless discovered and proper drainage provided proves a menace to the patient. Secondary collections in other localities must be evacuated and drained.

Acute intestinal obstruction following operative interference in acute appendicitis is one of the most serious of the sequelæ of this disease. The gravity of the condition depends on the fact that a second operation is always urgently demanded. In the presence of an infected area of the peritoneal cavity, and with the already weakened resistive power of the patient to shock, it would naturally follow that the mortality of acute obstruction is high. Following the evacuation of a circumscribed abscess, the exudate which has served the useful purpose of restricting the spread of infection becomes a menace by its liability to organize into connective tissue. Such adhesions may give rise to disastrous intestinal complications. By their mere adhesion to portions of the bowel they inhibit peristalsis, and by their contraction cause intestinal obstruction. Injury to the free edges of the omentum or mesentery may result in their adhesion to the small bowel with a consequent obstruction.

The greatest number of acute obstructions of the in-

testine follows those cases in which an abscess existed at the time of first operation and in which drainage was used. This furnishes a most potent argument in favor of the early operation with removal of the appendix before the extension of the inflammation gives rise to a serofibrinous exudate. As I have remarked in a previous paper, "walled-off" is an expression often used by physicians as a term of congratulation, but it also denotes a most fertile condition for a future intestinal obstruction.

I find obstruction to follow acute appendicitis in about 1.5 per cent. of cases, and to be due, of course, primarily, to bands of adhesions, but also predisposed to by too early and injudicious feeding of the patient. The resulting increased peristalsis and general intestinal disturbance cause congestion and swelling of the intestinal wall, further narrowing the lumen of the bowel.

Fecal fistula may follow cases in which an abscess collection causes pressure necrosis on the bowel, when the cecum is directly involved in a gangrenous process, or where the entire appendix has not been removed. While such fistulæ do not directly have great influence in increasing the mortality, yet the operation which must later be undertaken for their repair is by no means devoid of risk.

Finally, the great percentage of extensive drainage cases are followed by hernia, for which mechanical appliances are of no avail. Hernia requires a secondary operation which is more formidable than the primary one.

In conclusion, I would again urge on you to advocate the early operation for appendicitis. The tendency of many surgeons at the present time to occupy a sort of middle ground should not be imitated by the rising generation. I know of successful surgeons who operate immediately when a case reaches the hospital, and yet who formulate and teach their students so many rules for the treatment of appendicitis that a text-book of surgery must be carried around in the medicine case. Furthermore, an expression of opinion from members of a surgical association is always of interest to the general practitioner. Too often the discussion of a paper is limited to congratulatory remarks, surgeons whose teaching is of infinite value preferring to praise or conciliate a friend rather than to boldly announce their own ideas and practice.

DISCUSSION

ON PAPERS BY DRS. M'COSH, M'RAE AND DEAVER.

DR. ERNEST LAPLACE, Philadelphia—I believe that in every fatal case there was a time when, if the operation had been performed, the patient's life might have been saved; but somebody has been guilty of allowing that moment to pass by. I deny that any one can establish the fact that there is pus in the abdominal cavity, that there is a developing case of peritonitis, or can deny the occurrence of fulminating appendicitis. If we accept this it follows that by delay we are in a great state of uncertainty as to the future of that patient. Taking this for granted, it is useless to deny the necessity of operating during the course of the disease. You should do the operation and use common sense, according to the rules on which our knowledge of surgery is founded. In every case, when possible, I believe in the dry method of operating. I drain and pack, and remove the gauze on the eighth day. When peritonitis occurs, one is face to face with another problem. Another disease has stepped in, and that is general septicemia. The patient may die from general septicemia although the local peritoneum has undergone improvement. A patient may die with tetanus even though his thumb has been amputated. These cases should no longer exist when a primary operation has been performed. I treat general peritonitis on the same common-sense principles that I would erysipelas. I watch it continuously and treat it locally. I flush with sterile water. I wish to say that the day has come when we must abandon the saline solution, because it may irritate the inflamed peritoneum. I have satisfied myself as to this absolutely by experiments on a man with one good eye and one bad eye. The solution irritates the inflamed eye but not the healthy one. I practice repeated irrigations after the operation through tubes above and below and in each lumbar region. Leucocytosis is of no help to decide when to operate. Immediate operation is generally indicated. If a man drops into the water, struggles and finally disappears, will you try to save him or will you say he will be up again and we will save him then? Palpating with the hand is the only true test of an underlying irritation and inflammation. This reveals the rigidity of the muscles of the abdomen over the seat of irritation and points to immediate operation.

DR. J. E. SUMMERS, JR., Omaha—Diaphragmatic pleurisy is sometimes in the way of diagnosing appendicitis, particularly in children, but I believe it can be very readily recognized. In a number of cases, in endeavoring to elicit the physical signs, I have found almost complete absence of the respiratory murmur over the lower part of the right lung. In such a case one can say that he has a pleurisy to deal with. It is usually in pleuropneumonia that the pleuritic elements largely predominate. Dr. McCosh did not refer to typhoid fever as a complicating factor in making the diagnosis; the general symptoms are usually more severe than the local ones, but you do get localized symptoms on pressure as in appendicitis, but not so characteristic. As to Dr. McRae's remarks, I would say that if the difficulty for which the abdomen is opened is complicated by appendicitis the appendix should be removed, otherwise not. As to Dr. Deaver's paper, I am almost too modest to discuss it on the adverse side. I did my first operation for appendicitis nineteen years ago and since that time I have been on all sides of the fence regarding the time for operation. In later years I have taught that Deaver is too radical, and statistics will prove that our mortality is unnecessarily high if we follow his advice. When the disease is progressing, and I am convinced of the symptoms of perforation, I operate with good results. If we operate on the third, fourth or fifth day we lose too many patients, whereas if we do not operate, but go according to the teaching of Dr. Ochsner, many more cases recover. Statistics in my community show that this is so. Since we have stopped following Dr. Deaver we have obtained better results. I am glad to see that Dr. McCosh has become more conservative. Perhaps others will follow him in the adoption of the Ochsner treatment. It seems foolish for us to discuss Dr. Deaver's paper, but maybe he has not yet told us the way to do the operation.

DR. F. L. HUPP, Wheeling, W. Va.—It is an unfortunate fact, but one which we are obliged to accept, that all cases of appendicitis do not get well. One of the factors determining a fatal issue, where there has been a beginning diffuse, septic peritonitis antedating the surgical interference, is a continuance of this process. Of the seven cases of this kind that have come under my care in recent years and been operated on, two have died in this way. Practically all other deaths in these cases were a result of well-known and recognized causes; but within the past four weeks there has come to my notice a case of appendicitis which presents a unique feature in these mortality factors, so far as my experience goes. A boy of 14 years of age was admitted to my service in the City Hospital of Wheeling, W. Va., who had been treated by his family physician for typhoid fever for a period of eleven days prior to admission. His symptoms seemed to have been typical up until the tenth day, when there was discovered an induration and localized tenderness in the right iliac region. On the day of admission, May 6, under chloroform narcosis, the usual incision was made and about an ounce of very offensive pus was removed from the retrocecal region. In the washing there escaped a tubular segment of the appendix vermiformis, much resembling a macerated piece of macaroni. A suspiciously dark

area was detected over the cecum, but because of the profoundly collapsed condition of the patient no further interference was deemed advisable. Well-directed drainage was established and the patient removed from the table. Forty-eight hours after the operation the dressing was repeatedly saturated with a dark, offensive, coffee-ground fluid, and at times there seemed to be some fresh-looking blood with the exudate. The drainage strips were removed and there welled from the depths of the wound a quantity of decomposed dark blood clot. Collapse and death followed three days after the operation. The real interest in this case centers in the autopsy. The cecum, buried in a mass of rather firm adhesions, was the seat of a gangrenous perforation sufficiently large to admit two fingers. No remnant of the appendix was discernible. A very extensive extravasation of old decomposed blood was found distending the cecum, ascending colon and part of the ileum. Peyer's patches exhibited the typical typhoid lesion and an eroded vessel in the base of one of these ulcers demonstrated the seat of the hemorrhage and the cause of death.

DR. A. JACOBI, New York City—I have not operated for anything that looked like appendicitis or perityphlitis for twenty years, so that I certainly have no right to speak of the operation as such. Still I have seen a great many cases of appendicitis and have been present at a number of operations. What I have seen is a great many cases of sudden onsets, with rapid pulse and high temperatures, which when left alone were better prepared for operation at the end of a week, and there are many surgeons of the same opinion. I recall a case that I saw recently with several other physicians in which some of us desired an immediate operation. A surgeon was called in, who stated that if he operated on the case in its present condition, with the high temperature and the state of collapse, the operation might be successful, but the patient would die. He operated a week afterward and the patient recovered. I have seen a number of such cases operated on at the end of a week and they recovered. On the other hand, we see many cases of appendicitis get well under what is called medical treatment. That is not infrequent with children who, though they may have other attacks, still recover, and after growing up never have another attack. I do not believe that there should be for all cases one and the same rule. What I am more interested in is the diagnosis, and that, we are told by Dr. McCosh, is sometimes very difficult. Eight weeks ago I was called to see a child 4 years old who had been ill two days. There was a physician in attendance and two consultants beside myself. There were very few symptoms, but appendicitis had been mentioned at first by the family physician. None of us was ready to make a diagnosis of appendicitis. The child had vomited three or four times a day for two days and there was some diarrhea. The tendency among the doctors was to call it gastroenteritis. There was very little pain and all that I could elicit was on the left side of the transverse colon. It appeared to me to be a pressure pain, as it was not present fifteen minutes afterward. There was no muscular rigidity over the appendix nor any pain when pressure was suddenly discontinued. Meltzer's symptom was absent; there was but little tympanites. I saw no reason to diagnose appendicitis and one of the famous surgeons of New York was called in and also said that it was not appendicitis and that there was no reason to operate. Two days afterward the child died, and the postmortem showed an abscess and many adhesions. There are cases in which no diagnosis can be made, as Dr. McCosh has told us, either by the medical or the surgical man. I have no particular reason for recalling this case except that I have been conscience-stricken all the time, and still I do not know how to avoid a mistake when there are no symptoms pointing unmistakably to appendicitis. Unfortunately, such doubtful cases do occur.

DR. HENRY O. MARCY, Boston—It is quite eighteen years since my first operations for appendicitis. During this period, both in public and private service, my operations have been too numerous to demand statistical tables, and yet not one of the entire series but has made an easy recovery where the appendix had not ruptured prior to operation. Experience is now ample on which to formulate rules for surgical guidance. I am not quite ready to say, "When in doubt, operate." The wise surgeon makes an early diagnosis. It often demands heroism to be guided by the fact that the sins of omission are to be judged on the same plane as the sins of commission.

DR. WILLIAM H. WATHEN, Louisville, Ky.—Dr. Deaver praises the general surgeon in his work in appendicitis at the expense of the gynecologist, but he fails to tell us that the basic principles of all successful abdominal surgery were evolved from and made eternal in the work of the gynecologist. The gynecologist taught the general surgeon the underlying principles that to-day are held sacred in all intraperitoneal surgery, and this encouraged us to efforts in the application of surgical treatment to the diseases of the appendix, gall bladder, bile ducts, stomach, duodenum, pancreas and other abdominal structures. It is true that the general surgeon has done much in perfecting a technic in surgery of the appendix and upper abdomen, for which we give him much praise, but this improved mechanism in operating was made possible by the conditions that preceded his advent into the peritoneal cavity We include in our American Gynecological Society every disease in the abdominal cavity which is treated by the general surgeon. Then let the gynecologist and the general surgeon unite in efforts to evolve the best methods in the diagnosis and therapy of diseases in the abdominal cavity, for there is no consensus of opinion on many vital questions, and we have much to learn and much to forget. While it is generally agreed that the appendix should be removed if the patient can be operated on before the inflammation has extended to the adjacent peritoneum, and that the operation is also indicated between the attacks, there is no agreement as to what should be done in all acute cases where there is a periappendiceal septic involvement. Dr. Ochsner treats these cases by stomach lavage, and claims results far better than he had obtained by operation while Dr. Deaver claims the reverse in his work; and as these gentlemen have had much experience, this difference of opinion and practice must be carefully considered and logical conclusions accepted. I am sure I have had deaths in operations for appendicitis in acute cases where adhesions had formed, and where I opened the abdomen immediately over the infected area, because I could not intelligently separate adhesions and successfully protect the surrounding peritoneum from infection. By making the incision to the left and beyond the infected area, splitting the rectus muscle, or opening through the linea alba, we may isolate infection and intelligently treat pathologic conditions. In diffuse suppurative peritonitis, in appendicitis, stomach or intestinal perforation, gall-bladder rupture and visceral wounds, my experience and observation have taught me that we may expect better results where we avoid the additional peritoneal irritation necessarily resulting from saline irrigation or extensive sponging. After thorough irrigation and sponging, much septic matter will remain in the cavity, and the added traumatism to the peritoneum will so impair its resisting powers as to encourage the more rapid multiplication of pathogenic bacteria. The mortality will be less if we operate on such cases quickly. Do not irrigate, do but little sponging, and drain from the lowest part of the cavity by a large gum tube, thus removing intraperitoneal tension and thereby increasing resistance to further bacterial multiplication and invasion. I believe that much of the mortality in these cases is the result of too much irrigation and sponging and insufficient drainage. If the infection is virulently streptococcic, the cases will die under any treatment, but otherwise most of them will recover if treated as I have suggested, if the operation is not too long delayed.

DR. ERNEST LAPLACE (replying to Dr. Wathen)—I stated that where pus extends all over the peritoneum and the inflammation is general, we can not thoroughly cleanse the peritoneum at the time of the operation. In these cases only do I advise repeated irrigations by the method I have introduced.

DR. A. J. OCHSNER, Chicago—I would say that there are two classes of cases of acute appendicitis in which it is sometimes difficult to limit the infection to the vicinity of the appendix, because of the absence of a sufficiently large omentum

to surround the diseased appendix. This condition is frequently found in young children and in greatly emaciated adults. In these cases an early operation is consequently indicated, and if this can not be done for any reason it is best to place the patient in Fowler's position. I have learned more about appendicitis from Dr. Deaver than from any other man. I always learn when I see him operate or when I hear his discussions on this subject. Dr. Deaver and I have agreed for years as regards the treatment of all cases of appendicitis with the exception of one class. We have agreed on the wisdom of removing the appendix so long as the infectious material is still confined to the appendix. Cases of appendicitis in the interval should be operated on. Where there is a circumscribed abscess that abscess should be drained. There is one class of cases of appendicitis on which we have not agreed, although I am very positive Dr. Deaver will agree with me just as soon as he will be convinced of the fact that it is reasonable and that it is beneficial to the patient. Within the last month, in the preparation of another paper, I have had tabulated the last 1,000 cases of appendicitis on which I have operated in the Augustana Hospital. These cases were taken consecutively during the last thirty-three months. The following table shows the results:

July 1, 1901, to April 1, 1904, 2 yrs. 9 mos.	Cases.	Deaths.	Per cent.
Chronic appendicitis or interval operations	500	3	.5
Acute appendicitis without perforation	255	5	1.9
Treated by absolutely prohibiting all nourishment and cathartics by mouth previous to operation	53		
Operated on within 36 hours	6		
Acute appendicitis, perforated or gangrenous without abscess	55	0	0
Treated by absolutely prohibiting all nourishment and cathartics by mouth previous to operation	34		
Operated on within 48 hours	5		
Acute appendicitis, perforated with abscess	117	4	3.4
Treated by absolutely prohibiting all nourishment and cathartics by mouth previous to operation	78		
Acute appendicitis, with diffuse general peritonitis	33	10	30.0
Total	1,000	22	2.2

Out of 540 interval operations 3 died, all as a result of an additional operation for pyosalpinx. Of acute appendicitis without perforation there were 255. Of these I operated at once on 200 and treated 55 by starvation. I lost 5 cases in the 255, a mortality of 1.9 per cent. The reason the 200 were operated on at once was because the infection seemed to be still confined to the appendix. Fifty-five cases suffered from perforated and gangrenous appendices without infection of the general peritoneal cavity; of these 34 were starved previous to the operation and the remaining 21 were operated on at once, because it seemed clear that the infectious material was still confined to the appendix. Gangrene had occurred, but it was completely occluded from the peritoneal cavity by being shut off by the omentum. Although the appendix was perforated still there was no infection outside of the appendix and a small piece of the omentum that surrounded it. This was removed, together with the appendix, and no death resulted. It is in the next class of cases that there would have been a large mortality had they all been operated on at once on admission to the hospital. There were 117 cases of perforative appendicitis in which the infectious material was not circumscribed, and of these 78 were treated by starvation. It is in this class of cases that every surgeon who operates at once on making the diagnosis has a large mortality. It was the proper treatment of these cases that reduced the mortality to 3.4 per cent., and it is in this class of cases that thousands of lives are being saved all over the United States by the treatment which changes a dangerous acute into a relatively harmless chronic condition. Of the 117 there were many in which it seemed when they entered the hospital that they were suffering from diffuse peritonitis and I did not know absolutely how extensive the infection was. These cases corresponded to a definite type, there being a bad facial expression, cold perspiration, distension of the abdomen and contraction of the abdominal muscles. If these 117 cases had been operated on at once there would have been a mortality like that which Dr. Marcy mentioned. Nearly 40 of these cases would have died under ordinary skill, but with Dr. Deaver's extraordinary skill the mortality would, of course, have been less, but still several times as great as it was by placing them temporarily on this definite form of treatment, consisting in the use of gastric lavage and the absolute prohibition of all nourishment and cathartics by mouth. One of the surgeons in a large Vienna hospital claims that a diffuse peritonitis will become circumscribed as a result of the antitoxic action of the secretion. There were 33 cases who suffered from diffuse peritonitis when they first entered the hospital. Some were in such a desperate condition that they were not operated on at all. Our mortality in this particular class of cases is larger than it would reasonably be under ordinary circumstances, because no patient suffering from appendicitis is ever refused admission even though he may die immediately after entering the hospital. Many patients enter in a hopeless condition, the result of the administration of some form of food or cathartics during the early portion of the attack. These patients are usually admitted between the third and the tenth day of the attack. Of the 33 cases only 10 died, and 7 of these were so far gone that we could not operate. If we had operated on the other 26 immediately on their admission there would have been many more deaths. In 1,000 cases there were 22 deaths, or 2.2 per cent. There is one point which I wish to emphasize especially—in cases in which the infection had already advanced beyond the immediate vicinity of the appendix at the time of admission to the hospital, a definite form of non-operative treatment based on definite principles which I have frequently described[1] was instituted. The main features of this treatment consist in removing the contents of the stomach by gastric lavage and then giving absolutely no nourishment of any form and no cathartics by mouth, giving no large enemata, but supporting the patient by the use of small nourishing enemata not to exceed four ounces, administered through a soft rubber catheter introduced from two to three inches. The nourishment is given every three to four hours. It consists preferably of one ounce of some commercial predigested food dissolved in three ounces of warm normal salt solution. At first the patient is not permitted to drink water, but may rinse the mouth with cold water. Later small sips of hot water and still later cold water is given by mouth. It is well not to return to any form of feeding by mouth too soon, and it should be begun very cautiously.

DR. JOHN B. MURPHY, Chicago—We are agreed that all cases should be operated on early, that the least possible manipulation should be made, and that the waiting plan and starvation treatment is only indicated in a few fulminating cases in the active stage. There are a few elements in the mortality which have not yet been mentioned, and the most important is the type of infection. There are types of infection which will go on to a fatal termination no matter what we do. They are rare, however, in the peritoneal cavity. There is another element which affects the prognosis. "When the symptoms subside I wait," say some men, and that is the fatal mistake. When the symptoms suddenly subside I am frightened. My experience has been different from Dr. Deaver's and Dr. Ochsner's. Some years ago I stated that a large number of cases of general peritonitis would die no matter what we did for them, and I now want to apologize for my error. I have had sixteen consecutive cases of general suppurative peritonitis, perforative; and I do not mean simply that there was a large quantity of pus in the peritoneal cavity; I mean the result of perforations. They include perforations of the stomach, duodenum, intestine and appendix. I operated on all sixteen cases immediately and all recovered but one. I have not had a death from general septic peritonitis from any cause in over two years, except this one. It occurred in a child with a five-day general suppurative peritonitis, from perforative appendicitis. The patient died from a double pneumonia six days after operation and at a time when all peritoneal symptoms had subsided. The operation makes the difference, and formerly patients had been killed on the table because too much work was done in the abdomen at the time of severe toxemia

1. THE JOURNAL A. M. A., Aug. 29, 1903, p. 546.

and severe depression. Pus retained under pressure is rapidly absorbed, whether it be in the peritoneal cavity or elsewhere, and to stop absorption all that is necessary is to relieve the tension. If we have an acute phlegmon of the leg we do not wash it out, sponge it, scrape it, or get our hands or feet into it; we simply relieve the tension by opening it, and we have just that to do in peritoneal infection and in addition close the opening from which the infective material is leaking. There should be no washing, no sponging, no handling of the viscera. I advise putting a rubber drain down into the vesico-rectal fold and placing the patient in the semi-sitting position. I am sorry to differ from Dr. Laplace, who gets results from washing, while I get them without washing. I do not question his results, but I should have to see every detail of his technic and of his treatment before I would consider changing. I do not care what the technic is if the results are secured. I have operated on every case of general suppurative peritonitis that has come under my charge in the period mentioned with the above results.

DR. JOSEPH PRICE, Philadelphia—Dr. Murpay tells you "to get in promptly and play the game," which is just what you should have done in surgery many years ago and the mortality would have been greatly lessened or *nil*. Dr. Ochsner's paper in Saratoga has had a very bad influence. In Dr. Murphy's series of sixteen incised perforations he lost one. He would have saved this case if Dr. Ochsner had not read or published his paper, and probably favored the delay. I read a paper some years ago on general suppurative or septic peritonitis, and the Chairman left the chair in this Section and said he could not let it go unchallenged. Dr. Deaver does not lose cases that walk the streets without appendicitis. Such cases as Dr. Ochsner reports in his first series of 500 (borborygmus) alone should have died. Dr. Deaver never loses such cases nor does he operate for borborygmus. My mortality in 600 cases was four cases. The four deaths and the quite universal custom of drainage was largely due to the very strong influence of Dr. Ochsner's paper at Saratoga on the general practitioner. The gynecologists have taught you all you know. If you want to know any hing about drainage come to Philadelphia. Many of us have lived through our period of usefulness, beyond the age of 50. Do not let the youth of the country die in such large numbers. A few years ago 400 deaths from appendicitis were recorded in Chicago in one year. Since then Chicago has probably lost 1,600 a year from appendicitis. If we put the mortality at 100 to the state (very light) we have a death rate in the very future of our population of 5,200 a year. No one should ever be permitted to die of appendicitis. There is no therapeutics in its management, no starvation, no sweet oil, no icebag—only clean early surgery following the diagnosis, which is easily made. This sharp discussion reminds me strongly of the old discussions on this subject many years ago. Many of us fought the battle all over the land and thought the last word had been said, and rejoiced that the natural history and treatment had been established for all time.

DR. ROBERT T. MORRIS, New York City—Should we remove the appendix when the abdomen is open for some other cause? Our best statistics occur among people who have no occasion for any sort of surgical operation. The next best statistics occur among people who require the least amount of surgical work. The logical deduction is that the easier we allow a surgical patient to escape the better will be the record. Leave the appendix alone until it is infected, and then lose no time in having it inspected. That couplet expresses my views. There are three chief objections to the plan of removing the appendix when the abdomen is open for some other cause. First, it prolongs the other operation. Next, the patient's resistance factors may not have been called out to meet the little special infection that may occur from opening the lumen of the bowel. Third, if the procedure is taught by competent men it will be carried out by some who will manage to get a death rate out of it. Dr. Deaver speaks about "kindergarten drainage in New York." It is better than committing taxidermy on your patients, but there are many operators in New York who agree with Dr. Deaver. Some of those who have arrived at the point of making "kindergarten drainage" have such good statistics that they are accused of removing normal appendices in order to get such results. Gauze packing in the peritoneal cavity is a foreign body, and harmful and unnecessary. Take ten healthy policemen from the street to-day and put half a yard of gauze in the abdomen of each one, and we shall probably lose one or two of them. If strong, healthy men can not bear the presence of gauze in the peritoneal cavity how can weak appendicitis patients bear it? Do not commit taxidermy on appendicitis patients. Some of us do not use any gauze packing at all in the peritoneal cavity.

DR. MORDECAI PRICE, Philadelphia—Within the walls of this room are men who have seen me open 100 cases of general peritonitis and gangrene from appendicitis, and with thorough washing only two or three have died in the state of New Jersey. Probably in Dr. Ochsner's cases his treatment is all right. In the hands of the gentlemen throughout this country it has been anything but satisfactory. Appendicitis has no place in our work except for immediate removal. I remember the case of a young lady who was almost dead. I could find no tumor but a pronounced resisting point, and I diagnosed appendicitis. I said I should remove the appendix within the next twenty minutes and did so, when I found it gangrenous beyond repair. I remember another case which had been ill for five days. There was a pronounced resistance over the appendix and I advised immediate operation. The woman had not had a pulse over 80 nor any temperature. I operated and found a gangrenous appendix, although she had not seemed to be very sick. Dr. Jacobi asked about diagnosis. When you get hold of a patient where you can not tell just exactly what's the matter, and there is a slight resistance over the appendix, take it out.

DR. DEAVER—Dr. Summers evidently misunderstood me. I made the statement that operation should be done in all cases when the patient was seen early. I have advised delay in certain cases in the presence of a general septic peritonitis. I do not take out the appendix in all cases. Dr. McCosh advises that we wait until recovery from the attack, but I consider this dangerous practice in certain cases. Dr. Jacobi, like many medical men, has not the courage to decide that the case belongs to the surgeon. Many young doctors never realize the value of palpation. There is no doubt but that had the Jacobi case been seen by Dr. Ochsner, Dr. Price or others, the diagnosis would have been made. Better take out a healthy appendix and have the case get well than leave a diseased appendix and let the patient die. I could never understand this question of diagnosis. How do these distinguished people make such errors? The diagnosis is usually made by my internes and it is rarely necessary for me to walk into the surgical ward to do this. If internes can do it, surgeons should do better. Dr. Wathen has referred to the gynecologists. They should confine their work to the pelvic cavity. If seen early appendicitis should readily be diagnosed. As to treatment, there is a great difference of opinion. I can not interpret my friend Ochsner's statistics. My cerebration may be a little defective. I do not operate on cases with advanced peritonitis of several days' duration that are practically moribund, as I stated in my paper. Before I came here I looked up my mortality since January 1. I do not like to speak about it here, because I do not expect anybody to believe it any more than I should expect to believe others. I have operated on 159 acute cases since January 1, on patients who had been ill for from three days to four or five weeks. I have evacuated appendiceal pus by the gallon. The statistics of these acute cases is 5 per cent. plus. I am convinced that there is no treatment under the heavens other than the judicious surgical technic that would give you as low a mortality as this in acute cases. I do not expect to lose any in the interval operation, but when we do it is usually from pneumonia, and such exceptions will occur. I go Dr. Murphy one better. He had sixteen cases with one death, while I had sixteen with no deaths. The class of cases of general peritonitis that I have had recover had only been ill a few hours. I operated on a case of that kind last Saturday. The temperature was 104, the abdomen was distended, there was muscular rigidity, and when I opened the abdomen I rolled out an inflamed appendix,

followed by much pus. I put a glass drainage tube into pelvis, when more pus was evacuated. What I take exception to in Dr. Ochsner's treatment is the danger of its being used in just such cases as mine. The only solution is: Don't stand with your hands in your pockets and dilly-dally. Don't give calomel and call in several consultants. I do not agree even with one so distinguished as Dr. Jacobi. Open the abdomen and take out the trouble.

THE MORTALITY AND MANAGEMENT OF PNEUMONIA.*

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Pneumonia continues, in our country at least, the greatest medical problem of the day. Its prevalence and its fatality are markedly increasing, and this at a time when there is a growing, if not as yet a distinctly expressed opinion, within as well as outside the profession, that this situation is needless and should not exist. Under these circumstances it may be well for us, at the end of another pneumonia season, to review the pertinent past, take stock of the present, and as carefully as possible scan the future for some promise of relief.

Pneumonia is ubiquitous, and in temperate regions is the severest and deadliest of the commoner diseases, and is productive of more deaths than any other. It is responsible for an annual morbidity of about 0.7 per cent., a mortality rate of about 0.13 per cent., and it causes about 8.1 per cent. of all deaths. That it is steadily increasing in prevalence I have already proved, and the fact is graphically shown by the charts on the wall. Here it may be seen, among other showings, that in New York an annual mortality of about 1.3 per 1,000 of population in the decade 1804-1813 rose to about 2.5 per 1,000 during the terminal decade of the century; that in Philadelphia the average mortality rate of 1.2 per 1,000 of population in the years 1861-1870 rose to 2 per 1,000 in the decade 1893-1902; that in Chicago the rate of 0.5 per 1,000 of population in the decade 1851-1860 was tripled during the decade at the end of the half-century.

A reasonable explanation for this increasing prevalence of the malady may be found in a consideration of certain facts appertaining to some of the factors which are especially active in bringing about this result: The pneumococcus varies in virulency in different strains, and any strain may be made more or less virulent by cultivation. That the increased prevalence and heightened death-rate may be due to the propagation, survival and dissemination of the most virulent varieties is a fair inference. The pneumococcus is found in the upper respiratory tract of many persons in health; and this occurs in a very much larger proportion of the population than the statements of most observers in this field would indicate. In a series of observations made during the past few months I found the pneumococcus in the secretions on the tonsillar surfaces or other portions of the upper respiratory passages in more than 45 per cent. of the 135 persons examined. A remarkable, and, I believe, a most important, observation was made in this series, namely, that in some instances the bacterium was found in every, or nearly every, member of a family, while in other families every member would be exempt. Further analysis revealed the fact that in a majority of the families in which the germ was found to be so freely disseminated one or more cases of pneumonia had more or less recently occurred, while the histories of the other class of families were free from such cases. These features were so prominent as to make a profound impression on my mind, and I am of the opinion that the fact, if further observation should prove it to be a fact, is of prime importance, inasmuch as it offers a ready explanation for the house epidemics and consecutive family cases which not infrequently occur; and also, and more important, clearly and directly points the way toward a reasonable and practicable system of prophylaxis.

How is the pneumococcus disseminated? How can we account for its excessive prevalence in some families? Why is there, probably, an increased and increasing diffusion of this germ? How does it produce pneumonia? These are fundamental and very important questions, and it is regrettable that the present state of our knowledge does not permit a direct answer to them. However, certain assumptions may be made with the assurance that they do not lie far from the line of truth; that they offer plausible explanations for many of the known facts, and that they may be employed as a basis for the prophylactic management of pneumonia.

The pneumococcus is probably disseminated by the coughing, sneezing and expectorating of persons harboring the bacterium in their respiratory passages. This would account for its extensive prevalence in certain families, i. e., the chances of an unaffected member becoming infected would be greatly multiplied by living in close contact with those already affected. That there is an augmented and rapidly increasing prevalence of the pneumococcus, with a larger and an increasing proportion of the population acting as hosts and distributors of the germ scarcely admits of question; but this seems amply accounted for by the increased facilities for travel and public assembly which are demanded by the spirit of the times. Pneumonia is caused by pneumococci obtaining access to and developing in the pulmonary alveoli. A paretic state of the laryngeal and bronchial reflexes, such as may be produced by undue exposure to cold, or by exhaustion, or by profound sleep, may permit the aspiration of pneumococcus-laden particles of mucus or other fluid from the upper to the deeper respiratory passages. Another route which the infective germ may take is through the circulation, the pneumococci entering the blood current from the throat, attaining extraordinary virulency by growth in a peculiarly congenial culture medium, and making their way to the pulmonary alveoli. The bearing of these hypotheses on the general management of pneumonia will be considered later.

The mortality of pneumonia is very great, the rate being slightly in excess of 20 per cent. In 1892 I published a table on the mortality of pneumonia, embodying the statistics of 223,730 cases. This inquiry has been continued to the present time, and my full table now comprises 465,400 cases, with 94,826 deaths, a rate of 20.4 per cent. (See next page.)

Certain fallacies are inherent to a table of this kind. For example: As compared with private practice, the mortality in public charitable hospitals is very much higher, while it is much lower in armies in time of peace, these differences depending directly on the differing characters of the patients. Again, the malady seems to be more dangerous in some countries than in others, probably due to variations in the virulency of the infecting organism. Finally, many series of cases are published for the purpose of illustrating the advantages of some favorite method of treatment, and in these instances the reporter is prejudiced and is prone to omit

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TABLE SHOWING CASE MORTALITY OF PNEUMONIA.

	Cases.	Deaths.	Per Cent.	Reference.
bserver.	142	16	11.2	Med. Prac., Milano, 1819, p. 94.
rbi	25	0	0.0	Am. Jour. Obst., 1901, xliii, p. 632.
ms	4	3	75.0	Gaz. Med. Sicil., 1899, iv, p. 13.
llo	8	6	75.0	Ann. Surg. Oct., 1901.
en and Lull	62	0	0.0	Phil. Med. Jour., Dec. 7, 1901, p. 999.
yn	7	4	57.1	Med. Rec., March 26, 1904.
schul	5	1	20.0	Trans. Pan-Am. Med. Cong., Wash., 1893, p. 264.
ders	30	10	33.3	Jour. Am. Med. Assoc., June 15, 1895, p. 91.
ders	90	12	13.3	Univ. Med. Mag., 1898, x, p. 641.
ders	17	3	17.6	Boston Med. and Surg. Jour., May 21, 1868.
onymous	577	7	1.2	Brit. Med. Jour., 1896, i, p. 1229.
nonymous	3	0	0.0	Rev. Méd. de la Suisse Rom., 1887.
atonin	1,501	253	16.8	Inaug. Dissert., Bucharest, 1893, xiii, p. 130.
ndeoud	8,387	612	7.3	Lungenentzündung, Wien, 1897, p. 133.
ufrecht	199	49	24.6	Private Com. Surg. Gen. (1897-1901).
ustro-Hung. Army	60	6	10.0	Pneumonia u. Pleuritis, Würzb., 1880.
aginsky	645	145	22.4	Arch. f. Kinderheilk., 1891, p. 13 and 1892 p. 286.
aginsky	682	143	21.0	Brit. Med. Jour., 1898, ii, p. 297.
alfour	60	4	6.7	Allbutt's Syst. Med., 1896, i, p. 655.
allard	54	2	4.0	Wiener med. Wochenschr., 1857, No. 5.
amberger	21	6	28.6	Ranking's Abst., No. 28, p. 92.
ang	115	13	8.1	Settim. Med., 1899, iii, p. 285.
anti & Pieraccini	169	42	24.2	Arch. Pediat., Nov., 1902.
arber	161	21	13.0	Brit. Med. Jour., 1900, i, p. 1397.
arr	212	2	1.0	Ann. d. Charité, vii, p. 234.
artels	3,272	684	21.0	Bull. de l'Acad de Méd., 1862, xxvii, p. 676.
arthez	922	213	23.1	Eichhorst's Spec. Path. u. Therap., Wien, 1896, i, p. 511.
ary	8	1	12.5	Koranl, Klebs, Ill. Med. Jour., Dec., 1903, p. 488.
asel Hospital	109	21	19.3	Gaz. d. Ospedal., 1896, xvi, p. 713.
assl	30	3	10.0	Berichte d. med. Klinik, München, 1878.
auer	28	23	82.0	Lungenentzündung, Stüttgart, 1850.
aumgärtner	36	0	0.0	Emiss. du Sang, Paris, 1838.
ecquerel	81	4	5.0	Braithwaite's Retrospect, Jan., 1859, p. 71
ell	153	5	3.3	Ranking's Abst., No. 28, p. 92.
ell	567	116	19.8	Practitioner, May, 1869, p. 267.
ennett	172	95	55.3	Annalen, 1874-5, Berl., 1876-7
erliner Charité	6	0	0.0	Smith, XX Century Practice, xv, p. 97
erne, in 1762	2,109	759	36.0	Gaz. d. Ospedale, 1903, No. 8.
ertozzalo	60	10	16.6	Lepine's Pneumonie, Wien, 1883.
esnier	82,358	16,311	20.0	Kocher'a Pneumonie, Würzb., 1866.
iermer	22	10	45.4	Allbutt's Syst. Med. 1896, i, p. 15.
illings	20	0	0.0	Johns Hopkins Hosp. Bull., v, p. 105.
illings, J. S., Jr	5	2	40.0	Bouchet's Dis. Chest, Lond., 1865, p. 320
ird	228	44	19.3	Med. News, March 8, 1902, lxxx, p. 477.
ishop	22	3	13.6	Inaug. Dissert., Zürich, 1865.
ieuler	12	1	8.3	Tomasini's Mod. Cur. Pulmonite, Napoli, 1899.
ondi	8,339	2,683	32.2	Gior. d. Acad. d. Med. d. Torino, July, 1901.
ormans	173	21	12.1	Person. Com. Dr. Rowe (1865-1904).
oston City Hosp	102	12	12.0	Dict. de Méd., Paris, 1835.
ouilland	5	1	20.0	Sturges' Pneumonia, Lond., 1876, p. 206.
ouillaud	5	1	20.0	Pittsb. Med. Rev., 1894, viii, p. 148.
oyce	54	4	7.4	Lambert, Jour. Am. Med. Assoc., 1900, xxxiv, p. 900.
ozzolo	1	0	0.0	Gaz. d Osped., 1903, xxiv, No. 89.
ragazolo	142	30	21.1	Arch. Pediat., 1899, xvi.
randers	2	1	50.0	Virchow's Arch., xv, p. 210.
randes	12	0	0.0	Rev. d. Méd., April, 1896.
ranthomme	129	17	13.2	Lancet, 1890, i, p. 1425.
renchley	4,094	513	12.5	Ranking's Abst. No. 28, p. 92.
riquet	5,685	399	7.0	Personal Com. Dir. Gen. Med. Serv. (1894-98).
ritish army	12,271	413	3.5	LaRoche, Pneumonia, Phila., 1854, p. 417.
ritish army	1,065	192	18.0	Simpson Homeopathy, Phila., 1854, p. 117.
ritish army	81	18	22.2	Collec. Invest. Rec., Lond., 1884, ii.
ritish Med. Assoc	3,099	136	4.0	1895, i, p. 360, and 1896, i, p. 1229.
ritish Med. Jour	120	2	1.6	Mercer, Med. Rec., Feb. 29, 1896, p. 295.
ritish navy	6	0	0.0	Ranking's Abst. No. 28, p. 92.
urkhard	20	9	45.0	Med. Rec., Jan. 2, 1904, lxv, p. 14.
urt	57	16	28.1	Arch f. k. Med., xxix, p. 163.
utry	72	7	10.0	Bost. Med. and Surg. Jour., Aug. 3, 1893, p. 117.
abot	60	3	5.0	Bost. Med. and Surg. Jour., cxxx, No. 12.
abot	38	2	5.3	Bull. d Assoc. Sanitat., Milan, 1 No. 9.
accluniga	14	3	21.4	Jour. Am. Med. Assoc., 1897, xxxix, p. 103.
ampbell	4	0	0.0	Bericht, Berl., 1895.
analiz. Werke	20	2	10.0	Maryl Med. Jour., March, 1900, p 113
anby	1	0	0.0	Clin. Med. Ital., 1898, iii, p. 41.
antieri	142	1	0.6	Sieroterapia, 1898, iii, p. 41.
apri	16	1	6.6	Lancet, 1898, i, p. 1331.
armichael	2	0	0.0	Rev. d. Méd., Nov., 1898.
arriere	129	39	30.0	Serioterapia, 1898, iii, p. 135.
aruso & Stagnitta	10	9	90.0	Lancet, 1884, ii, p. 135.
aton	3,969	1,508	38.5	Am. Pract. and News, 1895, xix, p. 417.
ecil	39	2	5.0	Osler, Univ. Mag., Nov., 1888.
harity Hosp., N. O	45	3	6.6	Bost. Med and Surg. Jour., 1898, cxl, p. 348.
hase	39	20	52.0	Bost. Med and Surg. Jour., April 13, 1899.
haae	39	10	38.5	Bost. Med and Surg. Jour., 1870
hatelaine	26	4	15.7	Jour de Méd. de Brux., 1870
hatelaine	383	60	15.0	Eichhorst, Op. cit., p. 511.
homel	127	19	17.2	Pneumonie, Leipzig, 1841, p. 305.
hurton	209	36	16.2	Lancet, 1890, ii, p. 133.
hvostek	260	50	38.0	Oester. Zeitschr. f. prakt. Heilk. 1867. No. 26. p. 43
incinnati Ed. Health	2,336	886	32.3	Reports 1873 4 5.
incinnati Hosp.	93	30	42.0	Personal Com. Registrar, 903.
ochran	57	24	12.0	Med Rec., Nov. 18, 1893, p. 664.
ohn	25	3	5.2	Ranking's Abst., No 28, p. 92.
oleman	74	4	22.4	Inaug. Dissert., Würzb., 1886, p. 13
olin	517	116	9.1	Méd. Mil., Paris, 1863.
olles	816	17	37.3	U. S. Naval Rpts., 1881, p. 414
onstantinesco	134	49	48.0	Inaug. Dessert.
ook Co. Hosp	1,117	536	0.0	Report, 1st half, 1890, p. 36.
ook Co. Hosp	2	0	10.0	Private Com. Asst. Warden (1903).
onke	10	1	19.0	Brit. Med. Jour., 1899, i, p. 1278.
ouldrey	1,010	192	50.0	Lancet, 1888.
oupland	2	1	16.0	Pye-Smith, Allbutt's Syst. Med., vi, p. 136.
randall	610	98	0.0	Arch. Pediat., Dec., 1898.
roce	1	0	4.6	Arch. f. klin. Med., xxxviii, p. 554.
roce	22	1	0.0	Gaz. d'Osped., 1898, xix, p. 375.
romble	20	0	60.0	Texas Med. Jour., Dec., 1901.
ummins	25	15	36.3	Sieroterapia, 1899, iii, p. 7.
Dagnini & Silvani	124	45		St. Louis Med. Rev., Mar. 30, 1889, p. 355.
Dalton				

TABLE SHOWING CASE MORTALITY OF PNEUMONIA.—Continued.

Observer.	Cases.	Deaths.	Per Cent.	Reference.
Davis	15	1	6.6	Cin. Lan. & Clin., July 15, 1890, p. 9.
Dawe & Austin	70	32	45.7	Lancet, 1904, i. p. 496.
De Bordes	90	19	21.0	Neederl. Weekb. v. Genea., Jan., 1853.
Demarrara Hosp	199	63	31.6	Crombie, Op. cit. (1889-91).
De Renzi	32	3	9.4	Gaz. d. Osped., Feb. 13, 1898.
De Renzi	14	2	14.3	Rev. clin. e. Therap., 1896, xviii, p. 503.
De Renzi	15	1	6.6	Policlinico, Oct. 31, 1896.
Derpmann	655	117	17.9	Inaug. Dissert., Bonn, 1885, p. 19.
Dessau	45	0	0.0	Jour. Am. Med. Assoc., Nov. 20, 1890, p. 791.
Dick	2	0	0.0	Brit. Med. Jour., 1904, i, p. 105.
Dietl	380	53	14.0	Der Aderlasse in d. Lundgenentz., Wien, 1848. p. 105
Dietl	750	69	9.1	Wiener med. Wochenschr., 1852.
Diogle	1,126	405	36.0	Rpt. Med. Officer, Middlesborough, 1899.
Doubleday	252	112	44.4	Med. Rec., Mar. 28, 1885, p. 343.
Drasche	73	16	21.9	Berichte, 1894-99 (Vienna).
Drummond	8	2	25.0	Brit. Med. Jour., 1898, ii, p. 939.
Duke	8	0	0.0	Lancet, 1904, i, p. 1016.
Dukes	44	1	2.3	Lancet, 1896, i, p. 840.
Dupuy	70	23	32.2	Prog. Méd., 1897, Nos. 41-42.
Dutcher	50	1	2.0	Cin. Lan. & Obsv., Jan., 1861, p. 10.
Edinburg Infirmary	80	4	5.0	Reports, 1839 and 1865.
Edinburg Infirmary	1,716	306	17.8	Osler, Op. cit.
Eichberg	90	17	18.8	Jour. Am. Med. Assoc., 1897, xxix, p. 108.
Eichberg	6	1	16.6	Am. Med., 1902, iii, p. 690.
Eichhorst	1,918	367	19.1	Spec. Path. u. Therap., Wien, 1894, i, p. 510.
Elfstrom	9	2	22.5	N. Y. Med. Jour., 1898, lxviii, p. 556, and Sept. 30, 1899, p. 486
Elfstrom	14	3	21.4	Brooklyn Med. Jour., 1900, xiv, p. 603.
Elisabeth Hospital	1,253	314	25.1	Berichte, 1894-99 (Vienna).
Emmerich	161	46	28.6	Arch. f. Hygien, 1884, ii, No. 1.
Englemann	15	4	26.7	Bost. Med. and Surg. Jour., 1897, cxxxvii, p. 311.
Ewart and Percival	6	5	83.3	Brit. Med. Jour., 1900, ii, p. 900.
Fanoni	32	3	9.4	N. Y. Med. Jour., 1898, lxvii, p. 646.
Fanoni	18	1	5.5	Pediat., 1900, ix, p. 393.
Feldhausen	56	7	12.5	Inaug. Dissert., Göttingen, 1879, p. 15.
Fenwick	990	233	23.5	Lancet, Jan. 31 and Feb. 7, 1891.
Ferguson	5	3	60.0	Jour. Am. Med. Assoc., 1898, xxx, p. 966.
Fergnson	106	6	5.7	Smith, XX Cent. Prac., xv. p. 97.
Ficke	108	1	0.9	Wiener med. Woch., 1893, No. 39.
Fieandt	106	3	2.8	Duodecim., Helsingfors., 1889.
Filk	61	1	1.6	Wiener med. Woch., 1893, Nos. 8 and 9.
Findelanstalt	152	117	77.0	Bericht, Wieu, 1850.
Fisher	4	4	100.0	Am. Jour. Med. Sci., 1901, cxxii, p. 193.
Fisher	26	1	4.0	Med. Rec., July 28, 1889, p. 94.
Fismer	145	13	9.0	Arch. f. k. Med., 1873, xi, p. 391.
Fleischmann	239	14	5.8	Sturges, Op. cit., p. 329.
Flint	133	35	26.3	N. Y. Med. Jour., Mar., 1875, p. 290.
Flint	12	2	16.6	Prac. Med., 1868.
Foa	1	0	0.0	Sem. Méd., 1891, xi, p. 440.
Folkmann	125	26	20.8	Inaug. Dissert., Erlangen, 1847, p. 39.
Folsom	391	132	33.7	Med. News, 1897, lxx, p. 28.
Forget	32	7	2.2	Gaz. Méd. de Strasb., 1860.
Fox	55	8	14.5	Reynold's Syst. Med., Phila., 1880, ii, p. 204
Francis Joseph Hospital	1,118	289	25.8	Berichte, 1894-99 (Vienna).
Fränkel	1,015	229	27.6	Lungenkrank'h., 1902.
Fränkel & Reiche	1,139	219	19.4	Zeitschr. f. k. Med., 1894, xxv.
Franque	872	262	30.0	Statistik d. Pneumonie, Würzb., 1855.
Fräntzel	100	0	0.0	Eichhorst, Op. cit., p. 511.
Fraser	4,846	1,136	23.4	Glasgow Med. Jour., May, 1902.
Fricke	179	16	9.0	Inaug. Dissert., Gött., 1886, p. 26
Frohmüller	12	0	0.0	Deutsche Klinik, 1855.
Funck	941	102	10.8	Inaug. Dissert., Griefswald, 1868.
Fussell	132	22	16.4	Med. News, 1898, lxxii, p. 297.
Gallisart	13	10	77.0	Pneumonie, etc., Paris, 1877.
Gandini	25	0	0.0	Ranking's Abst., No. 28, p. 92.
Gaston	63	15	23.8	Med. News, Aug. 5, 1893, p. 152.
Geissler	421	87	20.7	Arch. d. Heilk., 1861, ii, p. 115.
Gentile	40	1	2.5	Laennec, Dist. Chest, N. Y., 1830, p. 270.
Gerhracht	45	29	64.5	Inaug. Dissert., Würzb., 1885.
Gerhard	41	1	2.5	Am. Jour. Med. Sci., xiv, p. 328.
Gerhardt	6	0	0.0	Thüring. Corresp.-bl., 1875, No. 11.
German Army	42,467	1,524	3.6	Hermann, Lungenentz., 1880.
German Army	19,169	735	3.8	Personal Com. Surg. Gen. (1896-1901).
Goldsborough	9	2	22.2	Jour. Am. Med. Assoc., 1902, xxxviii, p. 1681.
Goodhart	120	25	20.8	Osler, Prac. Med., 1899, p. 131.
Graf	46	13	28.2	Inaug. Dissert., Würzb., 1876.
Graham	5	1	20.0	Lancet, 1903, i, p. 1031.
Gray	6	1	16.7	Med. Rec., 1902, lxi, p. 527.
Green	23	1	4.4	Med. Rec., July 20, 1889, p. 66.
Grisolle	748	183	24.4	Traité de la Pneumonie, Paris, 1864
Grund	16	0	0.0	Pneumonie, Würzb., 1891.
Grundler	73	4	5.5	Deutsche med. zertzl. Zeit., 1875, iv. 2, p. 79.
Gualdi	39	2	5.1	Lancet, 1884, ii, p. 27.
Guigeot et Deguy	12	0	0.0	Sem. Méd., Mar. 15, 1897.
Gurlt	30	15	50.0	Ann. Surg., Feb., 1896.
Haedke	4	3	75.0	Deutsche med. Woch., 1898, p. 220.
Hall	70	24	34.3	Phila. Med. Jour., 1901, viii, p. 791.
Halla	14	2	14.3	Präger Zeitschr. f. Heilk., 1883, iv, p. 198.
Hamilton	9	1	11.1	Brit. Med. Jour., 1899, i, p. 1274.
Handford	31	9	23.1	Lancet, 1900, ii, p. 170.
Hartnett	1	0	0.0	Brit. Med. Jour., 1897, i, p. 1279
Hartshorn	11,175	1,117	10.0	Med. News, Apr. 7, 1888.
Hay	150	61	40.6	Lancet, Nov. 28, 1903.
Hayem	77	16	21.0	Wiener med. Bl., 1895, p. 682.
Hawkins	242	9	3.7	Practitioner, July, 1893, p. 19.
Hegele	40	0	0.0	Kissel, Pneumonie, 1852, p. 149
Helbing	62	5	8.0	Canstatt's Jahresb., 1850.
Hellis	831	173	22.0	Clin. Med., Paris, 1824.
Hendley	935	93	9.9	Brit. Med. Jour., 1895, i, p. 276.
Henry	9	3	25.0	L'Union Méd., 1847, No. 127.
Herard	40	8	20.0	Temp. in Pneumonie, Paris, 1885.
Hermann	712	45	6.5	Lungenentzündnog, Miloch., 1880, pp. 13-42.
Hirst	7	3	42.8	Obstetrics, 1898, p. 617.
Hjaltelin	80	3	3.7	Edinb. Med. & Surg. Jour., Apr., 1864.
Hœpfel	15	1	7.3	Therap. Monatschr., Apr., 1892.
Holdheim	5	0	0.0	Deutsche med. Wochenschr., 1896, xxii, p. 85.
Holmes	1	1	100.0	Jour. Am. Med. Assoc., 1901, xxxvi, p. 1544
Holt	198	37	19.6	Med. Rec., Feb. 14, 1885, and Apr. 7, 1888
Holwede u. Münich	15	1	6.6	Arch. f. Kinderh., ii.

TABLE SHOWING CASE MORTALITY OF PNEUMONIA. Continued.

Observer.	Cases.	Deaths.	Per Cent.	Reference.
Homburger	25	9	36.0	Inaug. Dissert., Strassb., 1879, p. 71.
Home for Aged	202	123	60.9	Mauerbach (Wien), for 9 years.
Hournann et Dechambre	108	76	70.0	Arch. Gén. de Méd., 1836.
Howard	170	10	6.0	Osler, Op. cit., p. 121.
Huber u. Blumenthal	14	2	14.3	Berl. klin. Woch., 1897.
Hulava	12	0	0.0	Deutsche med. Zeit., 1855.
Hughes	14	5	35.7	Trans. Pan-Am. Med. Cong., 1893, i, p. 324
Hughes and Carter	1	0	0.0	Therap. Gaz., Oct. 15, 1892, xvi, p. 668
Huss	2,710	375	13.9	Lungenentzündung, Leipz., 1861, p. 94.
Ingals	338	123	36.4	Jour. Am. Med. Assoc., 1902, xxxix, p. 1301.
Ingals	22	10	45.8	Med. News, Oct. 17, 1903, p. 727.
Italian Army	12,442	1,874	15.6	Grieco, Private Com. (1890-1899).
Ivanoff	22	0	0.0	Meditzyna, 1894, No. 4, p. 20.
Jackson	51	8	15.0	N. Y. Med. Jour., Mar., 1875, p. 290.
Jackson	19	2	10.5	Therap. Gaz., Nov., 1894, p. 725.
James	28	5	17.9	Am. Jour. Med. Sci., July, 1877.
Janson	10	1	10.0	Hygiea (Stockholm), 1892, p. 368.
Johns Hopkins Hospital	431	96	22.2	Private Com. Supt. Hurd (1889-1903).
Jones	32	10	31.3	Med.-Chir. Rev., Jan., 1861.
Jones	218	67	30.7	Jour. Am. Med. Assoc., Aug. 7, 1886, p. 144.
Judrin	30	1	3.3	Thèse de Paris, 1824, p. 17.
Juergensen	567	73	12.7	Pneumonie, Tüb., 1881.
Kelly	1	1	100.0	Jour. Am. Med. Assoc., 1900, xxxv, p. 599.
Kerchensteiner	160	46	28.7	Bayer. ärztl. Intelligenzb., 1881, xxviii, p. 215.
Kissel	301	19	6.3	Pneumonie, Eilenburg, 1852, p. 289-91.
Klemperer	6	0	0.0	Berl. klin. Woch., 1891, xxviii, p. 869.
Klemperer	20	0	0.0	Wiener med. Woch., 1892, xlii, p. 882.
Kocher	60	5	8.3	Pneumonie, Würzb., 1866.
Kohn	32	12	37.5	Berl. k. Wochenschr., 1896, xxxiii, p. 1124
Kophuski	10	1	10.0	Maryl. Med. Jour., 1899, xli, p. 179.
Krause	59	9	15.3	Pneumonie, Leipzig, 1868.
Krelder	6	2	33.3	Med. Rec., Sept. 7, 1889, p. 260.
Krügerhausen	71	1	1.4	Prakt. Fragmenten, Coblenz, 1845.
Kühn	58	8	13.8	Arch. f. k. Med., 1878, xxi, p. 364.
Lacage	42	1	2.5	Ranking's Abst., No. 28, p. 92.
Laennec	94	18	19.1	Dis. Chest, N. Y., 1830.
Laennec (A.)	40	6	15.0	Jour. Soc. Méd. la Loire, 1825.
Lakeside Hospital	16	3	18.7	Report, 1904 (Chicago).
Lambert	9	1	11.1	Med. News, lxxvi, p. 559.
Lambert	12	3	25.0	Jour. Am. Med. Assoc., 1900, xxxiv, p. 900.
Landerer	50	10	20.0	Wiener med. Presse, 1893, p. 730.
Landrieux et Legros	10	2	20.0	Rev. Gén. de Clin., etc., 1901, xv, p. 785.
Latta	257	52	20.2	Osler, Univ. Med. Mag., Jan., 1889.
Latta	10	0	0.0	Gior. d. r. Acad. di Med. di Torino, 1893, xli, p. 33.
Laveran	235	46	19.5	Mal des Armées, Paris, 1875, p. 28.
Lebert	898	135	15.0	Klinik d. Brustkrankh., i.
Leguaiui	3	0	0.0	Rev. Clin., 1893, p. 31.
Leszinsky	245	25	10.2	Zeimssen, Pneumonie, 1862, p. 236.
Leudet	40	3	7.5	Bull. Gén. de Thérap., 1863.
Liebermeister	52	29	55.7	Ziemssen's Handb.
Liegel	72	0	0.0	Wiener med. Woch., May 7, 1898, p. 885.
Liszt	46	0	0.0	Pester med.-chir. Presse, 1896, xxxii, p. 75.
Löbel	57	10	17.5	Bericht d. Rud. Stift., Wien, 1867.
Loewenthal	12	0	0.0	Centralb. f. Therap., Nov., 1891.
Loomis	255	87	34.0	N. Y. Med. Gaz., Apr. 30, 1881, p. 154.
Louis	78	28	32.2	Rech. sur la Effets de la Saignée, Paris, 1835.
Louis	75	18	24.0	Phthisis, Boston, 1810, p. 440.
MacArthey	120	2	1.7	Med. Rec., 1896, i, p. 397.
MacGregor	4,027	287	7.0	Med. Notes on Crimean War.
Maldaresco	101	18	18.0	Sem. Méd., 1896, lxxiv, No. 19.
Manges	58	15	26.0	Med. News, lxxvi, p. 115.
Margotta	1	1	100.0	Gior. Med. d. e. Esercito, Roma, 1899, p. 796.
Marie	8	0	0.0	Bull. Soc. Méd. d. Hôp. d. Paris, May 17, 1900.
Marion	76	40	52.6	Am. Pract. & News, 1895, xix, p. 415.
Markham	392	56	14.3	Gulstonian Lectures, Lond., 1866.
Marone	1	0	0.0	Rif. Med., 1898, i, p. 582.
Mason	50	23	46.0	Conn. Bd. Health Rpt., 1885, p. 338.
Mass. Gen. Hosp.	2,486	657	26.4	Townsend and Coolidge, Am. Climat. Assoc., 1889, and Person. Com. Supt., 1824-1903.
Massalongo	10	3	30.0	Rif. Med., 1898, ix, p. 246.
Matton	38	10	25.3	Jour. de Med. de Brux., 1872, p. 412.
Mays	299	10	3.3	Bost. Med. & Surg. Jour., Oct. 24, 1895, p. 429; Med. News, 1897, lxx, p. 124.
McCrea et al	486	104	21.2	Mont. Med. Jour., 1904, xxxiii, p. 19.
McManus	62	2	3.3	Med. Rec., Sept. 8, 1888, p. 260.
Medical News	5	5	100.0	1899, lxxiv, p. 88.
Mercer	538	28	5.2	Med. Rec., Feb. 29, 1896.
Mercier	70	29	40.1	Bull. Soc. Anat., xli, p. 279.
Mercy Hospital	492	166	33.7	Person. Com.
Meyer	12	2	16.6	Folsom, Op. cit., p. 29.
Meyer	500	94	18.9	Mt. Sinai Hosp. cases.
Miller	14,857	14,411	97.0	Am. Jour. Med. Sci., June, 1894.
Mitchell	6,149	1,481	24.1	Edinb. Med. & Surg. Jour., Nov., 1857, p. 404
Monetti	29	1	3.5	Gaz. d. Osped., Mar. 29, 1903.
Montreal General Hospital	1,012	207	20.4	Osler, Univ. Med. Mag., Nov., 1888.
Montgomery	20	6	30.0	Ill. Med. Jour., Feb., 1904, v, p. 672.
Morano	15	2	13.3	Rif. Med., 1899, Nos. 72-73.
Morehead	164	43	26.7	Rankin's Abst., No. 28, p. 92.
Morrill	195	7	3.6	Bost. Med. & Surg. Jour., 1894, cxxx, p. 541; Arch. Pediat., 1897, xiv, p. 730.
Morris	35	11	31.4	Lancet, 1891, i, p. 519.
Mosler	40	0	0.0	Lungenentzündung, Griefswald, 1887.
Mueller	10	0	0.0	Ranking's Abst., No. 28, p. 92.
Mule	4	1	25.0	Med. Rec., 1901, lx, p. 433.
Münch. Krankenh	234	43	17.9	Ann., 1874-75-78.
Musser	135	56	28.7	Nothnagel's Encycl., Dis. Lungs., 1902, p. 505.
Neisser	3	0	0.0	Deutsche med. Woch., 1892, xviii, p. 593.
Neuhoff	12	2	16.6	Med. Rec., 1901, lix, p. 724.
Neumann	7	2	28.6	Berl. k. Woch., 1888, p. 119.
New York Hospital	1,188	348	31.0	Reports, 16 years.
Oppolzer	32	5	15.6	Rankin's Abst., No. 28, p. 92.
Orr	18	1	5.5	Med. Rec., Sept. 27, 1902, p. 515.
Osler	149	42	28.2	Am. Jour. Med. Sci., 1897, cxiii, p. 1—Nat. Med. Rev., vii, p. 177
Pane	66	6	9.1	Rif. Med., 1897, pt. ii, p. 40—1898, No. 17.
Paton	96	2	2.2	Am. Jour. Med. Sci., Oct., 1870, p. 375.
Patton	63	36	57.1	Jour. Am. Med. Assoc., Oct. 16, 1886.
Pause	169	26	15.3	Lundgenentzündung, Leipz., 1861, p. 154.
Peacock	100	12	12.0	St. Thomas' Hosp. Rpts., v, p. 18.

TABLE SHOWING CASE MORTALITY OF PNEUMONIA.—Continued.

Observer.	Cases.	Deaths.	Per Cent.	Reference.
Peaslee	29	3	10.0	Chic. Med Stand., Oct., 1889, p. 126.
Pelletan	75	11	14.6	Mém. de l'Acad. de Méd., viii, p. 373.
Pendlebury Hospital	234	3	1.3	Reports, Manchester, 1881-86.
Pennsylvania Hospital	920	241	26.2	Osler, Op. cit., and Eichberg, Am. Med., iii, p. 691
Pepper	1,485	173	11.6	Bost. Med. & Surg. Jour., Apr. 24, 1890.
Pepper	2,471	324	13.1	Med. News, July 5, 1890.
Petrescu	825	17	2.0	Bull. d. Thérap., cxxii, p. 120.
Piorry	30	2	6.6	Ranking's Abst., No. 28, p. 92.
Polienctov	37	3	8.1	La Méd. Mod., 1892, xiii, p 150.
Popham	30	2	6.6	Brit. Med. Jour., Dec. 28, 1867.
Porteous	50	0	0.0	N. Y. Med. Jour., May 11, 1895, p. 594.
Powell	6	1	16.6	Brit. Med. Jour., 1895, ii, p. 1149.
Prautois	59	13	21.7	Arch Gén. de Méd., 1892, pp. 274, 452.
Priban u. Robertscherk	10	0	0.0	Prager Vierteljahrschr., 1869.
Prince Edward's Island	546	40	7.3	Med. Rec., July 13, 1889, p. 44.
Provident Hospital, Chic	52	12	23.1	Reports, 3 years.
Prus	129	77	59.0	Mém. de l'Acad. de Méd., 1840, viii, p. 13
Putnam-Jacobi	14	2	14.3	N. Y. Med. Jour., June-July, 1879.
Pye-Smith	434	111	25.5	Allbutt's Syst. Med., 1898, vi, p. 736.
Rall	35	7	20.0	Inaug. Dissert., Stüttg., 1887, p. 5.
Rankin	5	1	20.0	Lancet, 1895, ii, p. 456.
Rasori	832	173	22.0	Arch. Gén. de Méd., 1824.
Raw	1,047	245	23.4	Lancet, 1900, I, p. 460.
Raw	817	196	24.0	Brit. Med. Jour., 1891, ii, p. 1803.
Raymond	1	0	0.0	Arch. Gén. de Méd., Mar., 1901, p. 99.
Recupito	1	0	0.0	Riv. Clin. Terap., Napoli, 1899, ii, p. 79.
Reece	35	20	57.3	Brit. Med. Jour., 1895, ii, p. 1314.
Reed	64	2	3.1	Therap. Gaz., Apr. 15, 1892.
Renier	24	1	4.1	Wiener med. Woch., 1893, No. 39.
Reuf	94	5	5.3	Ranking's Abst., No. 28, p. 92.
Reyburn	202	14	6.9	Am. Jour. Med. Sci., Apr. 1866, p. 368
Rhan	43	12	28.0	Thèse de Paris, 1874.
Rietz	392	50	12.8	Inaug. Dissert. Jena., 1868, p. 19.
Rilliet et Barthez	81	77	95.0	Mal. d. Enf., Paris, 1838.
Ringrose	20	3	15.0	Lancet, 1897, ii, p. 1451.
Robinson	32	0	0.0	Lancet (Am. Ed.), 1852, ii, p. 288.
Robinson	141	101	71.6	Med. Rec., 1898, liii, p. 253.
Rochester	168	21	12.5	Jour. Am. Med. Assoc., 1901, xxxvii, p. 1237
Rodini	2	0	0.0	Cong. Int. Med. Roma, 1899, p. 378.
Rodman	98	25	25.5	Am. Jour. Med. Sci., Jan., 1876.
Rosenow	30	12	40.0	Jour. Infec. Dis., 1904, i, p. 280.
Roosevelt Hospital	367	142	38.7	Eichberg, Am. Med., iii, p. 691.
Roth	237	45	18.9	Statistik d. Pneumonie, Würzh., 1860.
Routh	193	9	4.5	Lancet (N. Y. Ed.), 1855, ii, p. 36.
Rudolph-Stiftung	3,026	775	25.6	Berichte, 1865-75, and 1894-99.
Salawa	15	0	0.0	Schmidt's Jahrb., 1855, lxxxvi, p. 30.
Salem Hospital	2	1	50.0	Repts., 1877, p. 8.
Sampson	909	209	23.0	Lancet (N. Y. Ed.), 1851, ii, p. 36.
Samter	331	39	11.0	Inaug. Dissert., Breslau, 1881.
Schapira	264	42	16.0	Inaug. Dissert., Würzh., 1877.
Scheef	547	72	13.1	Inaug. Dissert., Tüb., 1882, p. 15.
Schlesinger	335	54	16.1	Inaug. Dissert., Berlin, 1873, p. 23-24.
Schlesinger	173	7	4.0	Arch. f. Kinderh., 1897, xii, p. 266.
Schmidt	152	20	13.0	Ranking's Abst., No. 28, p. 92.
Schmidt	17	2	11.8	Berl. k. Woch., 1883, No. 23.
Schmidtmann	68	2	3.0	Hufeland's Jour., liii, p. 441.
Schreder	1,277	183	14.3	Inaug. Dissert., Kiel, 1882.
Schultz	94	8	7.9	Am. Pract., Sept., 1879.
Schultz	238	16	6.5	Jour. Am. Med. Assoc., July 30, 1886, p. 119.
Scott & Montgomery	67	10	14.9	Therap. Gaz., Dec., 1903.
Scotter	29	18	62.1	Lancet, 1890, ii, p. 1170.
Sears	13	5	38.5	Bost. Med. and Surg. Jour., 1901, cxlv, p. 639.
Sears and Larrabe	949	341	35.9	St. Paul Med. Jour., July, 1902.
Sebring	100	1	1.0	Med. Rec., Apr. 22, 1899, p. 558.
Semaine Méd.	104	7	6.9	1892, xii, p. 21.
Sereni	23	11	48.0	Policlinico, 1897, No 22.
Sigmund	743	104	14.0	Ranking's Abst., No. 28, p. 92.
Silva	5	2	40.0	Cong. Med. Intern., Roma., 1899, p. 218.
Sittmann	16	6	37.5	Arch. f. k. Med., liii, p. 323.
Skoda	555	74	13.3	Allgem. Wiener m. Zeit, 1863.
Smith	108	3	2.8	Schmidt's Jahrb., cxxxii, p. 321.
Smith	5	0	0.0	Brit. Med. Jour., 1895, i, p. 1029.
Smith	458	154	33.2	XX Cent. Practice, xv, 1900, p. 79.
Smith	223	66	29.6	Med. Rec., 1896, xlix, p. 649.
Smith	60	17	28.6	Med. News, 1898, lxxiii, p. 817.
Snively	113	13	11.5	Jour. Am. Med. Assoc., 1901, xxxvi, p. 1062.
Speck	50	12	24.4	Inaug. Dissert., Marb., 1870, p. 2.
Spence	228	48	21.0	Med. Rec., July 1, 1893, p. 1.
Spalverini	9	0	0.0	Bull. Acad. Med Roma, 1900, xxvi, p. 79.
Spurrell	6	6	100.0	Brit. Med. Jour., Dec. 25, 1897, p. 1848.
Stecher	656	128	19.5	Inaug. Dissert., Leipz., 1866, p. 14.
Steffan	94	13	13.8	Klinik d. Kinark., Bert., 1865.
Steinmetz	83	24	29.0	Ohio Med. Rec., June, 1877, p. 34.
Stephan	25	9	36.0	Needrl, Wekbl., 1888.
Stephanie Hospital	36	3	8.3	Berichte, 1894-99 (Vienna).
Stephens	54	4	7.4	Therap. Gaz., 1901, xxv, p. 731.
Stephenson	34	19	56.0	Lancet, 1896, i, p. 1630.
Stevens	78	5	6.5	Am. Jour. Med. Sci., Oct., 1870, p. 376.
Stierlin	150	7	4.6	Berl. k. Woch., 1870, No. 26.
Stoahml	30	0	0.0	Ranking's Abst., No. 28, p. 92.
Stockholm Mil. Hospital	670	49	7.3	Huss, Op. cit., p. 86.
Stortz	1,432	258	18.5	Inaug. Dissert., Würzh., 1884.
Scrizover	9	0	0.0	Brit. Med. Jour., Dec. 21, 1891.
Strong	20	1	5.0	Med. Rec., Mar. 16, 1889, p. 291
Sturges	452	35	7.7	Pneumonia, Lond., 1876.
St. Ann's Child. Hospital	28	8	28.5	Wien, 1850.
St. Joseph's Hospital	17	4	22.0	Personal Com. (1895 6) (Chicago).
St. Luke's Hospital	306	106	34.6	Personal Com. (1892 1903) (Chicago).
St. Mary's Hospital	4	1	25.0	Report, 1870 (Quincy).
St. Michael's Hospital	29	4	13.0	Report, 1876 (Newark).
St. Rochn's Hospital	260	60	23.1	Berichte, 1894-99 (Vienna).
St. Thomas' Hospital	708	143	20.2	Rpts., 1891, xlx, p. 247 (London).
Sweency	1	0	0.0	Trans. Lanzerne Co. Med Soc., Ix, p. 147.
Talamon	7	6	85.7	Med. Week, Mar. 20, 1895.
Talamon	50	7	14.0	Méd. Mod., Feb. 27 and Mar. 6, 1901, pp. 65-73.
Tate	46	12	26.1	Cln. Lan. and Clin., 1895, xxxiv, p. 539.
Taylor	25	1	4.0	Med. News, 1902, lxxxi, p. 880.
Thiele	6	0	0.0	Deutsche Klinik, 1855.

TABLE SHOWING CASE MORTALITY OF PNEUMONIA. Continued.

Observer.	Cases.	Deaths.	Per Cent.	Reference.
Thielmann	110	12	11.0	Ranking's Abst., 1858, xxviii, p. 99.
Thomas	106	3	2.8	Am. Jour. Med. Sci., Oct., 1870, p. 376.
Thomas	65	14	21.5	Arch. d. Heilk., iv, No. 2.
Thomas	68	1	1.4	Richm. & Louisv. Med. Jour., 1876.
Thornton	3	2	66.6	Brit. Med. Jour., 1894, ii, p. 125.
Tommasini	115	14	12.1	Peripneumonie, Bologne, 1817.
Tommasini	7	0	0.0	Sieroterapia, 1900, iv, p. 49.
Townsend	42	2	5.0	Jour. Am. Med. Assoc., Dec. 1, 1888, p. 789.
Tregagno epidemic	100	30	30.0	Deutsche m. Zeit., 1883, No. 41.
Trinidad Hospital	11	5	45.4	Cromble, Op. cit. (1889-91).
Trousseau	52	2	4.0	Ranking's Abst., 1858, xxviii, p. 99.
Tyler	6	1	16.7	Jour. Am. Med. Assoc., xxxvi, p. 1540.
U. S. Army	2,073	224	10.8	Hartshorn, Op. cit. (1810-59).
U. S. Army	77,335	20,116	26.1	Med. Hist. Rebellion, i. pt. 1 (1860-65).
U. S. Army	6,858	1,075	15.7	Person. Com. Surg. Gen. (1868-1902).
U. S. M. Hosp. Service	6,185	1,108	17.9	Reports Surg. Gen. 29 years.
U. S. Navy	398	37	9.3	Repts. Surg. Gen. (1879-80-81-82-86-88-1901)
U. S. Navy	797	108	13.5	Person, Com. Surg. Gen. (1890-1900).
Vallelx et Vernois	128	127	99.2	Buchut, Dis. Child., p. 325.
Vandeboneour	17	0	0.0	Syracuse Acad. Surg., Oct. 22, 1901.
Van Zandt	1,154	56	4.9	Med. Rec., Oct. 18, 1902, lxii, p. 601.
Verrentrap	23	1	4.3	Henle u. Pfeiffer's Zeitschr., 1851.
Victoria Ry. Hospital	316	53	16.7	Person. Com. Registrar (Montreal, 1894-1901).
Vienna General Hospital	25,427	6,212	24.4	Berichte (1840-1891 and 1893-1899).
Voght	56	4	7.0	Bull. gén. de Thérap., Jan., 1860.
Wagner	13	7	53.8	Contrastimulus, u. s. w., Berl., 1819.
Waller	81	9	11.1	Inaug. Dissert., Erlangen, 1877, p. 25.
Waller	119	33	27.7	Günsburg, Klinik d. Brustk, p. 532.
Walls	4	2	50.0	Jour. Am. Med. Assoc., 1901, xxxvii, p. 560.
Warbrick	7	6	85.7	Person. Com.
Warfwing	546	34	6.2	Elchhorst, Op. cit., p. 511.
Wassider	112	4	3.5	Ranking's Abst., 1858, xxviii, p. 99.
Waters	44	1	2.4	Dis. Lungs, p. 87.
Waters	59	2	3.4	Liverpool & Manchester Hosp. Rpts., iv.
Waters	151	11	7.3	Lancet, 1900, i, p. 460.
Weber	9	1	11.2	Med. Rec., 1901, lx, p. 681.
Weber	200	18	9.0	Phila. Med. Jour., 1900, vi, p. 596.
Wiesbecker	21	2	9.9	Münch. m. Woch., 1898, pp. 202, 238.
Wiesmayer	39	8	20.5	Zeitschr. f. k. Med., 1897, xxxii, p. 291.
Wesley Hospital	89	20	22.4	Repts., 1901-03 (Chicago).
West	1,633	353	21.6	Dis. Organs of Resp., Lond., 1902, i, p. 303
Whitelegge	682	143	20.9	Allbutt's Syst. Med., 1896, i, p. 656.
Wieden Krankenh.	890	252	28.3	Berichte, Wien, 1876, u., 1894-99.
Wilbrandt	126	12	9.5	Inaug. Dissert., Rostock, 1862.
Wilcox	33	0	0.0	Med. News, 1901, lxxix, p. 638.
Wilheminie Hospital	517	110	21.3	Berichte, 1894-99 (Vienna).
Wilson	18	4	22.2	Jour. Am. Med. Assoc., 1900, xxxv, p. 895.
Wilson	38	8	21.1	Med. News, 1900, lxxix, p. 638.
Wilson	23	0	0.0	Phila. Med. Jour., 1900, v. p. 510.
Wilson	40	11	28.0	Med. News, 1901, lxxvi. p. 913.
Wilson and Page	18	6	33.3	Therap. Mon., July, 1901.
Wilson and Rosenthal	1	1	100.0	Therap. Mon., July, 1901.
Witte	505	25	5.0	Inaug. Dissert., Berl., 1877, p. 41.
Wittich	23	0	0.0	Ranking's Abst., 1858, xxviii, p. 99.
Woman's Hospital	4	0	0.0	Report, Phila., 1876, p. 12.
Woodson	20	2	10.0	Am. Pract., Mar., 1870, p. 289.
Wucherer	90	1	1.1	Ranking's Abst., No. 28, p. 99.
Wunderlich	237	25	10.6	Arch. f. Heilk., 1856, iii.
Wunderlich	50	8	16.0	Inaug. Dissert., Tüb., 1858, p. 31.
Zeigeli	40	0	0.0	Satterthwaite, Med. News, Jan. 5, 1889.
Author	1,000	243	24.3	Jour. Am. Med. Assoc., Jan. 9, 1892, and unpublished.
Totals and average	465,400	94,826	20.4	

from his list as many of the fatal cases as can be possibly eliminated, in order that his percentage of cures may be raised.[1]

Not only is the mortality of pneumonia appalling, but it is steadily increasing. This fact is conclusively proven by the following curves constructed from the statistics of the Massachusetts General Hospital, the Boston City Hospital, the Cincinnati Hospital, the Glasgow Royal Infirmary and the Wiener Allgemeines Krankenhaus. The statistics of the United States Army are given as an example of the very uniform death rate which may be shown during a long term of years by some series of cases. It is fair to state, however, that the mortality rate of 15.7 per cent. shown by this series, 1868-1902, is nearly one-half greater than the 10.8 per cent. shown by the cases occurring in this army in the years 1840-1859.

The causes of death are the direct effects of pneumococcal activity. This fact I desire to emphasize. In the vast majority of cases death is due to a profound toxemia, in which case the gross anatomic lesions may be quite insignificant, or they may be of the most extensive and destructive character, or they may be of any intermediate grade; but whatever the extent and character of the demonstrable lesions, the fatal result must be laid to the door of the, as yet, intangible systemic pneumococcus intoxication.

Certain noticeable effects follow and are directly due to the introduction into the system of the pneumotoxin: it may be in infinitesimal quantity and diluted beyond computation, as, e. g., the profound chill, the raging fever, the lowered arterial tension, the disturbed balance

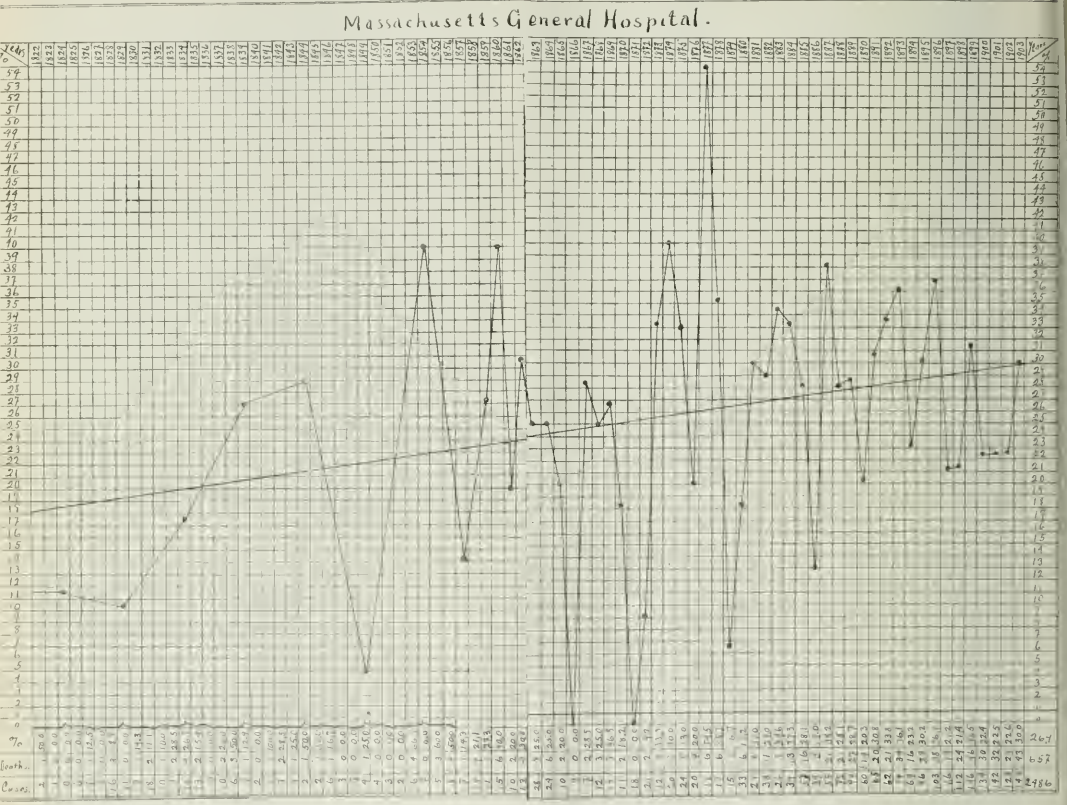
1. Formerly many writers considered pneumonia a disease of comparatively slight danger. Thus Bennett says that the mortality of uncomplicated cases, properly treated, should be practically *nil*, and this opinion was shared by Barthez, Joly, D'Espine, Waters, Wood, Hartshorn and others. Trousseau says that "generally speaking, there is a tendency to spontaneous recovery." Flint says that in uncomplicated cases "the intrinsic tendency is to recovery; indeed, recovery is not only the rule, but the exceptions are exceedingly infrequent." Gerhard affirms that the death-rate in private practice should not exceed 2 or 3 per cent. To be sure these opinions were not shared by all the writers of the day; as for example, Loomis says that "a disease in which death occurs in one out of five cases, should be classed among the very fatal diseases," and similar views are held by Copland, Watson, Drake, Sturges and others. As a rule the latest editions of the textbooks on practice which are in the hands of the great majority of American medical students estimate very fairly the dangerous character of the disease. Thus Osler says that "pneumonia is the most fatal of all acute diseases." Tyson says that it is the "most fatal of all infections of adults in temperate climates." Anders says that the death rate in hospitals is about 25 per cent.; in private practice about 15 per cent. Thompson places the mortality at 30 per cent. for hospital, and 8 to 15 per cent. for private practice. Philip, Mackenzie, West, Pye-Smith, Fitz, Aufrecht and Elchhorst all are aware of the real hazard of the pneumonic attack. Striimpell stands alone in his opinion that "pneumonia belongs to the benignant infectious diseases."

between constructive and destructive metamorphosis, the interference with the excretion of waste, etc. Other pathologic changes may be due to the effects of the pneumotoxin, plus the combined toxic leucomains of tissue waste, etc. The measure of these, especially of the first class, will depend on the virulency and special characteristics of the infecting germ, and the intangible and immeasurable general and special resistance offered by the patient. This will necessarily vary infinitely in different persons and in the same person at different times, and this brings to the fore those large questions of inherent and acquired relative immunity and susceptibility which can only be mentioned at this time. Neither modifying influences. I will, therefore, content myself by reiterating the following conclusions:

1. Pneumonia is a very prevalent disease, and its prevalence is increasing.

2. This increasing prevalence is probably due to the wider diffusion of the more vigorous strains of the pneumococcus, made possible by the increasing commingling of people.

3. The pneumococcus is to be found in the upper respiratory passages of a very large proportion of healthy persons, and it is the migration of these ever-present germs into the pulmonary alveoli which causes pneumonia.



can any attempt be made to analyze the influence of the immediate and more or less remote effects of pneumococcal activity, namely, extent of the hepatization, pleurisy, pericarditis, cardiac thrombosis, meningitis, etc., and of such accidental complications as nephritis, cardiac valvular disease, arterial degenerations, anemias, diabetes, obesity, etc., direct and marked as they must be.

Time will not permit a consideration of the bearing exercised on the prevalence and mortality of pneumonia by the changing environments of the population as a whole or in its parts—the varying age relations, the prevalence of drunkenness, the therapeutic modifications which have ensued, as well as other important factors, although there can be no question as to their weight as

4. Pneumonia is a very fatal disease, and its mortality is increasing.

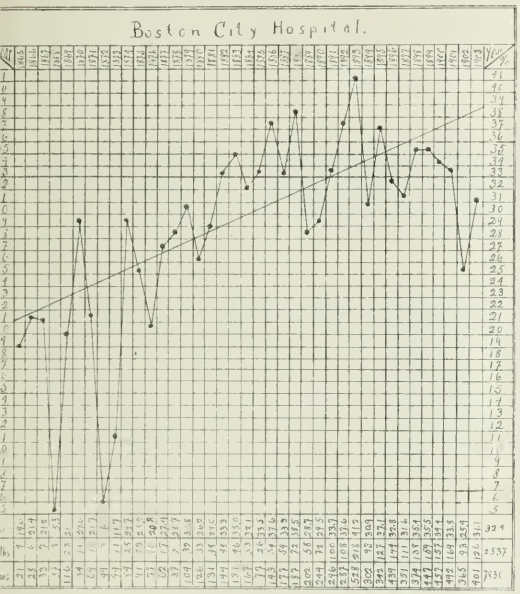
5. The increasing mortality is probably due to the greater average virulency of the pneumococcus.

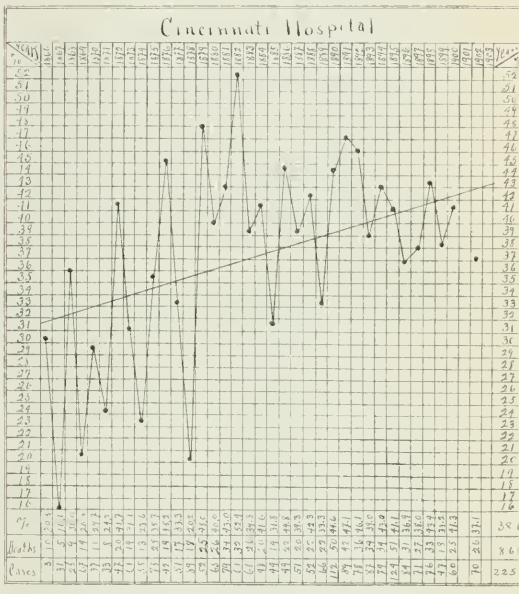
What can we do to prevent and cure pneumonia? In my opinion, we now have the foundation laid, as outlined above, for a reasonable and practicable prophylaxis. We are prepared to formulate broad rules, with insistence on some of the details, but the latter will require careful and prolonged study before they can be reduced to that clearness and simplicity which will appeal to every mind and compel acquiescence and compliance. I believe, however, that the time is now ripe for a great forward movement along these lines. I have certainly

failed to feel aright the professional and public pulse if we have not at our hand a populace ready and willing to be instructed in this matter, and to heartily co-operate with us in every reasonable prophylactic measure which we may recommend. This is indeed fortunate, for without such assistance all our efforts will go for naught.

The following prophylactic measures, the reasons for each of which are obvious, are offered for consideration:

1. Pneumonic sputum should be destroyed before it has become dry. The sputum which clings to the teeth and lips, and that which may adhere to the fingers and bedding, should be wiped up with moistened cotton, gauze or other cloth and these burned. All sputum, although not pneumonic, might well be destroyed. In coughing, in the case of the healthy as well as the pneumonic, a cloth, preferably moist, should be held before the mouth in such manner as to prevent the projection into the surrounding air of the fine, insensible, but probably pneumococci-bearing spray which follows ordinary coughing. The same applies to sneezing and blowing the nose.





2. The nostrils, mouth and throat should be kept as clean as possible. Cleansing sprays and washes for the nostrils; washes for the mouth and brushing the teeth; gargles and drinks for the throat. Permanent occlusions of the nostrils should be removed, while transient ones may well be cared for by the more or less frequent use of a spray of adrenalin solution. Honeycombed tonsils and adenoid growths should be removed. Taking a drink of water after eating is a habit which should be formed and cultivated. Every means should be taken to prevent sleeping with the mouth open.

3. The room occupied by a pneumonic patient should be afterward disinfected, as is done after diphtheria and some other infectious diseases. Remaining long or unnecessarily in a room occupied by a pneumonic patient should be avoided.

4. Respiratory catarrhs, from whatever infection, should be avoided, and if contracted should be relieved as quickly as possible.

5. Physical and mental exhaustion; privation; undue exposure to cold and inclement weather, all should be avoided as far as practicable.

In the treatment of pneumonia we are, as yet, lacking in a direct antipneumonic remedy—a specific—yet in the management of the pneumonic attack, which must be conservative and symptomatic, certain definite objects should be kept in view.

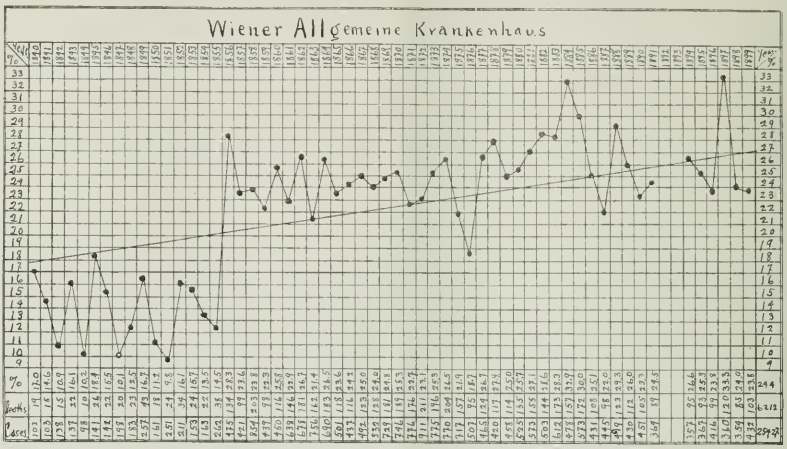
Preliminarily, it may be mentioned that the patient's environment should be the best which is available. The nursing should be assiduous and of the highest grade. The medical attention should be intelligent, careful, observant and unremitting.

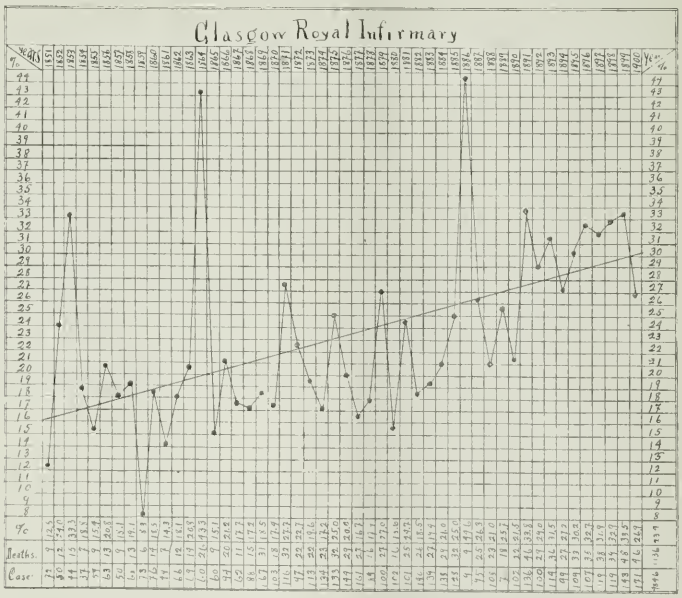
At the very beginning of the pneumonic attack the patient should be placed in bed, surrounded by bottles of hot water and given a hypodermic injection of a single small dose of morphia, e. g., 1/16 to 1/8 grain. He should be allowed to lie quietly until the subsidence of the chill, when the bottles of hot water should be removed. If perspiration should be profuse the surface of the body should be dried. The bowels should now be opened by an enema of 2 oz. Epsom salts, 2 oz. glycerin and 12 oz. water. Later an efficient cathartic should be given.

Moot questions arise with surprising promptness. The first of these will be that of the management of the reduced arterial tension, which is one of the earliest and most persistent of the symptoms of pneumonia. This is probably an efficient provision of nature for setting free and mobilizing an army of defending leucocytes, and protecting the tissues of the body from the irritating and paralyzing effects of the pneumococcal toxins. Nevertheless, certain other and most undesirable effects follow, as, e. g., the arterial system is underfilled, while the venous system is overfilled with blood; osmosis through the capillary walls is largely suspended, the tissues are not nourished and waste material is not removed; the heart, contracting against a greatly reduced resistance, becomes tired or exhausted. What shall we do under

these circumstances? Shall we, following the lead of Nature, attempt to still further reduce the arterial tension by the administration of such agents as nitroglycerin, iodid of potassium, etc.? Shall we assume that Nature is making a mistake and promptly give digitalis, adrenalin chlorid, etc.? Or shall we acknowledge that we do not know what is best to be done and forbear interference? Personally, I am inclined, in the ordinary

Another problem which is likely to arise is that of pyrexia. Shall we attempt to reduce high temperatures, and, if so, by what means shall it be accomplished? A temperature which is under the circumstances high, whether it is 103 or 105, should be reduced. The means which I prefer to use in bringing about this result are the ice cap and the external application of 15 to 25 drops of guaiacol.

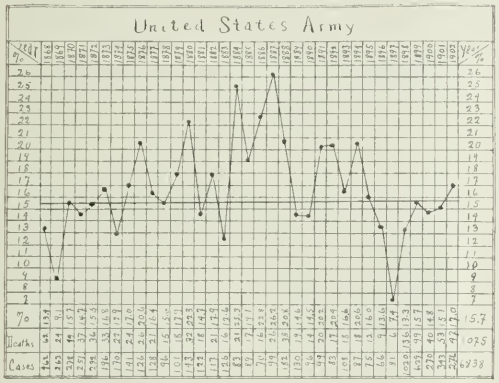




case, to supplement the evident efforts of Nature by giving, during the first few hours only, 3 to 5 drops of tincture of veratrum viride every 2 or 3 hours until nausea has been produced, or the initiatory surprise of the attack has passed. Later I give digitalis in moderate or, more frequently, large doses, e. g., 10 to 20 drops of an active tincture every 3 to 6 hours.

Yet another problem is that of ridding the system of toxins. Is this accomplished by the leucocytes, and, if so, can we innocently augment the leucocytosis which is normally present, and by what means? This may be done by the use of nucleinic acid, salicylate of soda, etc. I find myself, however, having recourse to these agents only when the ordinary leucocytosis fails to ap-

pear, or, having appeared, subsequently declines. The one agent, however, to which we can appeal with a certainty that the heavy burden of profound toxemia will be lightened, is venesection. If, under these circumstances, from 8 to 24 ounces of blood is withdrawn, the amount of pneumotoxin in the blood vessels is, initially, reduced from 1/30 to 1/10. If at the same time there is introduced into the system, rapidly, a quantity of water equivalent to the amount of blood withdrawn, the remaining toxins are very appreciably diluted. This may be done by the employment of large enemas or by hypodermoclysis of normal salt solution. Profound toxemia often manifests itself by high temperature; gradually increasing frequency of the pulse, with lowering tension; restlessness and delirium, or a peculiar clearness of intellect; sallowness or duskiness of the surface, etc., and in these cases I can strongly recommend the free abstraction of blood, with normal salt solution hypodermoclysis. Do not, however, await the fullest development of such symptoms, but institute these measures on the very first indications of their appearance. In this connection I wish to call particular attention to the advisability of giving fluids very freely throughout the pneumonic attack, for the purpose of



continuously washing the blood and thereby ridding the system of as much toxin as possible.

The rôle of the chlorids in pneumonia is not well understood. However, one of the most remarkable of the pneumonic phenomena is the great diminution or disappearance of the chlorids from the urine in some cases. This occurs less frequently and less profoundly than is popularly supposed, yet it is a condition to be considered. It is reasonable to infer that the chlorids are required in the blood, in the extra-vascular fluids of the body and in the alveolar exudate for purposes of defense against the pneumococcus or its toxins. This is a sufficient reason, in my own opinion and in my practice, for the systematic use of sodium chlorid as a therapeutic agent, and I direct that all foods be well salted, and that saline enemata be given as freely and as frequently as they can be retained.

The antipneumococcic sera thus far placed on the market have failed to meet that favor at the hands of clinicians which is quickly and enthusiastically awarded every therapeutic novelty of real value. Personally, I have witnessed phenomena following the hypodermic injection of such sera which leads me to believe that they may be made agents of real and beneficent power. Analogy leads us to believe that a useful antipneumococcic serum may be produced, and I am hopeful that this will be early accomplished.

Fermentative and putrefactive changes in the intestines are not rare and should be accorded special consideration. This will usually be prevented by the early catharsis which was recommended; however, throughout the entire attack the functional activity of the gastro-intestinal tract should be often and carefully investigated. An excess of sulphates or of indican in the urine; the presence of a paretic state of the intestines, with tympanitic distension and an inability to pass flatus; the sudden onset of fetid diarrhea, all should be recognized at once and proper relieving measures applied, as, for example, regulation of the diet, the judicious use of cathartics, the employment of stimulating enemata and the administration of some efficient intestinal antiseptic.

Pulmonary edema is an occasional event which, despite its serious nature, may occur early enough to permit of relief. Energetic stimulation of the nervous system by strychnia, of the capillaries by adrenalin, and of the heart by a small dose of morphia, are the proper remedies. The appearance of profuse, possibly cool, perspiration is an ominous, but not hopeless, symptom. Here a prompt appeal to rational therapeutics may be of incalculable value to the patient. The condition is probably akin to that of pulmonary edema and requires similar management.

Oxygen inhalations meet my approval. I begin their use comparatively early and employ them somewhat more freely than is usual. Oxygen, used in this manner, I believe to be useful and not at all harmful.

It is not my intention to consider the numerous minor, although often eminently useful, measures which are required to meet the various indications for treatment which may arise during the pneumonic attack. These defy enumeration and must be applied to meet special case requirements.

Whether impending death, in pneumonia, can ever be averted is an interesting and important question. That conditions of great peril may be relieved in some cases I am firmly convinced. Among these may be mentioned profound toxemia, circulatory failure, pulmonary edema, intestinal paresis, failure of the nervous reflexes, etc. When, however, death has actually begun (the earliest indication of which is an increasing dyspnea, with a rising and falling of the trachea and an unobtrusive clicking noise with each respiration, which persists after coughing), my experience gives no instance of recovery.

Finally, the remarkable suddenness with which the changes occur in pneumonia is one of the features which is peculiarly characteristic. The patient is stricken suddenly; he improves suddenly; he gets worse suddenly. For this reason pneumonic patients should be given the most careful, observant, intelligent and unremitting attention. Not only should the physician's visits be frequent, but in not a few cases he should be in constant attendance. It is certain that the presence of the physician, ready to act at the moment when unfavorable and portentious conditions arise, increases the patient's chances of recovery, and I am convinced that, in many cases, if such medical attention is not supplied, he is being deprived of some of the resources of our art, and that his chances of recovery are thereby directly lessened. I am quite sure that in few positions of peril can the resources of medicine be more humanely employed than in a well-generaled combat with pneumonia.

4744 Woodlawn Avenue.

PNEUMONIA.

THE STUDY OF A SERIES OF CASES WITH SPECIAL REFERENCE TO DIAGNOSIS AND COMPLICATIONS.*

JOSEPH SAILER, M.D.
PHILADELPHIA.

The following is a summary of the result obtained from a study of 65 cases of croupous pneumonia and allied conditions observed in the wards of the Philadelphia Hospital during the past winter. The service at this hospital is peculiar. Many cases of pneumonia are transferred from the out-ward, which, as the Philadelphia Poorhouse, contains a large proportion of seniles. A considerable proportion is also transferred to the medical from the alcoholic wards, cases developing in patients brought in for treatment for delirium tremens. The remaining cases are nearly all obtained from the most indigent classes of Philadelphia. As a result, we find that pneumonia runs a comparatively severe course and complications of a grave form are exceedingly common. The statistical information ordinarily obtained from the cases in the present instance is, therefore, of little importance and may be dismissed briefly. The ages of the patients were as follows:

From 0 to 10 years	1 case.
From 10 to 20 years	4 cases.
From 20 to 30 years	10 cases.
From 30 to 40 years	10 cases.
From 40 to 50 years	8 cases.
From 50 to 60 years	9 cases.
From 60 to 70 years	13 cases.
From 70 to 80 years	4 cases.

Nearly 40 per cent. of the cases, therefore, were over 60 years of age. The mortality is correspondingly high, 35 cases dying and 30 surviving. It is of interest in this connection to state that, from statistics collected by Dr. Landis, the mortality at Blockley in cases of pneumonia for the past years has been slightly over 50 per cent. The distribution, as determined by physical signs and confirmed wherever possible by autopsy, is as follows:

Left lower lobe alone	16
Left upper lobe alone	2
Right lower lobe	12
Right upper lobe	13

In addition, there were 5 cases in which a diagnosis was made of involvement of the right upper and middle lobes. It is probable that these two sets of statistics should be grouped together. The entire left lung was involved in 4 cases, and the entire right lung in 3 cases. In 1 case the entire left lung and the upper and lower lobes of the right lung were completely consolidated, the only pulmonary tissues containing air being the middle lobe on the left side. This patient had, before death, a respiratory rate averaging over 80. Both lower lobes were involved in one case, and the left lower and right middle lobes were involved in another. This also was confirmed by autopsy.

Aside from the case of extreme involvement, the only interesting effect is the unusually large proportion of cases in which the upper lobe was involved. There were certain points to which particular attention was paid in the course of the winter in order to determine some questions at present under discussion. It has been generally asserted that leucocytosis renders the prognosis more favorable. In the cases that recovered there were less than 10,000 leucocytes in 3 cases, between 10,000 and 20,000 in 10 cases, between 20,000 and 30,000 in 5 cases, between 30,000 and 40,000 in 5 cases, between 40,000 and 50,000 in 1 case, and between 50,000 and 60,000 in 2 cases. The classification is always made from the maximum count. Of the cases that died the leucocytes were: Between 10,000 and 20,000 in 11 cases, between 20,000 and 30,000 in 4 cases, between 30,000 and 40,000 in 1 case, and between 40,000 and 50,000 in 1 case. Therefore, although the advantage is slightly in favor of the cases that recovered, it does not appear that any definite conclusions can be drawn from the leucocytic count, and it seems also improbable that any method of treatment which is based merely on the increase in the leucocytes is likely to be of any advantage.

In the majority of the cases the urine was examined quantitatively for the chlorids. They were entirely absent on one or more occasions during the height of the disease in 29 cases. In 23 additional cases they were present in quantities of less than 3 per cent., and in all the remaining cases in which we were certain of the diagnosis of croupous pneumonia they were greatly reduced. This subject is one concerning which there is at present a good deal of dispute. Aufrecht, in Nothnagel's Practice, states that the chlorids are of no prognostic and very little diagnostic value. Musser, in commenting on this, quotes Hutchinson to the effect that the diminution is more constant in pneumonia than in other diseases, and therefore is of some diagnostic value. From a study of our cases we reached the conclusion that the quantity of chlorids in the urine is not an indication of the subsequent course of the disease, as great a proportion of deaths occurring in those cases in which the chlorids were entirely absent as in those in which they were more or less moderately reduced. On the other hand, comparisons of the excretion of the chlorids in pneumonia and their excretion in other febrile conditions, particularly typhoid fever and pulmonary tuberculosis, having shown so constantly that in the latter states the reduction is comparatively insignificant, and in pneumonia always considerable, we have come to place the highest value on it in the diagnosis of pneumonia. In one case the absence of chlorids led to a successful diagnosis in pneumonia in which throughout the entire course of the disease there had been none of the physical signs of pneumonia. The diagnosis was only confirmed at autopsy, and in several of the cases we report the diagnosis was suspected from the urinary examination before the physical signs were sufficiently pronounced to have made it possible to diagnose pneumonia by them alone.

The examination of the sputum for the presence of pneumococci could not, unfortunately, be made in all cases. In 16 cases in which it was made they were positive 14 times. In one the signs were somewhat atypical. Tubercle bacilli were found, and the autopsy revealed a tubercular cavity surrounded by pneumonic areas, which the pathologist regarded as croupous pneumonia. The diagnosis in this case before death was pneumonia complicated by tuberculosis. The leucocytes were 15,600, and the chlorids ranged from 0 to 7 per cent. The other case was not really one of pneumonia. The patient had had pneumonia three months previously, and the physical signs and the odor of the breath pointed to gangrene of the lung, which was confirmed at autopsy. Blood cultures were only attempted in one case, and in that one no satisfactory results were obtained. The clinical and physical signs were, in general, characteristic. A history of chill was obtained in 32 cases. In 19 no history could be obtained, and in 9 cases, usually because the patients when admitted were suffering from alcoholism, no definite history could be ascertained.

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

Of the physical signs, we were chiefly interested in the bronchial breathing. The earlier writers on physical signs in the lungs, followed Skoda in regarding the indeterminate or indefinite respiratory murmur as characteristic of consolidation of the lung. Of late years, however, this appears to have been partially forgotten, and there is even some question as to whether, when consolidation is complete, bronchial breathing is ever absent, although it is admitted by some clinicians that in the very early stages of the disease the respiratory murmur may be feeble or oppressed. We were able to discriminate between two forms of bronchial breathing, to which we gave the name of loud and faint. In both forms the respiratory murmur has the hollow sound and both inspiration and expiration are equally long and loud. The difference, therefore, is one of degree; but the faint bronchial breathing is often barely audible on the most careful and attentive auscultation, and it is very much fainter than the normal breath sounds. This faint bronchial breathing, although occurring more commonly in the early stage of pneumonia, is not by any means limited to the period of congestion. It was frequently observed far into the course of the disease, when the note over the affected lung was absolutely flat, and when both bronchophony and pectoriloquy were distinct. It was noted in 21 of our cases, usually replaced toward the end by loud bronchial breathing, but occasionally persistent. The following case was particularly interesting:

P. R., an Italian laborer, was admitted complaining of malaise, chills, and diarrhea which had lasted for 13 days. The entire right lung was flat from the apex to the base, the bronchial sounds were almost unaudible, but of a distinct bronchial character. Vocal resonance and tactile fremitus were diminished; the heart and liver were not displaced; the lungs expanded equally; exploratory puncture made on several occasions failed to show the existence of any fluid. After the patient had been in the hospital five days whispered pectoriloquy appeared, of a most intense character; bronchophony was also present, and in the course of a few days the bronchial breathing became very pronounced. Lysis commenced on the sixth day of the patient's stay in the hospital, and was complete six days later. During lysis numerous moist rales were heard in the lung. In this case the chlorids were 11 per cent., the leucocytes were 7,280; the Widal reaction was repeatedly negative; tubercle bacilli were not found, but the sputum contained great numbers of the pneumococcus.

Of the other physical signs we shall only mention that wooden tympany was only observed in 2 cases, although Aufrecht regards it as fairly frequent. Herpes was observed 4 times, icterus 3 times. Feeble heart action and albuminuria were comparatively common. Profound cyanosis was present in 2 cases; in 1 it was temporarily relieved by venesection, but the patient subsequently died. The other patient was treated with antipneumococcic serum and recovered. Of the symptoms, very severe abdominal pain was present 4 times; it was associated with tenderness in the hypochondrium on the same side as the pneumonia. Two of these cases recovered. On one of the others no autopsy was obtained; the other showed chronic obliterative pleurisy and hydropericardium, so that the symptoms could not be ascribed to diaphragmatic involvement.

The complications were numerous. Chronic nephritis, usually of advanced type, was found in 17 of 25 autopsies. Pleurisy, either chronic or acute, was present in every case. In 2 there was empyema in 1 gangrene of the lung, in 2 acute fibrinous pericarditis, in 1 chronic obliterative pericarditis, in 1 acute ulcerative endocarditis, and in 1 acute pneumococcic meningitis. In this case paralysis of the branches of the third nerve and the presence of Kernig's sign had been demonstrated before death. One patient, on whom an autopsy was not obtained, developed a flaccid right hemiplegia, with absent reflexes and a positive Babinski, three hours before he died. In 4 cases tubercular lesions were present, twice in the form of acute cavity, once as a healed cavity, and once as general diffuse tuberculosis involving the adrenals and the peritoneum. The remaining cases were treated with another variety of serum.

CASE 1.—J. D., white, aged 47; left upper lobe; six injections were given, each followed by a fall of one or two degrees at intervals of about twelve hours. Crisis occurred on the ninth day.

CASE 2.—A. J., colored, aged 18, left upper lobe and later entire lung and part of right lung; three injections were given on the ninth day, and the temperature fell about one degree. Death occurred on the tenth day. Only the middle lobe was not consolidated.

CASE 3.—S. N., white, aged 45; left upper lobe, deeply cyanosed. Two injections of serum were followed by fall of temperature of 3 and 4 degrees. Crisis occurred on the seventh day.

CASE 4.—C. T., white, aged 60; right upper lobe; 5 injections of serum were given, commencing on the fifth day. The fall of temperature varied from 1 to 2½ degrees. Crisis commenced on the eighth day.

CASE 5.—H. V., white, aged 33; right upper lobe; icterus; two injections were given, the first followed by a fall of 2½ degrees, the second by a fall of 1 degree. Crisis occurred on the seventh day. Three days later the temperature again rose, became hectic; tubercle bacilli were found, and the patient subsequently died.

CASE 6.—J. M., white, aged 52; right upper lobe. There was a drop of the temperature to normal on the third day for a few hours. On the fourth day the serum injections were commenced and seven were given, the antipyretic effect being observed only on the last two days. Crisis occurred on the ninth day.

Altogether, there were three deaths and seven recoveries. Of the fatal cases, one was distinctly unfavorable, another practically moribund when the serum was employed, and the third died of tubercular infection after apparent recovery from the pneumonia. Of the cases that recovered, 3 may be regarded as severe—one with hyperpyrexia, one with cyanosis, and one with jaundice. Both varieties of serum showed in certain cases a distinct antipyretic action, but in other cases this was not observed. Nevertheless, the general results may be regarded as distinctly encouraging.

Pseudo-crisis occurred in 2 cases; in one of these the temperature fell twice, with marked improvement not only of the symptoms, but also of the physical signs. One case died suddenly of acute pulmonary edema seven days after the crisis.

The treatment consisted of expectant stimulation, with occasional resort to hypodermoclysis. Ten cases were treated with antipneumococcic serum provided by two firms; these cases were in part selected; two were distinctly unfavorable cases, and the others favorable subjects with not more than ordinarily severe infection.

The first case, a boy, was admitted the third day of the disease. In spite of repeated sponging, the temperature rose to 106. On the fourth day serum was injected, and repeated five times on the fifth day and once on the sixth. There was no perceptible effect on the temperature, which remained about 104 to 105. The respirations ranged between 40 and 55. Crisis occurred on the sixth day, and the recovery was uneventful.

The second, a negress of 58, with arteriosclerosis. There was consolidation of the left lower lobe. The

chlorids were absent, the leucocytes 32,800; 20 c.c. of serum were injected every six hours without any perceptible result, and the patient died.

The third, a man of 40, had a mild attack; the serum produced no perceptible effect, and he made an uneventful recovery.

The fourth, a man of 37, was admitted with signs of consolidation at the right base. On the fourth day 100 c.c. of serum were injected in the course of sixteen hours. The temperature, which had ranged between 103 and 104, steadily fell to 100. The supply of serum was exhausted, and eight hours later the temperature rose again to 103, where it remained for twenty-four hours. A new supply was then obtained and 120 c.c. injected in twelve hours. The temperature promptly fell to 99 and remained between 99 and 100 for three days, during which time 300 c.c. of serum were injected. The pulse and respirations also improved. Six days later there was a profuse urticarial eruption, with fever and pain in the joints, the attack lasting eight days.

DISCUSSION

ON PAPERS BY DRS. WELLS AND SAILER.

DR. R. C. CABOT, Boston—Dr. Wells' tables of the cases of pneumonia at the Massachusetts General and Boston City hospitals do not, in my opinion, show any increase in the mortality from this disease during the past twenty years. Before that the cases are too few to warrant any conclusions whatever.

DR. G. F. JENKINS, Keokuk, Iowa—There are one or two etiologic factors regarding which some information might be given. Since 1890 we have had an epidemic of influenza which of itself has not been particularly serious, but as an etiologic factor in croupus pneumonia it is of great importance. Influenza affects the mucous membrane, making it susceptible to secondary infection by the pneumococcus, and that is why it is more prevalent now than it was fifteen or more years ago. Another etiologic factor is the crowding together of people in great cities. This crowding lessens the resisting power and at the same time multiplies greatly the centers of pneumococcus infection. I think these two factors will explain to some extent the great increase in croupous pneumonia. With regard to venesection, I think we should go back and study the question a little bit. I think the proper use of cold water, the proper hygienic surroundings, fresh air, diet and venesection when indicated, is very important.

DR. DELANCEY ROCHESTER, Buffalo—There are one or two points in which I take issue, particularly the treatment of symptoms as symptoms when the possible treatment of the disease as a whole would overcome the symptoms. It would be best to recognize the causes producing the symptoms, and treat them. In cases of toxemia, if you get rid of it you will certainly get rid of the symptoms. I think it is a great mistake to add, in these cases, other poisons in the way of drugs when the patients are already poisoned by the toxins of the disease. I approve of bleeding early in sthenic cases, but I disapprove of the administration of opium in the beginning. I believe in getting rid of the poisons by the proper use of laxatives, particularly calomel and salts, and by one agent which acts on the skin to produce sweating, namely, hot air by means of a scientifically administered hot mustard foot bath; by sweating we can get rid of the poison of pneumonia a great deal better than by the administration of diaphoretic medicines. Last year at the New York State Medical Association I reported 210 cases of pneumonia, with 23 deaths; this included all sorts of cases and gave about 11 per cent. mortality. This is comparatively a very low death rate. To relieve the pulmonary edema occurring late in the disease, as a result of failure of the right heart, I believe that bleeding is of the utmost value; when in pneumonia the right heart becomes greatly dilated, as in the case of a boy of 16 years, whose heart apex was in the axillary line, with consolidation of the right lung, with a liver extending one inch below the border of the ribs, and with pulsation in the veins of the neck, by withdrawing about 800 c.c. of blood the pulse can be made to fall from 140 to 120, and the temperature several degrees, and the respirations from 56 to 36, and impending death be thus averted, it is a procedure not to be neglected. I think it is a mistake to treat the temperature. If you treat the conditions present, the toxemia and then the special conditions as they arise, you can get good results. The boy referred to recovered after nineteen days' sickness.

DR. ROBERT H. BABCOCK, Chicago—I have been particularly struck by a statement made in the second paper that a patient died from pulmonary edema seven days after the crisis. Pulmonary edema is usually supposed to be due to right heart failure, and the occurrence of the edema seven days after the crisis suggests the possibility of the explanation offered by an Italian experimenter that pulmonary edema is due, not to heart failure, but is a manifestation of pneumococcus infection acting on the pulmonary alveoli. He found in cases examined after death evidences of this, since the pneumococci were demonstrable in the alveolar walls. It certainly seems in this case that the late pulmonary edema might have been a manifestation of a fresh infection by the pneumococcus. If I understood what Dr. Wells stated concerning blood pressure, he insisted that it is low from the start. I believe that if blood pressure is low at the start it is a contraindication to the administration of veratrum viride; in fact, I protest against the use of cardiac depressants when the blood pressure is already low. He stated that the low blood pressure might be an effort on the part of nature to resist infection by setting free leucocytes; that is purely theoretical; but granting the assumption correct. I believe the harm likely to be done by veratrum offsets any benefit due to increased leucocytosis. If the blood pressure is low, and grows lower and lower, then as the danger progresses digitalis is the agent par excellence. We are all influenced by personal experience, but I think it well to cite what Fraenkel from his great experience finds useful. He asserts that the tendency to low blood pressure must be combated, and is offset by the early use of digitalis. The form he employs is a fresh infusion injected hypodermatically. It is his rule to give four grams of the leaves in 100 c.c. of water, and this amount is injected during every twenty-four hours for three days, until twelve grams of the leaves have been injected. He begins the treatment in all cases seen before the third day, excepting those in which there is so much arteriosclerosis as to contraindicate the use of a drug. Fraenkel believes death is the result of toxemia acting on the myocardium, and that, as this danger is enhanced by the low arterial tension, it is absolutely necessary to counteract the tendency to increasing lowness of blood pressure, and personally I believe this is sound reason.

DR. S. SOLIS COHEN, Philadelphia—There are two periods in the clinical history of pneumonia, in one or both of which venesection may, in many cases, be usually employed. First, in the beginning of the attack, to reduce the toxemia. Secondly, toward the end of the attack, to reduce the overload on the right heart. The results obtained in any particular case by venesection, or, indeed, by any other measure, can not, however, be applied to all cases without qualification; the keynote in the treatment of pneumonia, as much as in any disease, is individualization. There are so many factors to be considered —the constitution and habits of the patient, the environment, the preceding or concomitant complications, etc.—that it sometimes becomes a delicate problem to decide what to do in any special case. Whenever the indication for interference is not clear, there should be no interference. However, we may justly draw conclusions from similar features and relations, pathologic and therapeutic, repeated in a great number of cases. I am satisfied that a goodly quantity of blood may be removed from a patient otherwise in good condition (that is to say, not senile nor terminal infection cases, etc., but cases of frank pneumococcus infection) at the inception of the attack, diminishing the amount of toxemia and stimulating the reproduction of healthy blood cells. This is of benefit, independently of the mechanical relief to the obstruction of the circulation in the lung. Late in the disease the indication is purely mechanical. When blood is removed under the first

condition it is well to follow with saline infusion into the vein or under the skin—not too much, not too fast; but in the second condition saline infusion is not well given, because it does not seem reasonable to take blood to relieve the heart and then to add the same quantity of another fluid to embarrass the heart as much as before. There is a qualification to this, however, and that is in cases in which the blood is very thick and runs sluggishly from the open vein. Saline infusion will dilute it, and the respective quantities may be adjusted with skill. Temperature in itself, unless excessive or very low, offers no indication for treatment. I have learned to look on cases having temperatures of 103, 104 or even 105 degrees F. as being—other things equal—more favorable than those cases having a temperature of 100 to 101 degrees. The vital reaction is better and the temperature seems to be an indication of this vital reaction. Fenwick's statistics point in this direction, too, and I was recently reminded on looking over my student notes of DaCosta's lectures that he had taught the same thing. The matter is important, because many patients are killed by the by-effects of an ipyretic drugs, needless under any circumstances. As to veratrum viride, it should be remembered that many drugs are used, concerning which it may be said that their physiologic action as laid down in the textbooks seems to have little bearing on their effect as observed at the bedside. I have seen some cases benefited by veratrum viride, given early and stopped soon, and I know not why. Certainly the benefit has not been due to depression of the heart. Dr. Babcock has well said that this would be a counter-indication. Perhaps there may be something in the complex chemistry of infections and drugs and body cells and fluids, of toxins and antitoxins, amboceptors and complements, which may hereafter explain its action. For the present it has distinct empirical value used judiciously—that is, before consolidation and for prompt effect; using the pulse as an index, diminishing the dose as the pulse falls, and withdrawing the drug as soon as the pulse reaches 60 or 70 beats in the minute, or otherwise shows that the physiologic effect of veratrum has been attained. This, I repeat, is an index only.

DR. EDWARD F. WELLS—In a twenty minutes' paper on pneumonia one can barely indicate a few of the general principles and can not go into a discussion of any of these features systematically. In answer to Dr. Cabot, I stated explicitly that the very first effect of pneumonia on the system was a reduction of the arterial tension; there is no doubt about this. Within a few minutes of the onset of the pneumonic chill this reduction appears. If this is an effort of nature to protect the system from the initial shock of a pneumococcus poison, the question arises whether we should or should not assist nature, and I believe that, early, we should do so. In view of this I have taught that veratrum viride, given early in these cases, seems to offer a further protection from the violence of the initial shock. Empirically we know that veratrum viride will reduce the frequency of the pulse and this without raising the arterial tension. On the contrary, the capillaries are still further dilated. I most emphatically disagree with Dr. Cohen as to the advantage of high temperature in this disease. One hundred and sixty years ago it was stated by Cleghorn, who practiced scientific medicine in the island of Minorica, that in pneumonia, in ordinary cases, the temperature in the afternoon reached 102 degrees F. with a favorable prognosis, but in severe cases and with a bad prognosis it reached 104 degrees. This statement applies to pneumonia to-day as it did in the days of this great clinician. I wish to set myself right regarding the use of opium. I do not think any one appreciates more than I the disadvantages and dangers of the improper use of opium in pneumonia; but because it may be improperly used is no reason why it should not be used intelligently, properly and beneficently. I stated that in the beginning of the attack, during the course of the chill, that 1/16 or ⅛ of a grain of morphin, given hyperdermatically, will quiet and soothe the patient and be very beneficial. Also late in the disease, similar small doses of morphin, especially in those dangerous conditions accompanied by profuse perspiration and pulmonary edema, small doses of morphin will stimulate the heart as nothing else can, and sometimes snatch victory from apparently certain disaster. With regard to blood-letting, from first to last, my only reason is to remove more or less of the toxins and I am quite satisfied that this is the keynote to the situation. Occasionally one may bleed for the relief of an over-distended right heart, but I always desire to anticipate that event if by the exercise of foresight and discretion it is possible to do so.

DR. JOSEPH SAILER—In pneumonia I have invariably found the blood pressure to be low. If very low I regard the prognosis as unfavorable. In another series of cases I hope to employ the anti-pneumococcic serum intravenously, chiefly because certain other serums, particularly the anti-plague serum, seem to be more effective when introduced into the circulation than when introduced beneath the skin.

OLD UNREDUCED DISLOCATIONS.*

DE FOREST WILLARD.

Professor Orthopedic Surgery, University of Pennsylvania; Surgeon Presbyterian Hospital.

PHILADELPHIA.

The term, old unreduced dislocations, is here used to cover cases where the joint surfaces remain luxated for a month or more after the accident. The delay in effecting reduction may have been due either to non-recognition of the condition or to the failure of the original manipulative replacement efforts. The designation "irreducible" is a misnomer, since a joint incapable of reduction by one method may be reducible by another procedure.

DIAGNOSIS.

The chief element in the prevention of this condition lies in immediate diagnosis at a time when reduction is easy; old dislocations exist because of faulty diagnosis. With ordinary anatomic and surgical knowledge, with anesthesia and the Röntgen ray, primary diagnosis is usually a simple matter. Whenever uncertainty exists in regard to an injury near a joint, anesthesia should be the rule, since without its employment the pain and swelling often render accurate diagnosis impossible. Diagnosis once established, the treatment follows as a natural sequence. If manipulative efforts fail, operative measures should be at once instituted. The greatest difficulty will, of course, be encountered in dislocations associated with neighboring fractures, especially in the shoulder region, while the cases most likely to be overlooked are those complicated by severe injuries of other portions of the body.

In old dislocations of the shoulder, the body should be stripped to the waist and examined sitting and standing. In fracture of the head of the humerus, or of the neck of the scapula, or a separation of an epiphysis, the elbow can be brought easily to the side of the body, and mobility is the rule instead of fixation. In all old hip luxations the patient should be naked and examined in both the recumbent and standing posture. By this method many errors will be avoided. By comparison with its fellow, the loss of normal movements, difference in contour, altered relation of bones and restricted motion will be noted.

Pathologic dislocations from hip disease, congenital dislocations, coxa vara, and sliding up of the trochanter after fracture of the neck, should be carefully differentiated. Not infrequently I have been obliged in consultation to restrain attempts at reduction in cases both

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

of hip disease and of neck fracture, which had been incorrectly diagnosed as luxations.

COMPLICATIONS.

Complications and obstacles preventing reduction are: Inflammatory adhesions and deposits causing partial narrowing of the hole in the capsule; lacerations of muscles and tendons; filling up of the socket by torn muscle or fibrous deposit; fracture of the rim, with bony projections; fragments of fractured bone; a portion of capsule pushed back into the socket, and lastly, the anatomic and surgical ignorance of the surgeon. In dislocations of either shoulder or hip, fractures of the rim are not at all uncommon; the fragments may be found in the socket, or more frequently in the neighborhood, giving rise to osteophites, which interfere most seriously with reduction, even after open incision. Such an osteophite was the cause of a fatal result in the hands of Dr. Allis and myself, in which instance the external iliac vein was torn over a sharp cockspur bony point during manipulation of an old hip dislocation.

ACCIDENTS DURING MANIPULATIONS.

I shall never forget the suddenness with which a patient suddenly collapsed while I was assisting the late Professor Agnew, more than thirty years ago. In the midst of manipulations for reduction of a shoulder dislocation of six weeks' standing, a sudden ballooning of all the tissues about the axilla occurred, the patient became pulseless and apparently died; respiration ceased and the radial pulse disappeared. Instantaneous thumb pressure on the right subclavian artery arrested the current through an apparently ruptured axillary artery, and by the prompt application of restoratives the patient survived. The enormous hematoma that formed was afterward believed to have been produced by the tearing of the axillary vein. When the pulse returned at the wrist the tumor did not pulsate.

In Agnew's case only manipulations were employed, but in former days, when pulley traction was much more commonly used than at the present time, it was not remarkable that these accidents were common. Guérin tore off an entire arm. Bell tore the axillary structures to such an extent that immediate amputation was necessary. In other cases, gangrene has occurred, followed by either death or amputation. Gibson in 1823, in accordance with the practice of that day, after a week's depletion of blood letting, tartar emetic, etc., subjected the man to pulley extension and counter extension for half an hour, then manipulations were practiced for one and three-quarters of an hour more, one of the procedures being to hang the patient by the axilla over a door. As this was in preanesthetic days, and as the surgeon was obliged on the following morning to tie the subclavian for a pulsating tumor in the axilla, it is rather strange that the patient lived until the eighth day, with the arm in a state of incipient gangrene. The artery was found to have been firmly attached to the head of the bone and capsule.

Lister in 1873, in an old forward dislocation, ruptured the axillary artery with pulley traction by tearing a fibrous band attached to the coracoid and humerus. He tied the artery through an axillary incision and resected the head, but the patient died on the following day.

In twenty-four cases of injury to the axillary vessels during reduction manipulations collected by me,[1] fifteen terminated fatally; the result in two cases was uncertain; the axillary nerves were lacerated in one case; in another the brachial plexus was torn from the spinal column. Michaus tore off both the median nerve and the brachial artery in reducing a luxation of the elbow, but saved the case by amputation. In the reduction of a posterior dislocation of the head of the femur, the sciatic nerve has been hooked up and carried forward in front of the neck of the femur, with great resultant tension and pain, flexion of the hip and disability.

OPERATIVE METHODS.

1. Manipulation and traction. 2. Continuous extension and counter-extension. 3. Arthrotomy, with section of all tissues interfering with reduction. 4. Resection, with replacement, when possible. 5. Subcutaneous incision of capsule or of surrounding tissues, a procedure usually uncertain and dangerous.

Manipulation and Traction.—In former times the resistance of the muscles was considered to be the chief element in the prevention of reduction, consequently extreme force by pulleys was employed, even to the tearing away of the limb. At the present time, recognizing that the muscles are only one of many obstacles involved, intelligent manipulation is considered of the first importance. An extreme degree of force should be avoided lest serious injury result. Full anesthesia should be secured and moderate manipulative and traction efforts instituted. These will vary with each joint involved, in accordance with the usual methods pursued in primary cases, being varied to suit the position of the bone, the present condition as shown by palpation, the skiagraph, etc. Hand movements are, as a rule, much safer than instrumental.

Shoulder.—The manipulative efforts at the shoulder for the reduction of an old dislocation will vary but little from the ordinary ones employed in recent reductions save that great caution must be observed in the preliminary breaking up of adhesions. Serious accidents, as already enumerated, or fractures may readily be produced by undue force. The indications are: to fix the scapula, apply traction, adduction, external rotation, pressure on head, adduction, flexion, internal rotation

The old method of upward traction was a most dangerous one, as it put great tension on the axillary tissues; outward traction is less risky, but should be employed with caution.

Reduction efforts rarely succeed four months after the luxation.

Hip.—An old hip-joint dislocation is a most formidable condition to encounter, and, next to the shoulder, this joint is the one most liable to be involved; it is also an injury most frequently undiagnosed, as the condition of fracture or of dislocation is often masked or overlooked when anesthesia has been carelessly omitted at the time of the original injury.

I recall a case that occurred twenty-five years ago, in which the man, three months after a heavy fall of earth compressing his body, was discovered to have a dorsal dislocation of the left hip. Under ether, I readily reduced this and placed it in the acetabulum with a distinct thud, and with the immediate resumption of the normal position of the leg. When comparison, however, was made with the right leg, it was discovered that the leg which had just been reduced was shorter than the one of the opposite side. This condition was very puzzling, until it was seen that the right leg was not only longer, but was also slightly everted, and that there was a fullness in the region of the thyroid foramen, thus showing that there had been a forward simultaneous dislocation of the opposite hip, both legs having evidently

1. Phila. Med. Times, Aug. 16, 1873.

been forced in the same direction. All efforts to reduce this failed, although, with the assistance of Dr. Allis, I applied all the then known methods of manipulation, leverage, traction, etc. The head could be carried to the position of dorsal dislocation, but could never be placed in the acetabulum. The fact that the left acetabulum had not been filled up through the three months, and that the rent in the capsule had not united, proved that other complications existed which prevented reduction of the right hip. What these complications were, of course, we could not determine, as at that time neither Allis nor myself was bold enough to cut down on the joint. Ten years later the man was doing hard laboring work.

Allis,[2] who has given most thorough experimental and practical work to hip dislocations, says that the greatest injury to the capsule is confined to the lower two-thirds, and that the upper thickened portion of the capsule, known as the Y ligament, is rarely lacerated, which accounts for its great service in restoration. The strong upper rim of the acetabulum, the surrounding muscles and the dense capsule, are all important elements in the prevention of a luxation.

A careful consideration, therefore, is necessary as to the probable character and direction of the force; whether a sudden blow or a slowly crushing power has been exerted. The *x*-ray is here most useful in determining the extent of the fractures and bony complications.

Allis' fundamental law is that a dislocated joint should be restored through steps in the reverse order of the displacement, consequently his manipulative reduction is based on the knowledge that the lower portion of the capsule is the one torn and that the head of the bone in dorsal dislocation, therefore, needs to be elevated into place. He first fastens the pelvis firmly to the floor by inserting into the wooden flooring three hooks—strong opened screw eyes—one near the perineum, and one on either side opposite the crest of the ilium. To these hooks the pelvis is firmly bandaged over towel pads. To avoid interference in the groins from the bandage, a flat metal cross, with its four ends curved on themselves sufficiently to hold the strips of the bandage, is placed above the pubis. To-and-fro turns of the bandage are then made from these hooks to the screw hooks in the floor. The femoral head is drawn downward by traction; then the flexed knee is lifted over the flexed arm of the surgeon until the head of the femur is brought opposite the acetabulum; if it catches on the rim, the surgeon steps across the opposite limb, carrying the knee with him into extreme adduction, while traction is still made toward the ceiling, and an assistant's hand is employed to lift the head into the socket. Reduction is usually accomplished with an audible snap. If it does not occur, the knee is then carried across the body to a state of abduction, while steady, simultaneous upward traction is employed. To increase the surgeon's tractile power, perforated iron bars are securely fixed with wet bandages to the sides of the lower half of the thigh. A rod connecting these bars makes an excellent handle for the surgeon in his traction and manipulation efforts. Fix pelvis, flex thigh, turn leg and heel out; lift, press on head, turn leg in, extend.

Second, or indirect method, employing the Y ligament of Bigelow as a fulcrum. When the head has been lifted as already described to a position just below the acetabulum, carry the knee with the leg flexed directly downward in extension; the Y ligament will thus be made tense and the head will be lifted into the socket. Bigelow's manipulations are flexion, abduction, eversion.

For a thyroid dislocation the reverse manipulations may be practiced, still following the law of reversed order, or the head may be thrown into the dorsal position and then reduced. In the forward dislocation first flex, abduct and make traction outward; then an assistant presses on the head during adduction and traction. Forward dislocation, second method, utilizing the Y ligament, flex, abduct, carrying the knee obliquely inward and downward; then rotate outward; not circumduction, lest the sciatic nerve be hooked up.

Bigelow's manipulations for thyroid dislocation are flexion, adduction, inversion, lifting, circumduction.

Continuous Extension and Counter-extension.—After failure of reduction by manipulation, a very useful adjuvant, especially for the lower extremities, is the application of continued weight and pulley extension in bed for a week or more, so as to relax and quiet muscular action. At the end of this time, under thorough relaxation by ether, manipulative efforts may be successful, although failure has occurred at the first attempt.

In the upper extremity it is much more difficult to apply continuous extension satisfactorily, even with air pads in the axilla and Stimson's couch with its perforation for the arm.

Arthrotomy and Excision.—When manipulations fail, the question of open operation becomes a serious matter, especially at the hips. The tissues surrounding the joint have not only been originally injured, but have also been subjected to repeated traumatisms during the several efforts at reduction. Their resistive power to infection has consequently been greatly lowered, and septic influences easily prevail, as is well instanced in the following case:

A man, 28 years of age, with an eight-month-old dorsal dislocation of the hip that had resisted eight attempts at reduction by as many different surgeons, applied to me for relief. The hip was immovable and useless. A carefully planned and systematic effort at reduction was made by myself, assisted by Dr. Allis, but without avail. At the earnest solicitation of the man I consented to operate. An incision was made over the trochanter, head and neck in the line of the gluteal muscles, separating the fibers; the tissues were cut away and the capsule opened, but the acetabulum could not be reached. An anterior incision was then made in the triangle formed by the tensor vaginæ femoris and the sartorius. The head of the sartorius and the long head of the rectus were cut away; the psoas was also cut from the lesser trochanter, the capsule opened, strong traction applied; the acetabulum was found filled to the level with fibrous tissue almost as tough as tendon. This was cut away with gouge and spud, and a large quantity of thickened tissue was cleaned from the head, which was even then reduced with great difficulty. The cushion in the acetabulum still prevented the head from sinking more than one-half into the cavity; the bone was, therefore, redislocated and the acetabulum absolutely cleared; at last the head remained easily in its socket; thorough drainage with rubber and gauze was introduced and the limb fixed with plaster of paris, slightly abducted and everted, and nearly in line with the body. The hemorrhage was considerable, but no ligatures were required after clamp hemostasis. The man vomited persistently from the time of operation, and died a week later from septic endocarditis. The operation was long and severe; the chances for infection were numerous.

Dr. Thomson fractured the femur in an attempt to reduce an old dislocation of the hip. He very wisely opened the joint, reduced the dislocation and the frac-

2. Dislocations of the Hip. Gross Prize Essay, Phil., 1896. Octavo, p. 167.

ture, and retained the latter in position with a silver nail, thereby securing a good result.

Shoulder: The necessity for operative relief will depend largely on the amount of disability and the extent of the pain, the latter being caused by pressure on the nerves and vessels.

In a two-month-old subcoracoid dislocation of the shoulder, after failure of manipulative methods, and finding the head thoroughly fixed, I made an incision in the pectorodeltoid groove and resected a portion of the capsule and of the spinati muscles. As the luxation still refused to yield a second incision was made about the middle of the deltoid, separating the fibers, and after thoroughly dividing the tissues the head was at last successfully placed in the glenoid cavity. The capsule was so greatly injured that its remnants were stitched with catgut to the acromion; the arm was fastened across the chest with a plaster-of-paris bandage, and, after two weeks, gentle passive movements were instituted, with good recovery of motion but with slight loss of abduction and elevation.

In a shoulder joint that was dislocated fifteen years previously through a football injury, and where the head of the bone slid back and forth on the anterior ledge of the glenoid, with some eighteen subsequent luxations inflammatory swellings and great disability, I made one incision in front of the deltoid and another through the center of the muscle, separating its fibers. The outer portion of the capsule had evidently been torn away at the time of the original injury, and the inner portion had been subsequently elongated and stretched. After replacing the bone the external portion of the capsule was stitched to the acromion and the anterior capsule folded and fastened with a chromicized catgut. The arm was held for several weeks in front of the thorax until good union had been secured, after which forward movements were especially encouraged, and a firm joint secured.[3]

The best access may be obtained to this region and the least injury done by cutting just posterior to the cephalic vein, in the groove between the deltoid and the pectoral; this gives excellent access to the head. The axillary incision, while more dangerous, is sometimes necessary when the adhesions between the head of the bone, arteries, veins and nerves are dense, and is also an excellent incision for resection, although through it the glenoid is less easily reached. If incision is made over the middle of the deltoid the fibers should be separated as much as possible, not divided, so as to avoid loss of abduction and elevation. The posterior incision, which starts beneath the acromion, is most liable to injure the circumflex nerve (which runs just below the acromial ridge), thus cutting off a large portion of the innervation of the deltoid. It affords easy access to the glenoid, but not to the head. Even with the anterior incision there will be some atrophy of the internal fibers of the deltoid, but this loss is partially compensated by the pectoral. The old operation of cutting off the attachment of the deltoid is a bad one. If the biceps tendon is torn or cut, it should be restitched. In excisions it is better to take away too much rather than too little. Hemorrhage is greatly lessened by closely hugging the bone with bone gouge or chisel. It is sometimes necessary to divide the tendons of the infraspinatus and supraspinatus, the long head of the biceps, subscapularis and teres minor. After freeing the tissues about the head and neck of femur or humerus, I have sometimes had the greatest difficulty in replacement and have been obliged to divide all the tissues most freely. In some cases traction on the head may be made through the incision by placing a curved bone elevator or strong wire about the head, by using a lever, or by drilling the bone and inserting strong steel hooks. When the glenoid cavity is filled with a tough cicatricial fibrous mass, the socket must be cleared with gouge and knife. In the young, great care should be taken not to injure the epiphysis, and resection should not be employed except under special circumstances. The natural accommodative mobility of the scapula must be taken into account, and the amount of adhesions. The subsequent fixation and pain depend largely on the original injury and the position of the head. In resections the keyhole saw or the heavy chain saw is advisable. Owing to the liability of breakage, I have had a chain saw made from an old écraseur. When old dislocation and fracture coexist, the question of manipulation or arthrotomy or excision is a serious one. The broken fragment may have united to the bone in bad position, or it may have become thoroughly adherent to surrounding tissues, or it may be entirely disconnected. Fragments may be nailed or wired in position. Resection of the head of humerus or femur, though often necessary in these cases, should not be undertaken as a positive rule, since a completely reduced upper joint fragment can sometimes be treated the same as an ordinary fracture and a fairly useful joint secured. In cases of doubt, an excision may be deferred in old persons until the amount of pain and disability is definitely ascertained, yet a resected shoulder joint, provided the muscles are not too seriously injured, often gives a more useful arm than the stiff ankylosed one so often secured by the forcible reduction of an old injury. Pressure of broken fragments on the axillary vessels and nerves usually gives great pain and demands resection. In one of my cases, however, where both dislocation and fracture existed, the aged man was so far advanced with locomotor ataxia that he was practically helpless, and lived several years without any serious inconvenience from the presence of the head in the axilla. In other cases, however, the pain is extreme; in others, the inflammatory adhesions fasten the tissues in a mass which will not only resist attempts at manipulative reduction, but even persist in spite of open incision. Fractures of the shaft of the humerus and of the femur are not uncommon during efforts at reduction.

It is extremely important that every aseptic precaution be taken, as disturbance of tissues already below the normal resistive point is prone to give septic results. Drainage either by rubber tube or gauze is necessary on account of the severity and length of the operation.

Arthroplasty.—I have tried a number of methods to prevent the union of joint surfaces, but nature, while sometimes tolerating a foreign substance, usually rebels against its continued presence. Gold or silver foil is less irritating than rubber tissue. The best method is, when possible, to turn in a flap of fascia or connective tissue.

Results.—Souchon[4] gives, in his admirable compilation, the histories of 133 operative cases of old shoulder dislocation, with their results, accompanied by a complete bibliography. He gives the deaths immediately following the operation as 13 per cent., with an additional 10 per cent subsequently; the chief causes being gangrene, hemorrhage, sepsis and pneumonia. Of the

3. Burrell's operation for this condition of habitual dislocation is an excellent one. Trans. Amer. Surg. Asso., vol. xv, p. 293.

4. Operation of Irreducible Dislocation of the Shoulder Joint, Trans. Amer. Surg. Asso., 1897; octavo, p. 138.

collected cases about 27 per cent. suppurated. Naturally, sepsis was much more frequent previous to 1885. A good result, however, has, according to statistics, been secured in over 50 per cent of cases.

Reerink gives the fatality of shoulder excision: in 47 operative cases, 14 became infected and 8 died of sepsis and other causes.

Elbow: A dislocation of the elbow sometimes remains undiagnosed and becomes fixed in its malposition. In a case of four months' standing (Fig. 1) after the first failure at reduction I applied extension for a week. The woman was pregnant at the time, and the method gave so much pain and annoyance that after the second unsuccessful attempt at reduction I resected the condyles of the humerus through two lateral incisions (in preference to the posterior triceps cut), brought the ulna into position and secured a useful movable joint. A letter received last week states that the fetus was carried to full term, and that the elbow movements are nearly perfect, although strength is impaired.

Head of the Radius: An old dislocation of this joint is often difficult to replace, but extension, strong pressure and rotation will sometimes accomplish it. If unsuccessful, the joint should be opened, replaced and stitched or resected.

Fig. 1.—Lateral dislocation of elbow, four months' duration.

Clavicle: In an old dislocation of the outer end of the clavicle, Hopkins was able to hold it firmly in place by carrying an X-shaped suture of silkworm through two drill holes in each bone; silver wire would answer the same purpose, or a firm nail could be used.

Jaw: In a three-month-old dislocation of the jaw Mixter applied lever extension with the fulcrum opposite the molars, and after forty-five minutes was able to reduce the dislocation.

Thumb: In old dislocations of the phalanges, where the head of the bone has passed between the tendons, these dense structures often resist all efforts at replacement and open incision is imperative.

AFTER-TREATMENT.

Passive movement should be instituted very early after reduction, and after operation in all old luxations. Electricity, massage, voluntary and involuntary muscular movements, gymnastics and other measures for the restoration of function must be continued for a long time.

CONCLUSIONS.

1. Early immediate diagnosis is the most important element in preventing the existence of old unreduced dislocation. With ether, the *x*-ray and anatomic and surgical knowledge, a recent displacement ought always to be discovered by the surgeon. Immediate reduction by manipulation or open operation should follow.

2. An old, unrecognized dislocation should be carefully examined under the *x*-ray and ether to discover the extent of adhesions and the possibility of effecting reduction without extreme measures. The manipulations to be practiced are practically the same as those employed in recent luxations, but greater caution is necessary. Failing in these, continuous extension in bed should be practiced for a week; the second attempt, without the application of extreme force, should then be made, the permission of the patient having been previously obtained to permit of open operation, if deemed necessary.

3. Open section should include the division of all muscular, tendinous, capsular and bony obstacles to reduction. When the socket is filled up with dense fibrous tissue, such tissue should be excavated, and the head of the bone placed *in situ*.

4. Partial or complete excision of the head and of fragments in case of fracture will frequently be necessitated.

5. In cases that have existed more than a year, or where the original injury has been extreme, operation should be avoided unless pressure on nerves or blood vessels is seriously impairing the usefulness of the limb or giving pain, but resection should be practiced in bad late cases, with pain and serious nerve symptoms.

6. Sepsis is frequent on account of the severity and length of the operation, and especially by reason of the non-resistive ability of the tissues due to the original injury and to repeated traumatisms from manipulative efforts

7. Pain, disability, age and occupation are the most important conditions in arriving at a decision concerning operation. When a limb is useful in its new position, gives no pain or difficulty, it should be let alone.

8. In the after-treatment, muscular gymnastics, electricity, voluntary and involuntary muscular movements and massage are very important measures and should be persistently employed. These manipulations require both patience and pluck on the part of the patient.

DISCUSSION.

DR. A. F. JONAS, Omaha—My personal experience with old dislocation of the joint is limited almost entirely to the shoulder joint, of which two years ago I reported seven cases. Of these, six were operated on and one was not. One feature of the operative cases was common to all, and that was the contraction of the capsule. The first of the series had remained unreduced for three or four months. I began to use Kocher's manipulations, and it became reduced by this method. The remaining seven cases were reduced by manipulation. The structures which opposed reduction varied with each case. In one the coracoid process was broken off and had become adherent in its new locality. Before it could be replaced it was necessary to remove this broken off portion of the coracoid. In another case the long tendon of the biceps stood in the way of reduction, but the contracted capsules of the joints gave most trouble. Extirpation was necessary in one of the cases. Usually the head of the bone was replaced, but in most of the cases we injured the circumflex nerve, owing to the amount of manipulation. We could not always locate it, and in most of the cases we had atrophy of the deltoid muscle. Strangely, the mobility of the scapula is such that all of these cases were able to perform the duties to which they had been accustomed. There were no deaths, and the recoveries were all by primary union. So far as adhesions to other joints are concerned, I only recall one of

dislocation at the head of the radius which had exisited for four or five months. I had to cut down on the head of the radius to replace it in its normal position.

Dr. C. E. Thomson, Scranton, Pa.—I will report one case of dislocation of the hip. My patient, a miner, was injured last June by being run over by a mine car. The leg was lacerated and was amputated five weeks later four inches below the knee. At that time the dislocation of the hip remained undiscovered. He came to me last February, when I attempted to reduce his old dislocation. I used the Allis method of fixation of the hip. While Dr. Allis recommended it so enthusiastically for experimental work on the cadaver, he was a little chary about recommending it on the living patient. We used it most energetically, without any injury to the patient further than slight excoriations. After the most energetic manipulations we failed to reduce the dislocation. Having failed by the Allis method, we tried the Kocher method, with disastrous results. Notwithstanding that we had but a stump to manipulate, we broke the bone between the trochanters—an oblique fracture—by the Kocher method. Ten days later we renewed the attack and succeeded in reducing the dislocation with long, blunt hooks similar to those used for handling meat. We used anterior and posterior incisions similar to Hoffa, and the patient made a good recovery. The fracture was held in place by a specially devised nail. Union has taken place in the fracture, and we hope he will have a useful stump.

Dr. A. D. Bevan, Chicago—Five years ago I reported a series of cases of old dislocations reduced by operative methods, and in practically all of them we had a complicating fracture. The dislocations of the shoulder had no complicating fracture. If reasonable efforts at reduction by mechanical means fail, then an *x*-ray should be taken to see if there is a complicating fracture. It is impossible to make an incision in such a direction as to expose the acetabulum before you expose the end of the femur. The capsule should be exposed and freed before the head is exposed. As to the importance in the work of operation on old dislocations of the elbow of sacrificing the triceps tendon, if you expose the joint you will almost invariably find a piece of bone preventing reduction. I have obtained better results since I have paid attention to this. I do not think I have injured the circumflex nerve and produced resulting paralysis, but I rather think we have had an ankylosis, with an atrophy of the deltoid from lack of use. I believe that where great force is necessary to reduce an old dislocation of the shoulder we are more apt to obtain a satisfactory result by resection of the head of the bone.

Dr. J. A. Blake, New York City—I have had very little experience with old dislocations of the hip, but have treated several of the shoulder, and I am inclined to operate rather than make prolonged or forcible attempts to reduce by mechanical means. I split the fibers of the deltoid as near its anterior border as possible in order to avoid injuring its nerve supply. If this does not afford sufficient access, a supplementary transverse incision is made just below its attachment to the acromion, which also preserves the integrity of its nerve supply. Excision of the head of the bone may be done in some cases. After removal of the head the functional result is often excellent. I have recently seen a resection of four inches of the humerus for new growth, and the result has been almost perfect as regards function. As to the elbow, lateral incisions give the best access.

Dr. G. T. Vaughan, Marine-Hospital Service, Washington, D. C.—We are all agreed that there should be no old dislocations of the shoulder; if one can not reduce them one should operate at once. Sometimes this is not done, and they come for treatment. I had one case of this kind in which the detached greater tuberosity of the humerus was located directly over the glenoid cavity. Several attempts had been made to reduce it, and it was thought with success, but the patient continued to suffer great pain for two months. I tried all the various methods of manipulation before cutting. I do not approve of the method of placing the foot or the hand in the axilla, having on two occasions fractured a rib by using the foot in the axilla as a fulcrum. I made an incision and found the glenoid cavity filled with bone. On locating the head of the humerus, I found this bone was the detached greater tuberosity, which had to be dissected out from its attachments over the glenoid cavity. Extension and counter-extension is the best method by which to treat these cases, as it is least likely to do harm, and if it fail can be followed by Kocher's or some other method.

Dr. J. P. Lord, Omaha, Neb.—We should take our cue from the recent experience of the orthopedists and adopt the suggestions voiced in last year's orthopedic association rather than resort to excessive force in order to reduce these dislocations. It has been my recent experience that this facilitates the reduction of the head of the femur, and it is my belief that injury of the nerves and blood vessels, nerves especially, is produced more by the effect of the lever action which we produce in our manipulation than by the traction. If we overcome this resistance by tenotomy and not exert this pressure on the nerves as we do with our forced manipulation evils, we will not produce these dire consequences. We should not operate immediately after severe traumatism has been produced by this bloodless reduction. Dr. Willard did not emphasize that sufficiently. Consent to open operation should be obtained if manipulative methods fail. I do not think we should undertake the operation until after severe manipulative measures have been resorted to.

Dr. Charles A. Powers, Denver—A number of years ago I saw many unreduced dislocations of the shoulder at the Chambers Street Hospital in New York, and so far as I can remember none which had been out more than ten or twelve weeks was replaced without operation. At that time I carefully studied the paper of Kocher, which many of you remember reading fifteen or twenty years ago and in which he stated that old dislocations could be reduced by his well-known manipulative methods. I was never quite able to understand Kocher's reasoning or his results in old dislocations. The adhesions must be thoroughly broken up before reduction by any method of manipulation. The breaking up of adhesions must be done, however, with utmost caution. I am heartily in accord with Dr. Willard in thinking that open operation should be resorted to more frequently. I would like to put on record a case of intracoracoid dislocation of the shoulder of four months' standing which, to my surprise, was easily replaced after from eight or ten minutes of manipulation. This was in a woman of over 60 years, a patient of Dr. P. V. Carlin of Denver. Where an old luxation can be replaced by manipulation it is, of course, best to do so, but we are always to bear in mind the dangers attending too forcible manipulative effort.

Dr. Willard—Ankylosis of the shoulder joint is an unfortunate condition, especially for a woman, and resection of the head of the humerus is often preferable. The breaking up of adhesions in an old dislocation is the most dangerous part of a reduction. Open arthrotomy with resection of the fragments is often the better operation.

Foam-Producing Power of Urine; Aphrometric Test.—A. Bignon of Lima, Peru, calls attention to a means of testing the urine by its power to produce a durable foam when shaken up with water and acetic acid. The *Boletin de la Academia Nacional de Medicina*, 1904, iv, No. 1, contains his communication on the subject with detailed accounts of his tests. He establishes as the standard the number of cubic centimeters of the urine for one hour, diluted with water to 200 c.c., which will produce a foam lasting for half an hour when shaken up for one minute with 100 c.c. of a solution of acetic acid (15 c.c. of acetic acid to the liter of water). In normal conditions about 1.5 c.c. to 3.5 c.c. of urine are required to produce this result, but in abnormal urine a much smaller amount is sufficient. When the foam can be induced with less than 1 c.c. of urine, it should be regarded as suspicious. He is now studying the application of the test to milk, wines, etc. He calls it the aphrometric test, from the Greek word *aphros*, foam. The term aphrodisiac is derived from the same root, from the legend that Venus (Aphrodite) was born from the foam of the sea.

AUTOCHTHONOUS SINUS THROMBOSIS OF THE CEREBRAL DURA.

WITH A REPORT OF THREE CASES.*

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While secondary thrombosis, such as follows middle-ear disease, has elicited great interest and been carefully studied in recent years, especially on account of its surgical treatment; the primary form, the autochthonous sinus thrombosis, because of its indefinite symptomatology, its uncertain treatment and its comparative rarity, has received much less attention.

Since the year 1899 there have come under our observation three cases of autochthonous sinus thrombosis.

The first case, reported by Drs. Wadsworth and Spiller,[1] is as follows:

CASE 1.—The patient, a boy, aged 7 years, according to his mother's account, had always been in good health and had been bright at school. On March 3, 1900, at 1:30 p. m., he complained of headache and vomited, at 3 p. m. he became unconscious, and at 9:20 p. m. he was taken to the hospital. At that time he was still unconscious, the veins of his face were engorged, the pupils dilated and immobile, the pulse weak and rapid, and the respirations slow and irregular (Cheyne-Stokes type). The temperature varied from 99.4 to 100 degrees Fahrenheit. Cyanosis was not present. He reacted to irritation with a pin. Death occurred at 12:30 p. m. the following day, March 4.

Autopsy.—At an autopsy held on the same day nearly a pint of clot and fluid was found in the ventricles of the brain, and a clot was found partially occluding the jugular foramen on the left side. Further examination showed that a clot had formed in the united veins of Galen at their union with the straight sinus. The thrombus was oval in shape, about three-quarters of an inch long by one-half inch wide, and consisted, as shown by the microscope, of recently clotted blood.

The superior longitudinal sinus was entirely occluded and calcified in its middle portion. This occlusion was probably the result of a previous thrombosis. The blood from the anterior portion of the superior longitudinal sinus had formed a new passageway between the layers of the falx cerebri. This passageway was not lined by endothelial cells, and conveyed some of the blood from the superior longitudinal sinus to the straight sinus at its junction with the inferior longitudinal sinus, and some of the torcular Herophili. The thrombus formed in the united veins of Galen had evidently caused the hemorrhage into the lateral ventricles and death.

The second case was reported by Dr. S. McC. Hamill,[2] and is included here because Dr. Hamill gave the brain to us for microscopic study. His clinical notes abbreviated are as follows:

CASE 2.—No history of syphilis in the mother was obtained. The patient was born normally and was not asphyxiated. The temperature was slightly elevated from the second day after birth. On the seventh day after birth a papular eruption developed on the face and the temperature rose to 104 degrees. There was no gastrointestinal disturbance. On the fourteenth day marked twitching of the muscles of the right eye and constant lateral rotation of the head were observed. General convulsions did not occur. The child was somewhat cyanosed and nursed poorly, but did not cry. The next day the child was somewhat better, but on the sixteenth day the temperature rose to 106.8 degrees and he vomited a large quantity of altered blood and passed several tarry stools. The face became much cyanosed. Death occurred on the same day.

Autopsy.—At the autopsy, twenty hours later, several thrombi were found in the umbilical arteries. The liver was abnormally large. The brain showed a large mass of clotted blood overlying the left hemisphere, more marked anteriorly. This extended into the substance of the brain, causing some destruction of tissue. Overlying the left hemisphere was a less marked hemorrhage.

The superior longitudinal, the left lateral, the straight sinus and the veins of Galen contained firmly organized thrombi. The veins of the brain were distended with blood and some of the superior cerebral veins, on the left side, contained thrombi. Both lateral ventricles were dilated and contained considerable blood, especially the left.

Microscopic Examination.—There was no round-celled infiltration of the pia mater, of the medulla oblongata or cortex, and the walls of the blood vessels were not thickened. The pia about the medulla oblongata was infiltrated by a great number of red blood corpuscles, as was also the optic chiasm. The optic chiasm did not stain well by the Weigert hematoxylin method, probably because it had been kept in formalin. There was no cellular infiltration about the blood vessels of the cortex. Sections taken from portions of the cortex showed numerous minute hemorrhages and intense congestion of the capillaries of the tissue. The extensive hemorrhage had destroyed the upper part of the cerebral hemispheres, including the paracentral lobules, so that the Betz cells could not be studied.

A third case is a recent observation. The clinical notes obtained from the case-book of the Pennsylvania Training School for Feeble-Minded Children, of which institution the child was an inmate, are as follows:

CASE 3.—S. M., female, 15 years of age at the time of her death. Seven years previously it was noted that her gait was peculiar and was described "as if she were walking on eggs." This probably means that the child was spastic. There was unilateral exaggeration of the knee jerk. Mentality was low and vision was imperfect. Epileptic attacks occurred and usually began in the arms and face, finally involving the entire body.

Aside from her mental condition, which steadily deteriorated, there was no change noted until four months before her death, when it was observed that while not unable to walk, she disliked to do so and kept her chair as much as possible. Her sight had become still more defective and co-ordinate movements were impaired, although the grade of imbecility prevented accurate tests. No areas of anesthesia were found. The child was peevish and prone to cry without cause.

Her condition gradually became worse until locomotion was impossible. In bed, her thighs were flexed on her abdomen and her legs on her thighs. During the last three weeks of life great swelling of the feet with a tendency to the formation of blebs was observed. Speech was impossible for three weeks prior to her death, and for the last five days lifting her chin and so permitting fluids to gravitate to the stomach was the method of feeding her. Rise in temperature did not occur until the day before her death. Her heart action, pulse and respirations were regular and normal.

A record of the number of epileptic attacks shows that in 1901 she averaged eight per month, the highest number in any month was eighteen and the lowest was three; in 1902 she averaged the same, but the highest in one month was sixty-five and the lowest was two; in 1903 she had forty-three attacks in January, eight in February, three in March and nineteen in April. She died May 18, 1903.

Autopsy.—At the necropsy made May 19, the brain was found to be very edematous. The superior longitudinal sinus, one lateral sinus and the veins of Galen were thrombotic

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1. Proceed. of the Path. Soc. of Philadelphia, Oct., 1900, p. 267.
2. Archives of Pediatrics, 1903, p. 264.

Many of the blood vessels on the superior surface of the brain were occluded and a small collection of purulent matter was found about one of the blood vessels of the parietal lobe. The brain weighed 1,000 grams.

There were no signs of the thymus gland.

The right lung was not especially congested. It was crepitant. No distinct tubercles were found. It weighed 170 grams. The left lung was much more congested and appeared to be in a state of red hepatization. The upper lobe was congested, but not so much as the lower. A piece of the lower lobe sank when placed in water. The left lung weighed 280 grams.

The heart was not especially fatty. A chicken fat clot was found in the right ventricle and one also in the left auricle. The valves were normal. The weight of the heart was 145 grams.

The liver was not enlarged, but moderately congested.

The kidneys and spleen were normal.

The lower limbs were somewhat atrophied. The spinal cord, examined macroscopically, appeared normal.

The brain and cord with their membranes were removed and preserved for microscopic study.

Sections from the paracentral lobule from each side showed considerable round-celled infiltration of the pia, with the blood vessels greatly congested and their walls thickened. The capillaries of the cortex, especially on the left side, were unusually prominent and a moderate round-celled infiltration was found about them. The Betz cells were apparently normal.

Within a blood vessel taken from the cortex was found a large mass consisting chiefly of multinuclear cells; about this blood vessel there was a slight round-celled infiltration. Another blood vessel showed a marked cellular infiltration about it. The cells here were multinuclear and had probably migrated from the blood vessel. A blood vessel from the choroid plexus was surrounded by a very intense cellular infiltration, the cells being chiefly multinuclear. The blood vessel in this section was occluded by a dense mass consisting apparently of fibrin. A section from the left lateral sinus showed the sinus filled with a partially organized thrombus; no endothelial lining was found. The optic chiasm was not degenerated, but a moderate round cell infiltration was found in the pia about the chiasm.

The right and left third cranial nerves were normal.

A moderate amount of round cell infiltration was found in the pia mater of the medulla oblongata and the walls of the blood vessels here were much thickened. The anterior pyramids were fairly well stained by the Weigert hematoxylin method.

Sections through the cervical enlargement showed no distinct round cell infiltration of the pia, and the nerve cells of the anterior horns appeared normal. The crossed pyramidal tracts were very distinctly, but not intensely, degenerated. The direct pyramidal tracts, by the Weigert hematoxylin method, were not affected.

The mid-thoracic region showed the same degree of degeneration of the crossed pyramidal tracts as was seen in the cervical region. Cellular infiltration was slight throughout the spinal cord.

The degeneration of the crossed pyramidal tracts extended down into the lumbar region, and disappeared upward in the medulla oblongata. The microscopic examination showed the presence of lesions like those of cerebrospinal syphilis. The disease was probably hereditary in this case, and in all probability had caused the thrombosis of the dural sinuses.

These three cases belong distinctly to that class in which the thrombosis is due to a general bodily condition. Primary sinus thrombosis, or that form which is not due to direct extension of disease processes of the face or head, has excited a certain amount of interest during many years.

Th. v. Dusch[3] collected 58 cases of sinus thrombosis, of which 32 were due to gangrenous, erysipelatous or suppurative inflammation of parts of the body whose vessels are in close connection with the sinuses. In 4 the thrombosis appeared to result from tumors, etc., causing pressure on the sinuses or internal jugular veins. Fifteen cases were supposedly caused by lessened circulation from debilitating diseases, especially in those already in feeble health, as in children or the aged. In 6 cases no cause could be ascertained. One case he added as a supplement to his paper.

Comprehensive papers on the subject of sinus thrombosis have also been written by Lancial[4] and by J. A. Lidell,[5] the latter author having collected a number of cases. Lancial collected 7 cases from the literature, which he considered as cachectic in origin, i. e., as produced by a debilitated condition of the organism. The cases that he collected were those reported by Tuckwell,[6] Corazza,[7] Wiglesworth,[8] Roth[9] and Grancher.[10] Rilliet and Barthez[11] reported 18 cases, and Bouchut[12] 35 cases of cachectic thrombosis.

In addition to the cases referred to above, we have studied cases reported by Fisher,[13] Trevithick,[14] Hölscher.[15] Nonne,[16] Meigs,[17] Good,[18] Voss,[19] Ehrendorfer.[20] Richardson,[21] Hoffman.[22] Reinhold[23] and Phear [24]

Primary sinus thrombosis is regarded by some as especially a disease of childhood and old age, the two extremes of life when the animal organism is least prepared to stand the strain of debilitating influences. The predisposing causes are variously given. Von Monakow[25] gives as the causes long-continued diarrhea, especially in children, great loss of blood, long-continued suppuration, carcinoma, tuberculosis, chlorosis and anemia.

According to Oppenheim,[26] primary sinus thrombosis is, as a rule, a result of cardiac weakness; it is, therefore, called marasmic. He also states that in children it is generally due to exhausting diarrhea, and in adults may develop in the terminal stage of exhausting diseases—tuberculosis or carcinoma; more rarely in the course of the acute infectious diseases. He mentions Bollinger as having established the fact that chlorosis often produces a sinus thrombosis.

Bouchut,[12] in his statistics of cases occurring in children, gives the following table of causes:

Chronic enteritis	5 cases.
Measles and catarrhal pneumonia	2 cases.
Chronic pneumonia	5 cases.
Phthisis	8 cases.
Anasarca without albuminuria	1 case.
Chronic albuminuria	3 cases.
Pertussis and pneumonia	7 cases.
Gangrene of the mouth	1 case.
Diphtheria	2 cases.
Scrofulous cachexia, tuberculosis of bones, lungs and intestines	1 case.

Bouchut calls attention to the fact that 23 out of the

3. The New Sydenham Soc., vol. xl, p. 81.

4. "De la thrombose des sinus de la dure-mère," Paris, 1888
5. Amer. Jour. of the Med. Sci., January and July, 1874
6. St. Bartholomew's Hosp. Reports, 1874, p. 35.
7. Schmidt's Jahrbuch, 1866, p. 324.
8. Jour. of Mental Science, 1885, vol. iii, p. 371.
9. Boston Med., 1883, p. 174.
10. Grancher, unpublished, cited by Lancial (l. c.).
11. Cited by v. Dusch.
12. Cited by Lancial.
13. British Medical Journal, 1900, vol. ii, p. 9.
14. British Medical Journal, 1897, p. 1166.
15. Weiner klin. Rundschau, 1902, p. 561.
16. Mittheilungen aus den Hamburg Staatskrankenanstalten
17. Meigs: Trans. of the Coll. of Phys. of Phila., 3d ser vol. iii.
18. Neurologisches Centralblatt, 1902, No. 8, p. 340.
19. Deut. Zeit. für Nervenheilkunde, vol. xv, p. 297.
20. Weiner Med. Presse, 1892.
21. Jour. of Nervous and Mental Dis., 1897, p. 404.
22. Zeit. für Ohrenheilkunde, vol. xxx.
23. Cited by Voss.
24. Ibid.
25. Gehirnpathologie, Nothnagel's Sys. of Spec. Path. and Therap vol. ix.
26. Lehrbuch der Nervenheilkunde, 3d edition, p. 763.

35 cases he studied developed after pulmonary affections.

Fourteen of the cases that we have collected from the literature, including our own, were in children. The predisposing causes in these cases were pulmonary affections in 3 cases; long-continued suppuration in 2, and diarrhea, tubercular peritonitis and marasmus in one each. In the other 6 cases there was no history of any predisposing cause, the cerebral symptoms being the first sign of ill health. It is possible that in two of these six cases, namely, the case reported by Hölcher[5] and in our first case, where the blood from the superior longitudinal sinus had formed a new passageway between the layers of the falx cerebri, which was not lined by endothelium, that the abnormal circulation predisposed to thrombosis.

Murchison[27] is said to have been the first to call attention to the fact that sinus thrombosis is found at autopsy when death is due to syphilitic cachexia. He reported 2 cases, both of acquired syphilis; one in a woman, 27 years old, who had extensive syphilitic deposits on the dura and whose sinuses were full of "dark red coagulum" In the other, a gummatous deposit was found on the inner surface of the dura, extending about the left lateral sinus, the lumen of which was obliterated. Murchison himself does not attribute the thrombosis to syphilis *per se*, but mentions its presence only incidentally; as in both his cases there was extensive necrosis of the cranial bones and disease of the dura, it might be questioned whether these two cases could be considered as instances of primary sinus thrombosis.

In our third case there were signs of cerebral syphilis, and this disease was probably the cause of the sinus thrombosis. It seems as though *a priori*, syphilis, whether hereditary or acquired, would be a likely cause of sinus thrombosis, though neither v. Monakow nor Oppenheim speaks of it.

The degeneration of the pyramidal tracts in our third case is very uncommon in sinus thrombosis.

Childbirth sometimes causes thrombosis of the sinuses, probably more often when there is copious hemorrhage, as in a case quoted by v. Dusch. In this case peritonitis also was present.

Chlorosis or anemia has been the cause in several cases, the anemia lasting from one to six months and followed by the sudden onset of cerebral symptoms and death.

In a case reported by Ogle, long-continued disease of the rectum was the only discoverable cause. A short time before the patient's death the power of speech was lost, but no other symptoms were observed. She died of asthenia, and at the autopsy thrombosis of the superior longitudinal and left lateral sinuses was found. The inferior longitudinal sinus and the venæ Galeni were found partially obstructed.

Ogle[28] also reports a case of sinus thrombosis following pneumonia in a young man aged 26. He suddenly became unconscious and hemiplegic. At autopsy the superior longitudinal, left lateral and left petrosal sinuses were filled with a firm, reddish-brown and tightly adherent clot. The cerebral veins were all engorged. The brain substance was softened in places, and in the posterior and inferior part of the left middle lobe of the cerebral hemisphere was an abscess the size of a hazelnut.

A case mentioned by v. Dusch,[1] in a girl aged 12, who developed thrombosis of the superior longitudinal sinus during an attack of typhoid fever, probably belongs also to that class of cases where thrombosis of the cerebral sinuses occurs during the course, and usually near the termination of an acute infection. In the second case described in our paper, a baby two days old, the clinical history pointed to a general infection, which was followed by the sinus thrombosis.

In connection with those cases caused by anemia, a case reported by Nonne[16] is of interest. A woman had a large uterine myoma. Probably from the metrorrhagia caused by this, she became anemic. A little later she suddenly developed cerebral symptoms, and died in four days. The autopsy showed thrombosis of the superior longitudinal and lateral sinuses. The cortex was hyperemic, but there was no degeneration of the brain substance.

In a case reported by Wiglesworth,[8] dementia was present, and this condition, he thinks, may have caused the thrombosis, but the development of severe pulmonary symptoms before the appearance of the cerebral, and the presence of pulmonary lesions at the autopsy, make his conclusion doubtful. In another case, reported by the same author, the patient became insane for six days, and then died suddenly. At the autopsy a sinus thrombosis was found which, from its appearance, might have been several days old. A recent hemorrhage into the ventricle was also found. He thinks that in this case the acute insanity was a symptom of the thrombosis, and that death was due to the hemorrhage. The patient had previously been in good health, and there was no known cause for the thrombosis.

When it comes to a consideration of the immediate cause of the thrombus formation in the sinuses, we are on a very uncertain footing. Various theories have been advanced, all of which lack definite proof. Von Monakow[25] thinks that sinus thrombosis gives a well-defined symptom-complex, and yet he speaks of its resemblance to meningitis. He makes two groups of sinus thrombosis—the marantic and that depending on inflammation of the cerebral veins or the pyemic form. He says that the slowing of the circulation in the brain, such as may occur in those afflicted with carcinoma, in emaciated children, in the aged, etc., has been supposed to cause thrombosis, especially if the cardiac action is weak. This view is at present far from proof.

Baumgarten has shown that blood in a vein tied at each end so that all circulation is prevented, may not coagulate even after weeks, provided the occlusion has been made aseptically and the sinus wall is healthy. The same blood, even after weeks, will coagulate if removed from the sinus, so that, as shown by Brücke, blood remains fluid if it is in contact with a living healthy vessel wall, even if the vessel is tied.

Von Monakow[25] says that there is no doubt that thrombosis of the cerebral sinuses and veins occurs after long-continued diarrhea in small children, after great loss of blood, in long-continued suppuration, in persons with carcinoma, tuberculosis, typhoid fever etc. The coagulation, however, does not depend on the feebleness of the circulation, nor the supposed thickening of the blood, but on changes in the walls of the vessels (loss of endothelial lining). Zahn has shown that the endothelium may be lost from chemical and thermic causes, that are active in marasmus. He thinks, also, that the death of certain elements of the blood, white blood corpuscles, or the blood plaques may cause sinus thrombosis, as in chlorosis. Virchow, years ago, showed that in a large number of cases the coagulation of the

27. Trans. Path. Soc. of Lond., vol. xiii, p. 250.
28. Trans. Path. Soc. of Lond., vol. vi, p. 30; also vol. x, p. 31.

blood precedes phlebitis, and that phlebitis followed by coagulation rarely occurs.

Recent investigations in the coagulability of the blood by Leo Leob[29] gave some important results that bear on this subject. This author found that the presence of certain bacteria or their toxins in blood plasma increased its coagulability in test-tubes, and also in the peritoneal cavity. There was a difference in this activity according to the bacteria used; for instance, the staphylococcus pyogenes aureus was more active than the bacillus coli. The absorption into the blood of tissue fluids increases the coagulability of the blood plasma. A piece of muscle put into fresh-blood plasma increases its coagulability. The same is true when a piece of blood vessel is placed in the plasma. This action is, to a certain extent, specific, tissues from the same kind of animal as the one from which the plasma was obtained being more effective.

It has not been proved that the endothelium exerts an inhibitory effect on the coagulation of the blood, but probably acts merely by preventing absorption of certain constituents from the tissues; and it also produces a smooth surface much in the same way as paraffin would, only much better. It seems most likely that in all these cases the coagulability of the blood is increased either by the presence of bacterial toxins or bacteria, or by tissue products.

Virchow pointed out that the most commonly observed seats of sinus thrombosis are the cranial sinuses and the veins of the lower extremities and of the true pelvis, and that the reasons therefor are anatomic. The fact that there are numerous fibrous bands crossing the cranial sinuses; that the sinuses are triangular in shape instead of circular, as are other blood vessels, thereby causing increased surface and so increasing resistance; that the tributary veins enter the superior longitudinal sinus at a right angle or sometimes even an obtuse angle to the course of the blood current; that in the cranium there is no muscular action to accelerate the current, and that the sinuses *in situ* are held open by their adhesions in spite of a diminished quantity of blood, are all factors that tend to produce a stasis in the blood current.

In connection with the etiology, it is well to say that there are many cases reported which might have been regarded as primary, except for the complete history or postmortem examination, such as those caused by a furuncle on the face, the removal of a nasal polyp, an abscess of the antrum of Highmore, etc.

In the primary form the superior longitudinal sinus is the most frequently affected. This is in great contrast to those cases that are secondary to otitis media, in which the lateral sinus is chiefly affected. Thrombosis, which is secondary to nasal or facial conditions, frequently occurs in the superior longitudinal sinus.

In the primary form, the superior longitudinal sinus is not the only one affected. The thrombosis may be very extensive, and involve all or nearly all the dural sinuses. The superficial veins are generally congested and may be thrombosed, and the same is true of the veins of the choroid plexus. In some of the cases extensive hemorrhage had occurred into the ventricles, and was the immediate cause of death; in other cases the ventricles were free, but cortical hemorrhages were found; in still other cases no hemorrhage was seen anywhere.

Abscess, or areas of softening, are rarely reported in primary thrombosis.

29. Personal communication.

In the third case of our paper the endothelium of the superior longitudinal sinus was destroyed.

The appearance of the thrombus is very variable, according to its age. It may be a dark red coagulum, or it may be completely organized so that the sinus resembles a fibrous cord.

A CASE OF EARLY ACUTE PANCREATITIS WITHOUT HEMORRHAGE.*

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AND
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Of the many cases of acute pancreatitis reported in the literature, most present quite advanced lesions. The largest number are examples of hemorrhagic or of necrotizing pancreatitis with extensive destruction of the organ. A few are cases of focal suppurative lesions. The study of these cases has not thrown great light on the etiology and histogenesis of the lesions, but our present knowledge of the condition has been gained mainly from animal experimentation.

In animals the pancreas has been treated in a great variety of ways. Some of these, as injections of chromic acid, present conditions which manifestly play no part in the causation of the natural disease in man. Others, such as injections of digestive ferments (papain), bacteria, gastric juice or bile, imitate conditions that, to say the least, might occur in man. Of these the entrance of bile seems to offer the most satisfactory explanation of many of the cases of acute pancreatitis, and it has been given first place in the etiology of the disease.

Cases in man showing very early lesions are rare and yet from these alone can the correctness of the deductions made from animal experiments to the natural disease in man be proven. This case is reported because it shows an early lesion and presents certain peculiarities not generally found in other cases. Furthermore, there is no evidence of bile having entered the organ, and the inflammatory lesions are unassociated with hemorrhage.

The clinical narration of the case is as follows:

History.—Katherine L., age 29, married, was admitted to the surgical side of the Boston City Hospital on the service of Dr. Gavin,[1] with a provisional diagnosis of appendicitis. Family history negative. Past history shows no severe illness or accident. Last catamenia four months ago. Constipated for past few weeks.

Present Illness.—Three days before entrance gradual onset of moderately severe pain in left lower abdomen, becoming general in a few hours. Pain extreme and most severe in epigastrium. Patient vomited several times daily. Vomitus consisted of food ingested and was at times bile stained. Chill two days previous lasting about half an hour. Last movement of bowels four days previous. No change in urine noted.

Examination.—Well developed, obese. Temperature 101.2 degrees; pulse 110, of poor volume and tension. Tongue dry, with thick brownish coat. Skin pale, with a slight yellowish hue. Decided pallor of mucous membranes. Heart sounds faint, no murmurs audible. Lungs negative. Abdomen not distended. Slight general tenderness, which is marked in epigastric and right hypochondriac regions. No mass to be felt. General normal tympany. No dullness in flanks or evidence of free fluid. No edema. Moderate muscular spasm above umbilicus. Liver dullness from fifth rib to two inches below costal

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. V. C. Vaughan, Frank B. Wynn and Joseph McFarland.

1. We are indebted to Dr. Gavin for the privilege of using the clinical history of this case.

margin. Edge of liver is smooth and not tender. Spleen not palpable. Vaginal examination shows normal vagina with a lacerated cervix and a somewhat enlarged uterus. Urine: A slight trace of albumin; no sugar; sediment not examined. Blood not examined.

Treatment and Course.—Patient was given a high enema with fair result and strychnia, gr. ½, every few hours. She seemed considerably relieved by the enema and was comfortable until 9:30 p. m., when she became thirsty, restless and with a rapid and irregular pulse. At this time she vomited and symptoms of collapse became more extreme. Active stimulation failed to give any reaction and death occurred about 3:30 a. m.

Diagnosis.—As the patient was under observation only ten hours there was little time for careful study and no definite clinical diagnosis was made. Gallstones, gastric ulcer, pancreatitis and appendicitis, with abscess of the liver, were considered in the differential diagnosis. Absence of liver tenderness, together with regular contour, though not excluding liver abscess, made the possibility less likely. It was impossible to exclude the other three conditions, but the rapid onset of collapse without any evidence of hemorrhage made the diagnosis of acute pancreatitis more probable than anything else.

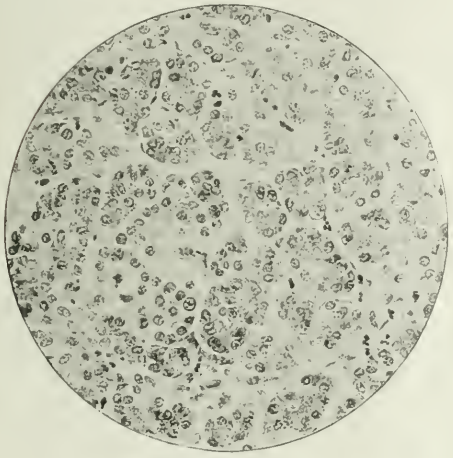


Figure 1.

Autopsy.—The examination was made twenty-three hours after death. The body was of a well developed, well-nourished woman, 153 cm. long; abdominal panniculus, 5 cm. thick.

Peritoneal Cavity: Omentum was long, completely veiling viscera and contained much fat, as did the mesentery. No fat necroses were found. No fluid was present in cavity. Mesenteric lymph nodes not enlarged. Appendix normal. 11 cm. long, below cecum directed toward mid line, slightly curved. It had a mesentery for entire length, which except at distal end was very short. Lesser peritoneal cavity normal. Pelvis normal.

Pleural Cavities: Right lung slightly bound to parietes laterally and posteriorly by fibrous adhesions. Left normal. Pericardial cavity was normal.

Heart: Weight, 285 gms. Just beneath the epicardium over base of heart are numerous ecchymoses, 1 to 3 mm. in diameter, and of slightly irregular contour. Heart otherwise normal. Frozen section showed no fat droplets in fibers when treated with glacial acetic acid.

Lungs: Right shows few fibrous tags. At base of both few small ecchymoses beneath pleura. Lungs otherwise normal. Bronchi and peribronchial lymph nodes normal.

Spleen: Weight, 75 gms. Surface slightly wrinkled and showed numerous small irregular, slightly elevated whitish patches. Except for this, normal.

Gastrointestinal Tract: In tissues about lower end of esophagus there had been a slight hemorrhage. The gastric mucosa was in many places hyperemic and there were many minute submucous ecchymoses. Duodenum more hyperemic and along tops of mucous folds dark red. Other parts of tract pale and contracted.

Pancreas appeared normal, though numerous parallel cuts were made through it.

Liver: Weight, 1,690 gms. Smooth. On section, grayish red, with scattered small paler areas. Markings indistinct. Consistence normal. Gall bladder distended with dark bile, no stones. Ducts normal.

Kidneys: Weight, 310 gms. Capsule strips readily without tearing kidney substance. On section, cortex pale, grayish, with glomeruli visible as red points. Pyramids dark red with indistinct markings. Cortex, 9 mm. thick. Frozen section shows very great numbers of small fat droplets in tubular epithelium when treated with glacial acetic acid or stained with Sudan III or Scharlach R. Adrenals normal. Bladder normal.

Uterus was enlarged, fundus reaching about to level of pelvic brim. Softer than normal. Uterine veins distended with blood. Tubes and ovaries normal. Uterus contained a fetus

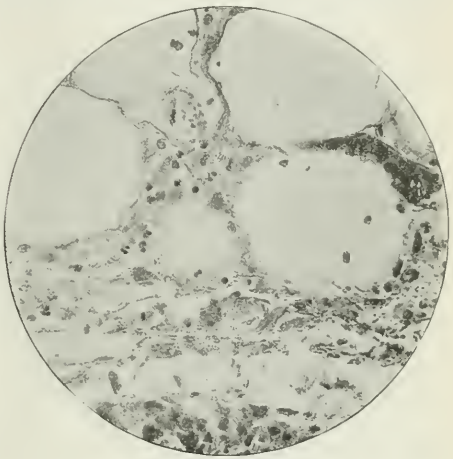


Figure 2.

lying in a sac 4 cm. in diameter. Surface of sac covered with innumerable short villi, giving it a velvety appearance.

The fetus was about 1 cm. long. Uterine mucosa thickened, red and softer than normal. Over an area about 3 cm. in diameter the mucosa is thicker than elsewhere, placental site. Vagina normal. Cervix slightly patulous. Aorta of small caliber, normal. The organs of neck, tongue, uvula, tonsils and brain were normal.

Cultures.—Heart's blood and lung, sterile.

Liver, spleen and kidney, bacillus of colon group.

Microscopic Examination.—Liver: The liver cells in the central half or two-thirds of each lobule contained many large vacuoles. Their cytoplasm took a deeper eosin stain than that of the cells of the periphery of the lobule. It was granular and many cells showed varying degrees of disintegration. Most nuclei of liver cells stained very faintly. In the capillaries between these cells, in the cells themselves and their remnants were many polymorphonuclear leucocytes with deeply-staining nuclei. Spleen negative.

Kidney: There was an occasional atrophied glomerulus and a few hyaline casts. In tubular epithelium there were numerous vacuoles grouped generally in the basal portion of cell.

Sections of liver, spleen and kidney stained by the Gram-Weigert method and with eosin and methylene blue showed no bacteria.

Uterus showed normal decidua, no other change. Fallopian tube normal.

Pancreas shows two forms of lesion, one diffuse, the other focal. The diffuse lesion consisted of the presence of polymorphonuclear leucocytes scattered between the acini of the pancreas. These lay in the small mount of interacinar connective tissue and only very rarely penetrated between the epithelial cells of an acinus (Fig. 1). The leucocytes varied in number in different sections, but only rarely were they found in large numbers in any given field. On the other hand, in only one section of a considerable number examined were they absent. In places they were scattered similarly in the interlobular connective tissue and between the fat cells (Fig. 2).

The focal lesion consisted of not very numerous scattered areas of necrosis and of cellular infiltration. The necrotic areas were generally quite small and as a rule involved the pancreatic parenchyma. In addition a few definite fat necroses involving small groups of fat cells were found. Into some of the larger areas of necrotic pancreas many polymorphonuclear leucocytes had wandered and there tissue disintegration was quite marked. These leucocytes stained poorly. In certain parts of the interlobular connective tissue polymorphonuclear leucocytes were present; in other parts, cells considerably larger than a polymorphonuclear leucocyte were found. These cells had a round or oval vesicular nucleus and a considerable amount of vacuolated cytoplasm. Both forms of cell infiltrated the interstitial tissue in scattered foci. In some places in the interstitial tissue there was a moderate amount of fibrin. Here and there a few red blood corpuscles appeared, but none of the lesions in the pancreas were hemorrhagic in character. Some sections show the capsule of the pancreas. In it are numerous polymorphonuclear leucocytes which frequently appear to be in lymph channels. From the capsule the leucocytic infiltration extended in places along interlobular septa into the pancreas (Fig. 3).

Figure 3.

In general the pancreas stained less well than the other organs. The acinar epithelium, except in the necrotic areas, however, showed no lesion. The islands of Langerhans were normal in appearance. The larger ducts frequently showed desquamation of their epithelium and in the lumen of the smaller ducts and acini a hyaline material was generally found. The interstitial tissue is not increased in amount. The blood vessels show as lesions.

Sections stained for bacteria by the Gram-Weigert method showed groups of organisms consisting of cocci, often in short chains and a less number of fairly large bacilli. These were sometimes found where there was leucocytic infiltration of interlobular connective tissue. Some were present in the capsule. Bacteria also occurred where there was no discoverable lesion of the tissue and some veins contained considerable numbers. Bacteria were not present in the larger lesions with definite necrosis or marked leucocytic infiltration, and they were not found scattered in the parenchyma of the pancreas. Of the bacteria present the greater number tinctorially and morphologically resembled streptococci.

Anatomic Diagnoses.—Early acute pancreatitis and peripancreatitis. Central necroses of the liver with leucocytic infiltration. Marked fatty degeneration of kidneys. Subpleural ecchymoses. Subpericardial ecchymoses. Submucous ecchymoses and congestion of stomach and duodenum. Slight periesophageal hemorrhage. Chronic fibrous pleuritis, right side. Chronic perisplenitis. Pregnant uterus.

REMARKS.

This case is one of acute pancreatitis of less than four days' duration from the onset of the first symptoms. The clinical history is a fairly characteristic one. Abdominal pain and tenderness most evident in the epigastric region occurs in a fat woman. This is accompanied by constipation, vomiting, fever, and finally marked collapse. Autopsy shows but slight macroscopic lesions. There are scattered ecchymoses in the pleura and pericardium, and congestion of the stomach and duodenum. There is a marked fatty change in the kidney and extensive central necrosis of the liver. All of the findings point to an intense intoxication.

The source of this intoxication seems to be in the pancreatic lesions already described. Their etiology is not clear. There is no indication of any entrance of bile into the organ. There is a duodenitis. Assuming this to be the primary lesion, extension may have taken place to the pancreas either by way of the pancreatic ducts or by direct extension possible in the close connection existing between the duodenum and head of the pancreas. The pancreatic ducts show no lesion other than desquamation, and this may be simply a postmortem change. There is evidence of an inflammatory process extending along the interlobular connective tissue and the capsule of the organ, eventually between the acini themselves. Associated with these lesions are bacteria, especially streptococci. The method of the extension of the process bears a resemblance to the conditions found in erysipelas and has suggested the name erysipelatoid for this type of pancreatic lesion. However, the relation of the bacteria to the lesions is not always evident, and postmortem multiplication, possibly postmortem invasion, may have taken place. So this can not be said to be a clear case of pancreatitis of bacterial etiology.

The interest of the case lies in its short duration, the extent and character of the inflammatory lesion, the slight degree of necrosis of the pancreas and fat tissue and the absence of hemorrhagic lesion. Such a case strengthens the belief in the inflammatory nature of acute hemorrhagic pancreatitis. Seitz,[2] discussing the point as to whether severe pancreatic hemorrhages are inflammatory in origin, asks the question, "Warum sind keine Fälle vorhanden, bei denen es nicht zur Blutung gekommen ist, wo also eine reine Entzündung so plötzlich tödte?" Oser[3] was able to find only two cases, those of Cayley and Kennan, with which to answer this question. However, neither of these cases is convincing, as microscopic examinations were not made. Our case serves to answer the question asked by Seitz and shows

2. Blutung, Entzündung und brandiges Absterben der Bauchspeicheldrüse, Zeitch. f. klin. Med., xx, 1892, 214.
3. Nothnagel's Spec. Path. u. Therap., xviii.

the possibility of an inflammatory lesion of the pancreas without hemorrhage but clinically presenting the picture of acute hemorrhagic pancreatitis.

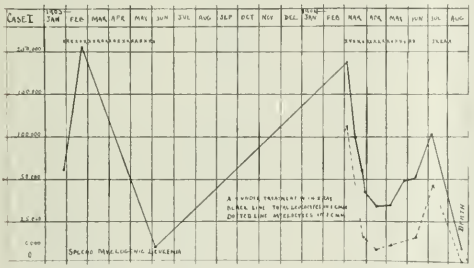
X-RAY THERAPY IN LEUKEMIA.

A PRELIMINARY REPORT. WITH SPECIAL REFERENCE TO LYMPHATIC LEUKEMIA.

JOSEPH A. CAPPS, M.D.
AND
JOSEPH F. SMITH, M.D.
CHICAGO.

The first recorded utilization of the *x*-ray for the treatment of leukemia was by Pusey,[1] who observed no effect whatever in a case of the splenomyelogenic type, but in one of the lymphatic type he noticed a marked diminution in the size of the glands. More recently a fresh interest in the subject has been aroused by the favorable reports of Senn,[2] Brown[3] and others.[4]

In all we have seen reports of 11 cases of well-verified leukemia treated in this way. All but one of these belonged to the splenomyelogenic type. In every instance the splenic tumor decreased in size, in 3 cases becoming barely palpable The leucocytes in all cases excepting Pusey's diminished in number. Four reporters record a white count under 10,000, with entire disappearance of



the myelocytes. An improvement in the hemoglobin and red corpuscles always took place, but was frequently followed by a decline. Death occurred in 3 cases; one will soon result fatally. The others were all much improved at the time of their publication. It should be emphasized, however, that none had been observed under treatment for more than eight months.

Through the courtesy of Dr. Senn we are enabled to report the further course and termination of his published case of splenomyelogenic leukemia and one other hitherto unpublished. We are also indebted to Drs. Bevan and Herrick for the privilege of using patients in their service at the Presbyterian Hospital. In the accompanying table are condensed the salient features of eight cases that have come under our observation. The typical blood changes are graphically illustrated by two charts; one of splenomyelogenic, the other of lymphatic leukemia.

Case 1 shows the inhibiting influence of the *x*-ray on the leucocytes and the constant tendency for the leucocytes to multiply when the treatment is discontinued. The count toward the last fell to the normal, but the myelocytes never entirely disappeared.

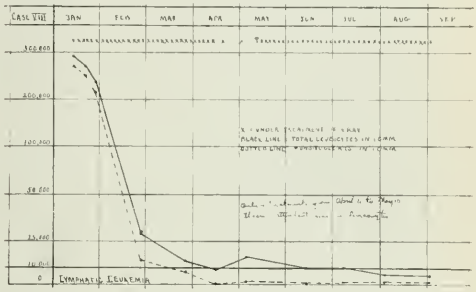
LYMPHATIC LEUKEMIA.

The only well-reported case observed during treatment is the one by Pusey above referred to. The glands and spleen in his patient twice went down to nearly normal size under the treatment, but recurrence and finally death took place. He found no marked fall in the leucocytes.

In our series of 6 lymphatic cases, death resulted in 4, and it will be noticed that 3 of these ran an acute or subacute course; the fourth showed a great shrinkage of the gland tumors and an improvement in the blood before death took place. The remaining 2 cases exhibit a steady continuous improvement in the blood, glands and spleen. The blood chart of Case 6 is typical of both; not only does the leucocyte count become normal, but the differential count gives no hint of the blood disease. The spleen and glands in both patients remain somewhat enlarged.

SOME GENERAL DEDUCTIONS.

1. The action of the *x*-ray in leukemia seems to be of two kinds: (a) A local influence on the spleen and



glands, characterized by an inflammatory reaction and later by a breaking down and disintegration of the gland tissue. (b) The formation of toxins which have an inhibitory action on the manufacture of leucocytes by the bone marrow. It is well known that acute infections occurring in leukemia, such as pneumonia, septicemia or terminal infections, tend to inhibit the production of white corpuscles and often cause a reduction in the size of the spleen or gland tumors. The *x*-ray toxins may be compared to those produced by such infections.

2. In no recorded instance of either lymphatic or splenomyelogenic leukemia has the spleen tumor entirely disappeared.

3. With the discontinuance of the *x*-ray, the disease, after varying periods, tends to reassert itself.

4. Death may take place when the glands and spleen are smallest, and when the white count is normal.

5. Acute cases seem to receive no benefit from the *x*-ray.

6. The chronic form of lymphatic leukemia responds to the *x*-ray even more promptly than the splenomyelogenic type. In every instance the glands rapidly softened and dwindled to small proportions.

7. The *x*-ray holds the disease process in abeyance, but probably is not curative. Yet it is too soon to say that persistent treatment of an early case may not give permanent relief.

1. Pusey: THE JOURNAL A. M. A., April 12, 1902, and Text book on Roentgen Rays in Therapeutics and Diagnosis, 1903.
2. Senn: N. Y. Med. Jour., April 12, 1903.
3. Brown: THE JOURNAL A. M. A., March 26, 1904.
4. Other references are: Bryant and Crane, N. Y. Med. Record, April 9, 1904; Weber, Am. Medicine, May 21, 1904; Guilloy and Spillman, Sem. Médicale, June 1, 1904; Grosh and Stone, THE JOURNAL A. M. A., July 2, 1904; Ahrens, Münch. med. Woch., July, 1904, No. 24; Dunn, Am. Pract. and News, July 15, 1904; Chester, Chicago Med. Recorder, August 1904

Special Article.

TRAVEL NOTES.—X.*

A WINTER SEMESTER.

LEWELLYS F. BARKER, M.D.

CHICAGO.

(*Concluded from page 813.*)

MUNICH, July 21, 1904.

The unusual attractiveness of Munich as a place of residence is, perhaps, not an unmixed advantage to the medical school, for though it insures a large attendance and affords unusual opportunities to the students for self-development in general culture, for the enjoyment of art, music and the theater, it brings to the University of Munich more than its share of the lazy, loitering students who care more for the *Burschenleben*, for which the interesting old city gives such ample opportunity, than for the training of their hands or the perfecting of their minds. In the spring and autumn the adjacent mountains seduce to frequent excursions. In the winter the *Bal paré*, the *Redoute* and the delights of carnival lead to the squandering of all too many hours that should be devoted to study. At all times the restaurant life and café life is there with its peculiar inducements to the sacrifice of time.

Two especial attractions appealed not only to the students of Munich during the past winter, but to all residents and visitors. Both were novel forms of the dance—one the artistic, music interpreting dance of the American, Miss Isadora Duncan, the other the so-called sleep dance or dream dance of the hypnotized, hysterical Mme. Madeleine[1] of Paris. The latter was the more pathologic in its interest. For a time it seemed as if all Munich from the uppermost to the lowest class had been hypnotized by her; everyone you met spoke of her, asked if you had seen her, and wanted to know if she were really hypnotized or if it were all a swindle. She was "discovered" in Paris by a "magnetisator," a quack whom she had consulted regarding headaches. The "magnetisator" hypnotized her, and by chance, he says, while she was in the hypnotic state, played a selection from Chopin. To his surprise, so the story goes, the patient began to react in the most marvelously plastic way to the musical sounds. The artistic attitudes assumed were so remarkable that she was presented in several art studies in Paris and London; the cataleptic attitudes called forth by various suggestions could be maintained long enough for photographic reproduction, and a large series of pictures of her, illustrating "all phases of human emotion unencumbered by any inhibitory influence" are on sale and used as models by artists. The "magnetopath" being a practical business man, decided to exploit her. He could have chosen no better place than Munich in which to begin operations. That city, probably, has the most mobile nervous system in Europe; the phenomenal success of "the Duncan" there, as compared with her relatively cool reception in hard-headed Berlin, had sufficiently demonstrated that. But how to effect an entrance was the difficulty. Hypnotic exhibitions in public are prohibited by law in Germany. The public had to be smuggled in in some way under the protection of science. The gulf between the "magnetisator" and the medical profession was finally bridged through the intermediation of the Munich Psychological Society and of von Schrenck Nötzing, a nerve specialist, whose offer to present "the Madeleine" as a clinical case to the *Aerztliche Verein* was accepted. Some 400 physicians met in the amphitheater of the Medical-Clinical Institute. The clinical history was read by v. Schrenck-Nötzing. The woman, 30 years old, had been a nervous child though actual hysterical attacks had never been noted. Examination revealed a moderate degree of anemia, left-sided hyperalgesia, hysterical visual fields, and in general the psychic stigmata of the hysterical nature. The Parisian impresario was then called in and he, with much Svengali-like nonsense—one could feel the medical men in the audience shiver—put the patient to sleep. Loewenfeld, von Schrenck-Nötzing and other experienced hypnotists examined her and declared that there was no doubt as to the hypnotic condition. Professor Thiele, at the piano, tested the reactions of the woman to intensity of tones, velocity of tone sequence, rhythm, height of tone, scale, intervals, legato, staccato, consonance, dissonance and the like. The reactions were lightning-like and consistent; the movements of the body produced were undoubtedly marvelous; the contrast between the reaction to waltz music and a funeral march were extreme. Under the verbal suggestion of the magnetopath, further, she reacted immediately in correspondence to the most diverse human feelings and emotions.

After "waking her" with voice and various absurd movements, the "magnetisator" and his charge withdrew and the discussion was opened. Though the chairman of the meeting urged that the discussion should not be made public, this was, in the state of tension which existed in Munich at the time, too much to hope for. The opinions expressed at the meeting soon became public property and a résumé of the proceedings was even written by a physician for the feuilleton of the *Frankfurter Zeitung*. The most diverse opinions were expressed, and they were not limited to the character of the case presented, but involved, as might have been expected, the medical ethics of the whole situation. Loewenfeld's opinion seemed to be listened to with the greatest respect. Though some of the physicians had thought the hypnotism simulated and the whole performance a swindle, Loewenfeld felt sure that the hypnotism was genuine, but gave it as his opinion that the hysterical element rather than the hypnosis was responsible for the artistic attitudes, the hypnosis, perhaps, being helpful, since in the hypnotic condition all inhibitory influences are removed, and capacities, which, possessed in the waking condition, but then improperly unfolded owing to shyness, embarrassment and distraction, can first be fully exhibited. The woman, it was asserted, had no especial training in art and music, but that she, through inheritance, must be very susceptible to music is obvious, a fact which may be accounted for, some thought, through the history that her mother had been a dancer in Tiflis. That no physician has hypnotized Mme. Madeleine is a feature of the situation to which attention was more than once called.

From all I could see, and trying to weigh as critically as I could the conflicting comments made, I came away from the meeting feeling that Mme. Madeleine's performance was qualitatively a mixture of hypnosis, hysteria and hocus pocus, but as to the quantitative relations of the three ingredients I shall venture no guess.

The fact that public exhibitions of hypnotism are illegal, of course, made the great public most anxious to see Mme. Madeleine. The reports of the presentations at the Psychological Society and at the Medical Society whetted the appetite further. The way in which the law was evaded was interesting. People who desired to see the woman registered their names at one of the Munich bookstores. Invitations to attend a "private performance" in the Schauspielhaus were then sent out by the Psychological Society; acceptances were to be accompanied by a subscription of 10 or 20 marks, according to the position of the seats. These difficulties helped, as I have said, to hypnotize the public. The house was sold out, and audiences of musicians, artists, actors and the wholesale public viewed the "dream dance" unmolested. How great the harm done to the people at large has been it is difficult to calculate. Rumor has it that the offices of the hypnotists are being more than ever visited by women and girls, who demand that they be hypnotized in order that their slumbering or inhibited talents may be revealed.

*The previous articles in this series have been as follows: "Travel as a Means of Post Graduate Medical Education," by Dr. Nicholas Senn, July 23; "Is a Trip to Europe Worth Its Cost to the Medical Man?" by Dr. Lewellys F. Barker, July 30; "Spain and Ramon y Cajal," by Dr. Barker, Aug. 6; "Leprosy in the Hawaiian Islands," by Dr. Senn, Aug. 13; "Italy and the Great Antimalarial Campaign," by Dr. Barker, Aug. 20 and 27; "Father Damien the Lever Hero," by Dr. Senn, Aug. 27; "A Winter Semester," by Dr. Barker, Sept. 3 and 17; "Medical Conditions in the Hawaiian Islands," by Dr. Senn, Sept. 10.

1. THE JOURNAL, May 14, 1904, page 1327, gave an abstract of an article on this dancer by a prominent scientist.—ED.

New Instrument.

SALINE INFUSION AND IRRIGATING FLASK.

JOHN J. SHEA, M.D.
BEVERLY, MASS.

This apparatus relates to an improvement in saline infusion and irrigating flasks. As illustration shows, it consists of a chemical glass reservoir, suitably marked in cubic centimeters up to one liter. It is provided at its base with a nipple-shaped outlet, to which rubber tube and needle are attached. This glass reservoir is held in place by upper and lower metal rings, between which and flask is interposed rubber packing to prevent flask from cracking. These rings are detachably connected, by means of metal rods going through perforated ears in the rings. The upper end of each rod is provided with an

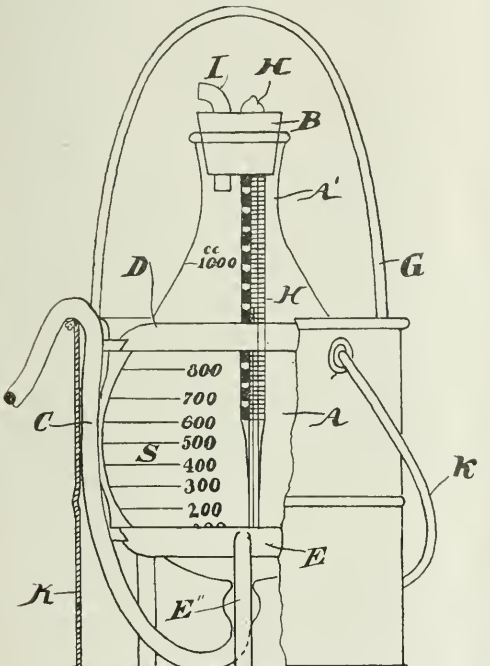


Fig. 1.—A, A'. Flask. B. Stopper. C. Rubber tubing. D, E. Metal rings. E''. Nipple. G. Bail or handle of flask. H. Thermometer. I. Inlet for air. K. Coppered tin with handle.

eye, to which is connected a handle. The lower end of each rod is threaded and is secured by means of adjustable nuts. These rods pass loosely through perforated ears in upper and lower rings, so as to allow new flask to be substituted if one is broken. On lower rings are three legs serving as support. Thus it can be seen that flask can be either hung up or set down without interfering with the flow of the liquid.

The stopper is made of rubber, containing two perforations, one containing a thermometer for registering temperature of solution and the other a small glass tube, to allow air to enter to compensate the displaced liquid.

I have also provided a coppered-tin receptacle, also having a handle, to serve as a vessel in which to boil the solution for purpose of sterilizing it, or for reheating the solution when in bottle. This flask fits with rubber tubing into the coppered-tin receptacle and the whole is placed in a box with handle.

In upper part of this box is a compartment in which to carry sterile needle and a concentrated sterile salt solution, an ounce of which added to 1,000 c.c. of water makes a normal salt solution. This solution can be prepared and kept in the flask for emergencies, showing its helpfulness in ambulance calls, railway accidents, etc., beside its convenience to the physician and the hospital.

Clinical Report.

REPORT OF A SYMPTOMATIC CURE OF CONVULSIVE TIC DOULOUREUX BY INJECTION OF OSMIC ACID.

JOSEPH RILUS EASTMAN, M.D.
INDIANAPOLIS.

History.—Mrs. H., aged 71 years, came to me on July 5, 1904. The case was one of typical intense tic douloureux involving the right side of the face. The first paroxysm occurred about twenty years ago, subsequent attacks gradually becoming more frequent and more severe. Practically all of the many remedies recommended for the relief of this condition had been tried without benefit. All the teeth had been extracted in the belief that perhaps dental caries bore some causative relation to the pain. For almost three months prior to the operation the pain had been excruciating, the attacks occurring with exhausting frequency. The whole right side of the face was exquisitely tender, particularly in the neighborhood of the infra orbital and mental foramina. The tongue was sore and tender at all times, this greatly interfering with speech. During attacks the pain was most acute about the right angle of the mouth and the angle of the right jaw. Violent spasm of the buccinator was almost constantly present during the attacks.

Treatment.—A 2 per cent. solution of osmic acid was injected into the supraorbital, infraorbital and inferior dental nerves at the supraorbital notch and infraorbital and mental foramina. The manner of operating was precisely that practiced by Dr. John B. Murphy and described by him at the Atlantic City meeting of this year. Ten drops of a 2 per cent. solution of the osmic acid were injected into each branch, and two or three drops were forced into the perineural fat of each foramen around the nerve. At the time of the injection of the osmic acid the nerves were drawn with very slight force from the foramina and held during the injection, but the trunks were not stretched as in the operation of neurectasy.

Result.—Up to the present time there has been no return of the pain since its abatement one week after the operation. During the first week several rather severe paroxysms occurred, these gradually decreasing in severity. It is possible that the pain in this case may return, but even if it should, the respite for a few months justifies an operation so easy of performance and attended with so little danger.

An interesting feature of the case was the severe nephritis occasioned by the elimination of the acid. The urine passed during the first twelve hours succeeding the operation showed nothing unusual; however, on the second day nephritis resulted. There were no symptoms either subjective or objective pointing to its onset or presence excepting the appearance of and findings in the urine. The patient did not complain of pain in the loins. Urine passed thirty-six hours after the operation showed the following:

Reaction, very slightly acid; sp. g .. 1036; color, dark claret. The specimen was centrifuged, and the sediment composed a little over a quarter of the volume. The clear fluid above the sediment was light claret in color, the sediment being dark red. Examination of the fluid portion showed a small amount of albumin, with no sugar, bile or other abnormal substance present. Examination of the sediment showed it to be composed almost entirely of red blood cells. There were no casts, epithelial cells or pus cells. The red blood cells disappeared from the urine on the fourth day.

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PROGERIA, A FORM OF SENILISM.

Among the still obscure physiologic problems must be reckoned those relating to the mechanism regulating growth and decay. While we are in possession of isolated scraps of knowledge which shed an occasional glimmer of light on the subject, our knowledge can only be described as fragmentary. The studies of the last few years on acromegaly and giantism indicate that the pituitary body has some influence on development, though just what this influence is remains obscure. In some cases of dwarfism, too, this gland has been found diseased. In some forms of dwarfism again the thyroid seems to play a part, as is the case in cretinism and allied conditions. Then, again, certain glands seem to bear a relation to certain systems rather than to the body as a whole, an example of this being the curious relation which exists between excessive or premature development of the genitalia and some of the diseases of the adrenal glands. The question as to the factors which delay or accelerate decay, though less frequently studied, is equally as important as that relating to growth. Why is it that in individuals of the same age some are so much older and some so much younger, so far as their tissues and intellect are concerned, than the average individual of that age? Why is it that in the same individual one organ, or group of organs, may be older or younger than the rest of the body structures? To use the term originated by Sir James Paget, what is it that regulates the "chronometry of life"?

In a recent article, Hastings Guilford[1] has reported, under the name of progeria, some extremely interesting cases in which there existed a combination of premature senility and infantilism, but in which the former condition greatly predominated. In all the cases the predominating syndrome of premature decay was far beyond the limits of possible normal variation, and was unassociated with any previous disease which might have acted as a causative factor. Without considering the cases in detail, it will be of interest to briefly sketch salient points in the natural history of the two most characteristic cases, these being so similar that one description will suffice. The disease begins in early infancy, with loss of hair so marked that at six months more than half the hair may have disappeared. At the same time the child begins to emaciate. The shoulders are rounded and the chest narrow on account of the lack of development of the clavicles. The head is relatively large, and may resemble the head of hydrocephalus. As the child grows the hair becomes more scanty and turns gray so that as early as the age of seven only a very scanty gray crop may remain. The growth is stunted and the child takes on all the appearances of the decrepitude of age. The skin becomes loose and shriveled, the arteries show senile changes, and the whole appearance and even the mental attitude is that of the adult rather than that of the child. The children are easily fatigued, partly on account of muscular weakness, partly on account of shortness of breath, the latter symptom being of cardiac origin. Physical examination shows a curious mixture of the physical signs of senility and those of lack of development. The skin, the hair, the vascular system, and the ends of the long bones are those of an old individual, and, on the other hand, the shafts of the long bones, the bones of the skull, the teeth, and the mammary glands show marked lack of development. The liver, the blood-forming organs and the genitalia seem to develop in a normal manner. The functions of the body seem to be carried on in a fairly satisfactory manner. The bowels are regular, the appetite is good, and most foods are normally digested, though curiously enough in both well-marked cases the patient was unable to digest fats. Death took place in both cases at the age of seventeen; in one case in an attack of angina pectoris, in the other from cardiac failure.

In the one case in which Guilford was able to procure an autopsy, the same curious mingling of senile and infantile changes was found. There was marked sclerosis of the arterial system, the coronaries and aortic and mitral valves being especially affected. The kidneys and adrenals showed a fibrosis of a typical senile type. On the other hand, he noted a persistent thymus, a great lack of development of the clavicles, and an undeveloped state of the shafts of the long bones. The liver and thyroid gland were normal, and no definite changes could be made out in the brain or in the pineal or pituitary glands.

In his discussion of the pathogenesis of the disease, the author sums up the condition as being one of "retarded development, combined with premature old age and with indications of some attempt to attain a normal condition." He is unable to explain the causative factors in the disease. There was no evidence that it was due to previous disease of some particular organ, the thyroid, pituitary and brain being normal, and the author evidently does not think the adrenal changes of importance enough to lead to serious results. He compares the cases to the form of infantilism known as ateliosis, and thinks that possibly these may be cases of ateliosis combined with premature senile decay. He neglects to state the condition of the pancreas in the case examined postmortem, and apparently regards this of no moment. In the light of the cases of pancreatic

1. The Practitioner, August, 1904; and also report of Brit. Med. Assn., The Journal, Sept. 3, 1904, p. 651.

infantilism, recently reported by Bramwell and others, it would have been of interest to have known the condition of this organ in his cases, particularly as in both of them there was a marked aversion to fatty food, and in one there were also periodic attacks of abdominal pain.

AID WANTED FOR CONVALESCENT INSANE.

It is well known that the average patient discharged from the hospital for the insane, as recovered or improved, is in a most helpless and pitiable situation if he has no friends to look after him, and there are many such. In his efforts to obtain employment he is more heavily handicapped than is the discharged prisoner. At the very moment, therefore, when he should be protected, well nourished and cheerfully employed, he is plunged into difficulties and discouragements, and frequently is reduced to abject want. It is not strange that he too often again succumbs to his malady; neither is it to be wondered at that, in view of this well-recognized danger, convalescent patients are sometimes retained in the asylums by humane superintendents too long for the good of the asylums and too long for their own good, could they be sent out into the world under even a temporary guarantee of safe and wholesome living conditions. In this country there are many societies for the aid and encouragement of discharged convicts, but none, so far as we are aware, which provides assistance for the recovered patient discharged from a hospital for the insane. The general charitable societies, of course, do much to relieve the families who are reduced to helplessness by the insanity of their breadwinners, and in some cases patients are assisted in obtaining work on their return. All this, however, quite fails to meet the situation.

Special organizations are necessary, which should, in fact, perform the function of lay auxiliaries to the asylums. Such societies should have a temporary home, where a patient without family or friends could go immediately on leaving the asylum, so that he would find himself at once in an atmosphere of friendly encouragement. He should be aided to find work, and to regain the habit of independence which is too often permanently lost in the asylum. If the patient had been an alcoholic, great pains might be necessary to prevent a return to his former associations and a relapse into his former indulgence. The functions of such a society, however, must go still further. It should concern itself with such matters as the humane care of patients during the period when they are in custody awaiting inquiry as to their mental state; it should combat the popular ignorance and dread of the asylum, and above all, should aid in popularizing the knowledge that acute and transitory cases should have immediate care under surroundings so closely approximating those of the general hospital that the old asylum stigma would be lost. Such societies should have the right of entry to public institutions, as have the valuable State Charities Aid Societies of New York and New Jersey. They would undoubtedly succeed in greatly improving the condition of the insane under county care in the various states.

The creation of societies for the aid of discharged patients would have many foreign precedents. In Germany, for instance, there are fifteen volunteer societies organized for the aid of the insane, the first of which was begun in 1842. In general terms, their purpose is: "To give moral and material assistance to indigent, discharged patients in order to facilitate their return into society and to prevent a recurrence of their malady." "To improve the public care of the insane, and to combat the popular prejudice against the insane and against asylums." In the organization of these German societies the initiative has been taken by medical men, and usually by the physicians in charge of the regional asylums. Physicians are members, and aid in directing the work, though the majority of the members are, of course, non-professional. Persons can become members on annual payment of a small fee, or by lending their personal aid in caring for individual cases. The reports show that considerable sums of money are disbursed, and indicate that the societies have large memberships and perform a most useful work.

There are similar societies in other continental countries. In Paris there are at least two *Sociétés de Patronage des Aliénés*. There is no doubt that such organizations would prove even more useful in America than abroad, and, if once started under wise auspices, there can be no question of their successful appeal to public sympathy.

NATURAL AND ARTIFICIAL ANTHRAX IMMUNITY.

The study of immunity and susceptibility to disease, by test-tube experiments, has brought to light a number of seemingly paradoxical results. It has been shown, for instance, that human blood serum is strongly bactericidal *in vitro* for typhoid and dysentery bacilli, and that it may retain this property, although sometimes in a less degree, during the course of these diseases. Chickens and swine are practically immune to anthrax infection, and yet it is found that the blood and the blood serum of these animals form good culture media for anthrax bacilli. Dogs also are relatively immune, and their blood likewise is a good nutritive medium for this form of micro-organism. Rabbits, on the other hand, are very susceptible to anthrax infection, while their extravascular blood serum almost instantly kills large numbers of the bacilli. Cattle and sheep are susceptible to anthrax, and their blood serum also forms good culture medium, but it has been shown that this serum contains a large amount of amboceptor which, with a suitable complement, may take part in the destruction of the bacilli. These experiments, therefore, do not give us the slightest hint as to why

one animal is susceptible to a certain infection and another is immune to it. They show that the results obtained by test-tube experimentation do not necessarily give us any information regarding that which takes place in the animal body.

It has often been the aim of investigators to make the test-tube experiments as simple as possible. This simplicity is doubtless a desirable thing, but necessarily produces a set of conditions entirely different from that encountered in the animal body, and the results thus obtained must accordingly be of little value in giving us an insight into the processes going on in the animal organism. Recognizing this fact, Bail and Petterson[1] have made a series of experiments in which they attempted to approximate the conditions that are found in the body, and the results thus obtained are entirely different from those obtained by the simpler experiments. They have shown that rabbit serum which is anthracidal *in vitro* is deprived of that property by the addition of only a small quantity of an emulsion of organ cells, such as liver, spleen, bone-marrow, etc. This seems to be due to the fact that the organ cells have a greater affinity for the amboceptors of the serum than have the anthrax bacilli, thus taking them away from the latter. In the small capillaries of the living organs the amboceptors may likewise be bound to the organ cells, and thus be prevented from taking part in the destruction of the bacilli that have reached the organs. This seems to be a satisfactory explanation of the susceptibility of rabbits to anthrax infection, in spite of the fact that their extravascular blood serum is strongly anthracidal. Chickens are practically immune, although their extravascular blood serum possesses no anthracidal powers. It does, however, contain amboceptors, as is shown by the fact that it can be made active by a very small quantity of rabbit serum. If, now, normal chicken serum is mixed with bone-marrow or with leucocytes, it at once becomes anthracidal. Beef, goat and swine serums also may be made active by the addition of chicken's bone-marrow. Bail and Petterson conclude from this observation that the bone-marrow and leucocytes of the chicken contain a complement which, acting conjointly with the amboceptors in the serum, destroys anthrax bacilli, and thus protects chickens against infection. Dog serum with leucocytes or bone-marrow also has anthracidal powers, thus explaining the relative immunity of dogs. The leucocytes and bone-marrow seem to be capable of giving off small quantities of complement to the serum, as is shown by the fact that the serum is slightly anthracidal when obtained twenty-four hours after the intravenous injection of a large dose of anthrax bacilli; also by the fact that the cell-free exudate obtained from the pleura of a rabbit dead from an intrapleural injection of anthrax is capable of activating dog, sheep or hog serums. None of these serums is anthracidal, nor is the cell-free exudate when used alone.

Bail and Petterson immunized young dogs and chickens by repeated injections of anthrax bacilli until these animals could stand about ten times the ordinary fatal dose. (Young dogs are more susceptible to anthrax infection than older ones.) They then studied the organs and body fluids of these animals to determine the change produced in them during the process of immunization. The blood serum, in no instance, had acquired anthracidal powers, but it was found that the defibrinated blood was capable of destroying the bacilli This anthracidal power of the blood was shown to be proportional to the number of leucocytes contained in it, and these were greatly increased by the injections of anthrax bacilli. The mixture of serum and bone-marrow had acquired a much higher anthracidal power than a similar mixture from a normal dog of the same age. The investigators could not detect an increase of amboceptors in the serum, but believe that there was an increase in complement, because there was a marked increase in the leucocytes, and these they believe contain the complement. These experiments show very nicely the great complexity of the phenomena of infection and immunity, and also emphasize again the important part played by the leucocytes in protecting the body against bacterial invasion.

1 Centralblatt f. Bakt., 1903-04, vols. xxxiv-xxxvi

EUTHANASIA FOR THE DEFECTIVE AND INCURABLE

Every little while some enthusiastic or notoriety-seeking writer bobs up advocating the curtailing of human existence in hopeless and incurable cases. The idea of the sacredness of human life is hardly sufficiently installed in such people's intellect, hence these lucubrations. Moreover, it is apparently a belief of many of the laity that physicians do assist hopeless cases out of the world. Not long since a writer in a daily paper, speaking as an ex-mayor of a large city, told of a case of this kind, admitted by the physician and claimed to be justifiable, which he was forced to investigate. He says he consulted the best physicians in the city, and that they justified the act. We doubt this statement throughout. We do not believe that any number of physicians in any city would express such an opinion. It is directly contrary to the spirit of the profession, and it is certainly unfortunate that one writing as a municipal reformer should be willing to publish such a statement

Now comes the announcement that a French professor is advocating premature euthanasia for incurables and the establishment of death rooms in hospitals where hopeless patients, at their own volition, may be painlessly sent out of the world Such publications are dangerous as tending to diminish the respect for human life which should prevail in any civilized community, as directly encouraging homicide, and as vicious in tendency as any other incitation to murder.

We may excuse the person who commits suicide to avoid inevitable torture or dishonor, but we can not

justify in any way the physician who deliberately cuts short his patient's existence under any conditions whatever. It is his business to prolong, not to curtail human life, and under no circumstances whatever can he alter this rule. For professional reasons, altogether apart from those of public policy which would also prohibit such taking of human life under any circumstances, a physician should be the last of all men to advocate or excuse it. Death rooms in hospitals for the purpose proposed would be about as respectable as suicide clubs.

PATENT MEDICINES CONTAINING ALCOHOL BARRED IN SOUTH CAROLINA.

According to the South Carolina newspapers, they are taking effective action regarding certain "patent medicines" that it might be well for other states to follow. Probably it is because South Carolina, through its dispensary law, controls the sale of alcoholic liquors that it is able to do what it seems to be doing. One paper speaks of drug stores being prohibited from selling peruna on account of the alcohol it contains, and that hereafter it can be had only on the prescription of a physician. Another shows that it is not only peruna that is barred, but Hostetter's bitters, De Witt's stomach bitters, and some others less known because less advertised. According to the state chemist's analysis, Hostetter's bitters contains 41.3 per cent., De Witt's stomach bitters 37.6 per cent., and peruna 26 per cent. of alcohol, and consequently are to be classified as intoxicants.

CARBOLIC ACID AND ITS DANGER.

Carbolic acid has long been regarded as a harmless chemical and as such forms part of the domestic equipment of many homes. Its dangers, however, are coming to be appreciated. We have learned that even in dilute solution it may cause serious lesions and its lethal possibilities are recognized by an increasing number of would-be suicides. It is on account of this last named fact that the health authorities of New York City have, it is reported, made a regulation requiring the registration of all sales of carbolic acid of strength above a 5 per cent. solution. This is a measure which can be commended and should have been adopted before. It is to be hoped that the example will be followed in other communities. It is rather a curious fact that suicides often choose most repulsive and uncomfortable methods, and this may account for the preference in so many cases for carbolic acid, which can hardly be considered an agreeable method. Be this, however, as it may, the chances of accidents from the common domestic use of this poison are of themselves sufficient to justify restrictions of its sale.

NERVOUSNESS IN SCHOOL CHILDREN.

According to statistics, reported in the daily press, one in three of the school children of the city of Chicago is affected with some form of nervous disorder, showing itself usually in the form of sluggishness and mental depression, with melancholic tendencies or by some degree of choreic manifestations. The causes alleged are the strenuous city life, the impure atmosphere of dwellings, the bringing up of children in flat buildings with deficient facilities for exercise, light and ventilation, the constant noise, day and night, and late hours and lack of sufficient sleep and nutrition. Beside the danger of overdevotion to study, city children are subject to excitements and social temptations to which those in smaller communities are far less liable. The introduction of manual exercises in schools will prove remedial to some extent, but it seems from the list of alleged causes that some of them are almost irremediable. The urban tendencies of population at the present time are not favorable to the production of a robust race, and any sanitary measure that will counteract this tendency should be encouraged. It may be that a special city type of mankind will be evolved; we fear a more or less defective or degenerate one. In the meantime we will have to go on enlarging and multiplying our asylums for the defective and the insane, and recruit as heretofore the best blood from the country.

COMMISSIONS ON PRESCRIPTIONS.

A Philadelphia chemical company is trying to corrupt those of our profession who may be corruptible by the old scheme—for it has been tried several times before without success—of offering commissions on prescriptions in the shape of shares of stock in the company. "A credit will be allowed, equal to 25 per cent of the wholesale price of the prescriptions prescribed, redeemable in stock of the company." The company in its booklet assures the reader that the concern "is strictly a co-operative pharmaceutical house, owned, controlled and operated in the interest of the profession. Ninety-five per cent. of the stockholders are medical men, and no stock will be sold or disposed of except to members of the medical profession and doctors of dental surgery." This certainly will reassure anyone who may have any doubts as to the ethical nature of the scheme. Positively no stock-exchange operators or other gamblers will be allowed to get within reach of this plum, whose stock is so valuable "that only a reasonably short time will elapse before the company will be able to pay dividends equal to the par value of the stock." Each physician is supplied with a book of blanks, wherein he is to enter, day by day, opposite the name of each preparation of the company, the amount he has that day prescribed. Once a month he is to send in this drummer's sheet and secure his rake-off. The prospectus does not say so, but we suppose that those who sell the most goods will be put on a regular salary basis and be considered regular drummers for the house. There is one sign of conscience about the managers of this scheme—they doubtless fear that some practitioners may prescribe the company's goods without proper discretion and increase their commissions without due regard for the welfare of the patients. The following statement appears, therefore, in conclusion: "You should make yourself acquainted with the formulas and uses of the preparations and prescribe them whenever you believe they will be as efficacious as those of any other manufacture."

THE BACTERIOLOGIC DIAGNOSIS OF DIPHTHERIA.

While the specificity of diphtheria and the diphtheria-bacillus is universally admitted, it is recognized that, on the one hand, membranous deposits may form in the air passages from other causes, while, on the other hand, the bacillus may be present in association with catarrhal manifestations alone or even without other evidences of diphtheria. Diphtheria-bacilli have been found also in the throats of persons suffering from other diseases, scarlet fever especially. In order to clear up some of the mooted points in connection with the presence and the pathogenicity of diphtheria-bacilli, Dr. B. Czerno-Schwarz[1] made a study of the nasal and pharyngeal secretion from the patients admitted to the department for contagious diseases at the Wladimir Children's Hospital of Moscow. Of 385 patients received into the division for cases of scarlet fever and measles, 45 (11.6 per cent) yielded, on first examination, a growth of diphtheria-bacilli, divided as follows: Eight of 207 cases of scarlet fever, 3.6 per cent.; 37 of 160 cases of measles, 21.92 per cent. Of the former patients, seven presented necrobiotic angina and one follicular angina, while of the latter only two presented symptoms of diphtheria. As a result of the observations made, the conclusion is reached that negative results from repeated examination for the presence of diphtheria-bacilli are of undoubted and absolute value. By this means it has been demonstrated that membranous angina, laryngitis and croup may be of non-diphtheric origin. The significance of positive results from bacteriologic examination is likewise undoubted when the clinical picture is that of diphtheria. When, however, there is a discrepancy between the clinical picture and the results of bacteriologic examination the diagnosis must be considered as doubtful.

FIBRINOUS BRONCHITIS.

Fibrinous bronchitis is a rare disorder, probably of diverse etiology. The diagnostic feature is the expectoration of casts of the bronchial tree, of varied shape and length, in conjunction with a sense of suffocation, cyanosis, shallow and frequent respirations, enfeebled respiratory murmur, and unaltered percussion-resonance unless the alveoli become occluded or atelectasis develops. The symptoms disappear temporarily with the expectoration of the coagula, to return on their reformation. There has been some difference of opinion as to whether the casts consist of fibrin or of mucus, the one substance being found in some instances and the other substance in other instances. From all of the evidence, however, it would appear as if both substances are often present, sometimes together, sometimes alone. Confirmation of this view is afforded by a communication recently made by Dr. Gustav Liebermeister,[2] who reports in detail a case of fibrinous bronchitis, and also gives the results of a study of the casts obtained from twelve other cases of similar kind. He found that the coagula expelled in a case of grave heart disease during the death agony differed only in their great thickness from the casts expelled in cases of true fibrinous bronchitis, although they agree chemically and histologically. Idiopathic fibrinous bronchitis is to be strictly differentiated, with reference to both the etiology and the morphology of the coagula, from descending diphtheria and from diphtheria of the bronchial tubes without involvement of the larynx. The coagula of true fibrinous bronchitis are honeycombed in structure, more or less completely filling the lumen of the bronchial tubes and generally containing a moderate amount of air. Microscopically, the appearances presented are those of a reticular structure, consisting of fibrin and mucus, and having spaces containing few cells. Fibrin was demonstrable in the casts in all of the cases and mucus also in seven. In cases of descending diphtheria, structures analogous to the deposits on the tonsils and the larynx are formed in the bronchi. These consist of a dense, compact, finely fibrillated fibrinous network, containing enormous numbers of cells, and they appear as simple or dendritic cylindrical membranes that can be detached from the mucous membrane surface only with the loss of epithelium. Curschmann's spirals were found in only one case among thirteen. The presence of Charcot-Leyden crystals and of eosinophile cells in the casts could not be demonstrated in any case.

1. Archiv für Kinderheilkunde, vol. xxxix, Nos. 1-3, p. 113.
2. Deutsches Archiv für klin. Med., vol. lxxx, Nos. 5-6, p. 551.

THE SPECIFICITY OF THE BODY-CELL TOXINS.

The observation that the blood of one species of animal is toxic to members of another species is an old one, and the modern studies set on foot by the work of Bordet and others have greatly extended our conception of body-cell toxicity, and have shown that it is not confined to blood cells alone. It appears at first sight such a simple matter to inject a particular cell or organ from one species of animal into a member of another species, that this line of research has been extensively followed in the last year or two. Then the results achieved in some instances by this work have illuminated some of the dark regions of pathology, and further research has seemed likely to give good results. It has been pretty generally assumed by the workers along these lines that a cell specificity existed, i. e., that if an animal is injected with ciliated epithelium it will produce antibodies for ciliated epithelium only; but it seems probable that this presumed specificity has been greatly overestimated. This whole question of specificity has recently been investigated by Pearce.[1] As Pearce indirectly brings out, many of the previous investigators seem to have assumed that morphologically similar cells would give rise to similar antibodies. Pearce's work had for its object to demonstrate that the chemical composition of the cell and not its morphology is the factor determining its specificity of action. He likewise endeavored to show that many of the results supposedly due to the specific action of one cytotoxin are really due to other cytotoxins adventitiously elaborated as the result of improper methods of immunization. As a result of his observations, Pearce concludes that the cells of the various organs of the body, while differing in morphology and function, have certain receptor characteristics in common, and that one type of cell may, therefore, produce antibodies affecting several cell

1. Journal Med. Research, vol. xii No. 1

groups of differing morphology, but with like receptor groups. He also concludes, from comparing results obtained with organs as ordinarily removed with those obtained with organs freed from blood, that many of the positive results described as specific are due, not to specific action of the particular cell or organ used, but rather to the blood introduced with them. It would seem, therefore, that not a little of the published work on cytotoxins is valueless on account of mistakes in technic, and that much of the valuable work has been misinterpreted. This means that a great deal of research must be done over again by the more careful methods suggested by this study.

Medical News.

ILLINOIS.

Personal.—Dr. Anna E. Blount, Oak Park, has returned after a year in Europe.——Dr. Pliny W. Blanchard is seriously ill at his home in Harvard.

Smallpox.—The smallpox situation at Belleville is causing grave anxiety, and the authorities are taking all possible precautions to limit the spread of the disease.——Dr. John J. Leahy, Lemont, who claimed $5,750 for services during a smallpox epidemic, was allowed $5,000 in full of all claims.

Copper as a Germicide.—The State Board of Health is conducting investigations to determine whether water with typhoid fever or cholera germs can be purified simply by being kept in copper containers for a few hours. The experiments are being made under the direction of Dr. John H. Long of the Northwestern University Medical School.

Chicago.

Smallpox.—During the week 5 cases were sent to the isolation hospital. Two unvaccinated children died at the hospital.

Thousands for Hospital.—At the annual benefit concert for the Samaritan Hospital, held September 16, $2,000 was realized for the institution.

College Lengthens Course.—The College of Physicians and Surgeons, the College of Medicine of the University of Illinois, has extended its course to nine months. The term opens September 27.

Pneumonia Deaths Increase.—The deaths from pneumonia for the week ended September 17, were 34, an increase of 15, or nearly 80 per cent. over the mortality of the previous week from this cause.

Deaths of the Week.—The total deaths for last week were 143, the same as for the previous week. The increase in pneumonia mortality was more than compensated by the decrease in deaths from the more directly controllable diseases, and notably from those of the intestinal tract, such as acute intestinal diseases and typhoid fever.

INDIANA.

Sanitarian Appointed.—Dr. T. Victor Keen has been appointed city sanitarian by the Indianapolis Board of Health. The board will equip a laboratory for the chemical and bacteriologic research work of Dr. Keen.

Takes Strychnin by Mistake.—Dr. H. M. Connelly, Shelbyville, who has been in ill health for a long time, recently took strychnin in mistake for other medicine. He became violently ill, but his life was saved by prompt medical care.

Pre-Medical Examinations.—On September 15 and 16 the State Board of Medical Registration held an examination at Indianapolis of applicants for admission to the medical colleges of the state whose preliminary education had been outside of the regularly accepted sources.

IOWA.

Hospital for Poor and Old.—A. W. Buell, Mount Pleasant, has donated a building and grounds of ten acres in that city as a home and hospital for the aged.

Physician Re-located.—Dr. Alonzo E. Rodgers, formerly of Stanhope, who was confined in the Tipton jail for several months on a charge of forgery, which at the trial was shown to have occurred through a misunderstanding, has been released and will practice at Homer.

Jury Trial for Inebriates.—On the completion of the new state hospital for dipsomaniacs at Knoxville, the authority to hear and pass on cases of dipsomania will be taken from judges, and in each such case a jury will decide whether or not the individual is a fit subject for commitment to the hospital.

New Rules for Diphtheria Quarantine.—The State Board of Health has promulgated the following rules regarding the quarantine limit after diphtheria:

Quarantine shall be released in those houses in which diphtheria has been diagnosed when synchronous cultures taken from the noses and throats of all infected persons quarantined show two consecutive negative examinations, providing the regulation of the board regarding disinfection and fumigation have first been complied with.

Those who have been quarantined with diphtheria patients may be released from quarantine when both nose and throat cultures on examination by a bacteriologist of the state board of health do not show the presence of diphtheria bacilli.

In districts where it is not possible or desired to use the laboratory findings as a means of regulating quarantine, those suffering from diphtheria shall be quarantined for a period of not less than four weeks for initial symptoms where antitoxin is used, and five weeks where antitoxin is not used.

LOUISIANA.

Generous Donation for Italian Hospital.—Capt. Salvatore Pizzati, New Orleans, has given $250,000 as the nucleus of a fund for the establishment of a hospital for Italians in New Orleans.

Medical Student Dies.—Emile Hussey, New Orleans, a medical student at Tulane University, died September 1, as a result of injuries to the spinal cord received while diving into shallow water at Bay St. Louis, in July last.

Health Board Matters.—The St. Bernard Board of Health assembled, September 6, and organized with Dr. Louis E. Fondruat as chairman and ex-officio health officer.——On September 6 Drs. J. A. Harper, J. F. Polk, and Phau R. Outlaw were elected members of the Slidell Board of Health.

MARYLAND.

Faculty Honors Osler.—The Medical and Chirurgical Faculty of Maryland, at its semi-annual meeting in Ocean City, September 9, authorized the president to appoint a committee to take marked action in regard to the departure from the state of Dr. William Osler. A portrait of Dr. Osler is to be painted and placed in the hall of the faculty in Baltimore.

Personal.—Dr. Herbert L. Rich, of the science department of Western Maryland College, has been made a resident physician of the Jacob Tome Institute, Port Deposit.——Dr. J. B. Schwatka returned from Europe September 16.——Dr. Herman Bruelle has gone on a southern trip, and will visit Fredericksburg.——Dr. William Hewson Baltzell will spend the winter in Rome.

Baltimore.

Lowered Mortality.—The mortality rate last week was at the annual rate of 15.48 per 1,000, viz.: white, 14.00; colored, 23.52; for the previous week the respective rates were 20.47, 16.95, and 39.62 per 1,000.

College Opens.—The course at the College of Physicians and Surgeons will open the evening of September 30, with an address by Prof. Wm. Royal Stokes, who will speak on "Some of the Great Achievements of the Last Century."

MASSACHUSETTS.

Surgical Building Offered.—The Brockton Hospital Corporation has accepted a surgical building donated by Hon. William L. Douglass, to cost $22,000.

Alleged Counterfeiter Held.—Dr. Frank Sanft, at whose house in Roxbury $10,000 in counterfeit money was found, has been held to the grand jury.

Hospital Building Permit Granted.—Permission has been granted to the Waltham Hospital Association to build a two-story concrete building, to cost $25,000.

Member Expelled.—Dr. George S. Hatch, Boston, formerly of Pittsfield, and now a fugitive from justice, was expelled from the Berkshire District Medical Society at its meeting last month.

Imprisoned for Refusing Vaccination.—A resident of North Adams is serving a sentence of eight days in the House of Correction for refusing to be vaccinated. He will not only have to serve out his time, but, in accordance with the rule of the institution, must be vaccinated.

Personal. Dr. Charles G. Stearns, Leicester, has retired on account of impaired health.——Dr. Nathaniel Wallis, Fitchburg, will soon start for Australia.——Dr. Julian D. Lucas, Chelsea, has been made assistant to the medical officer of the port of Boston.——Dr. William L. Smith, Worcester, has been appointed honorary physician to the Shah of Persia.——Dr. John A. Bruce, Everett, is taking a four months' tour of Europe.

MICHIGAN.

Fire Loss.—At a fire which at one time threatened to destroy all the business section of North Branch, the office of Dr. Albert E. Weed, with its contents, was entirely consumed. No insurance was carried.

Pre-Medical Examination.—The examination for entrance to Michigan medical colleges, for students who have not received diplomas from high schools or colleges, was held in Detroit, September 14 and 15, under the direction of the Michigan State Board of Registration in Medicine.

The Most Dangerous Communicable Diseases.—Meningitis was reported during August at 7 places; whooping cough at 24 places; pneumonia at 26 places; measles at 38 places; diphtheria at 66 places; scarlet fever at 74 places; smallpox at 106 places; typhoid fever at 161 places, and consumption at 295 places. Meningitis was reported at 1 place less; whooping cough at 10 places more; pneumonia at 6 places more; measles at 35 places less; diphtheria at 9 places more; scarlet fever at 4 places more; smallpox at 10 places less; typhoid fever at 88 places more; and consumption at 7 places more in August than in July.

Comparative Disease Prevalence.—For August, 1904, compared with the average for August in the last 10 years, pleuritis, smallpox and diphtheria were more than usually prevalent; and cholera infantum, dysentery, intermittent fever, erysipelas, remittent fever, whooping cough, pneumonia, measles, and inflammation of brain were less than usually prevalent. This lessened prevalence was probably due, in great part, to the lower than average temperature during the month. So far this year, in Michigan, the average temperature each month has been lower than the average for the ten years preceding.

August Mortality of Michigan.—There were 2,593 deaths during August, 83 more than in the previous month. The death-rate was 12.1 per 1,000 population. By ages there were 576 deaths of infants under 1 year of age, 199 deaths of children aged 1 to 4 years, and 677 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 190; typhoid fever, 41; diphtheria, 20; scarlet fever, 7; measles, 3; whooping cough, 7; pneumonia, 56; diarrheal diseases, under 2 years, 331; meningitis, 29; cancer, 134, and accidents and violence, 203. The mortality from typhoid fever and diarrheal diseases showed the customary seasonal increase.

MISSOURI.

Medical Schools Open.—University Medical College, Kansas City held its opening exercises September 6, and Central Medical College and Ensworth Medical College, St. Joseph, September 15.

Gift to Hospital Fund.—The St. Joseph's Orphan Society, a charitable organization of Jefferson City, has given all its assets, amounting to $2,298, to the new hospital of the Sisters of St. Mary, now being erected at Jefferson City, at a cost of $75,000.

Epidemic at Wien.—An infectious disease resembling tropical dysentery has been raging for six weeks among the children of Wien, Chariton County. Fifteen children have died, and many are seriously ill. The State Board of Health is making a strict investigation into the nature of the disease.

Personal.—Drs. Frank L. Whelpley and William J. Loler have been appointed assistant physicians at the St. Louis Insane Asylum.——Dr. Joseph F. Robinson has been re-elected superintendent of State Hospital for the Insane No. 3, Nevada.——Dr. F. L. Sutton, Sedalia, has returned after an absence of a year on account of ill health, and has resumed practice.——Dr. John R. A. Crossland, St. Joseph, was recently shot in the course of an altercation with a brother practitioner. He will recover.

NEW YORK.

Personal.—Dr. Wallace Clarke, Utica, has been appointed by the State Commissioners of Health a smallpox expert in his department.——Dr. Clarence A. Potter, Gowanda, has been appointed first assistant physician at the Gowanda State Hospital.

Buffalo.

Personal.—Dr. Charles G. Stockton has returned from Europe.——Dr. Emil S. Tobie will soon sail for Europe.——Dr. John Hauenstein, oldest practitioner in the city, recently celebrated the seventy-third anniversary of his arrival in Buffalo.——Dr. Francis E. Fronczak was re-elected general medical examiner of the National Polish Union at its last convention.

Vital Statistics of August.—The monthly report of the department of health for August shows an annual death rate of 15.37 per 1,000. The principal causes of death were: Consumption, 40; cholera infantum, 67; typhoid fever, 4; debility, 30; cancer, 18; apoplexy, 16; meningitis, 11; valvular heart disease, 2; pneumonia, 17; appendicitis, 9; diarrhea, 15; dysentery, 10; enterocolitis, 15; gastro-enteritis, 25; ileocolitis, 10; nephritis, 14, and violence, 31. The total deaths for August were 487, as compared with 538 deaths for August, 1903.

Scarlet Fever from Infected Milk.—An epidemic of scarlet fever has occurred which is directly attributable to milk supplied to the families. This milk is supplied by the Certified Milk Company from dairies in Elma. Two years ago these dairies were inspected by a number of Buffalo physicians, who refused to certify that the milk as then handled was cleanly. In this present epidemic it has been found that the daughters of the man who milks the cows has scarlet fever, and that the son of the proprietor of the dairy also had the disease. The health authorities have stopped the further supply of milk from this source and reported the matter to the State Department of Health, which has jurisdiction. State Health Inspector Dr. Johnson of Albany has arrived to make an investigation of the scarlet fever epidemic. Dr. Henry R. Hopkins, in an open letter to the Buffalo *Express*, holds the health commissioner to blame in that he allowed the sale of infected milk when the milk register inaugurated by the former health commissioner showed a number of scarlet fever cases on the milk route of the Certified Milk Company. It is deplorable that the health officer of Elma did not stop the supply of milk from the infected dairy at Elma as soon as he knew that scarlet fever existed on the premises. One death has already occurred, it is claimed, as a result of this infection, that of Mrs. Sicard. A further epidemic of scarlet fever in which 10 cases have already occurred has been traced to the milk supplied by another dairy. The sale of this milk has been promptly stopped by the health department.

New York City.

Pasteurized Milk Stations Closed.—The summer season of Nathan Straus' pasteurized milk depots has closed. During the summer 2,149,194 bottles were distributed, and more than 800,000 glasses of milk were sold in the parks and recreation piers.

Bellevue Doctors Want Men Servants.—The president of Bellevue Hospital Medical Board recently issued an order that hereafter women should be employed as servants for the hospital internes. The 44 physicians and surgeons interested have made a formal protest asking the president to revoke his order.

Better Pay at Bellevue.—To obtain better service from a better class of men, the pay of orderlies at Bellevue Hospital has been raised to $30 per month, and each will be held strictly accountable for the accuracy of his work. It is hoped that this will do away with many complaints of ill treatment at this institution.

Contagious Diseases.—In the week ended September 12 there were reported 391 cases of tuberculosis, with 139 deaths; 176 cases of diphtheria, with 25 deaths; 146 cases of typhoid fever, with 21 deaths; 60 cases of scarlet fever, with 2 deaths; 40 cases of measles, with 8 deaths; 2 cases of varicella and 15 deaths from cerebrospinal meningitis.

Personal.—Dr. Alexander Lambert has gone to Canada moose hunting.——Dr. James R. Healy has recently undergone a serious operation at Roosevelt Hospital, and is now convalescing.——Dr. H. Holbrook Curtis arrived from Europe September 17.——Dr. Follen Cabot, Jr., has been appointed genito-urinary surgeon to the City (Charity) Hospital.

Bequests.—Under the will of the late Solomon Gerber the Lebanon Hospital and the Home for Aged and Infirm Hebrews each received a bequest of $250.—— Under Dr. Henry Tuck's will the New York Society for the Relief of Widows and

Orphans of Medical Men of New York City, the Society for the Prevention of Cruelty to Children and the New York Charities Organization Society were the recipients of generous legacies.

Begin to Fight Trachoma.—The board of health inspectors have begun the work of examining the eyes of all school children for trachoma. Every child affected with the disease is kept from school until an operation has been performed or treatment initiated. A new trachoma hospital has been opened where the operations will be performed by the department free of charge.

Physicians' Aid Association Prosperous.—The recent report of the New York Physicians' Mutual Aid Association, now in its thirty-fifth year, shows the organization to be in a very prosperous condition, with a membership of nearly 2,000. The association has on hand a permanent fund of nearly $50,000. Much good has been done in relieving its members during periods of illness, and in paying the families of deceased members $1,000 each.

Cornell University Medical College.—Dr. Frederick Whiting has been appointed professor of otology vice Dr. Gorham Bacon, resigned.——Dr. Adolf Meyer has been appointed professor of psychiatry vice Dr. Allan McLane Hamilton, resigned.——Many students are registered for the coming first year class to begin work on September 28. The campaign carried on so vigorously in the medical press for better preliminary education is beginning to bear fruit, for 78 per cent. of those applying present evidence of having studied chemistry and physics.

Druggists Protest.—Committees of druggists have been appointed to wait on Commissioner Darlington and ask him to rescind or modify his recent ruling that pure carbolic acid must not be sold except on the presentation of an order from a licensed physician. The druggists claim that the health department is usurping the functions of the State Board of Pharmacy by amending the sanitary code so as to regulate the sale of poisons. This move is also viewed with alarm because it can not be seen where the commission may stop. If it is permitted to discriminate in regard to carbolic acid there would be nothing to prevent its making regulations in regard to the sale of opium, morphin, cocain, or even whiskey or beer.

PENNSYLVANIA.

Nominated for Congress.—Dr. Salem Heilman, Sharon, has been nominated as Democratic candidate for congress.

Personal.—Dr. George D. Morton, Moores, has been named a member of the board of health, vice Dr. A. C. H. Schneider, deceased.

New Staff Members at Reading Hospital.—Dr. Harry F. Rentschler has been made assistant physician, vice Dr. John Shartle, resigned.——Dr. Frank G. Runyeon has been nominated as assistant to Dr. William S. Bertolet.——Drs. Fred L. R. Mattern and George W. Overholser were made assistant physicians.

Charged with Illegal Practice.—Drs. Joseph C. Denston, Emilie D'Antonio and Guiseppe Villone, Scranton, have had warrants issued for their arrest on the charge that they violated the act of 1893, which provides that every physician practicing medicine in Pennsylvania shall have a certificate from the State Board of Examiners and that this certificate shall be shown to the prothonotary of each county, who shall register the physician.

Philadelphia.

Bequest.—By the terms of the will of Amos Wert $5,000 is given to the Methodist Hospital to provide a free bed to be known as the "Wert bed."

Physician Robbed.—Dr. Berthold Trautmann's residence was entered by burglars, September 13, who secured a large amount of clothing, a watch and a moderate sum of money.

Personal.—Dr. and Mrs. Donnell Hughes, Dr. and Mrs. George C. Stout, and Dr. and Mrs. Charles P. Noble, have returned home after spending the summer in Europe.——Dr. W. L. Rodman has removed his residence and office to 1904 Chestnut Street.

Germantown Hospital.—The new building of the Germantown Hospital for the treatment of private patients has been completed and was opened for inspection September 12. The building is a three-story brick and stone structure, and has accommodations for 25 patients.

Pink Eye Prevalent.—An epidemic of pink eye prevails in the northwestern part of the city, particularly among school children. On account of the highly contagious character of the disease, medical inspectors from the Bureau of Health have been detailed to inspect the schools and suspend all afflicted children.

Work at Hospitals.—In the Presbyterian Hospital 405 patients were admitted and treated during August. In the dispensary 2,744 patients were treated.——Thirty-four patients were admitted to the Howard Hospital and 1,033 were treated in the dispensary.——Sixty patients were admitted to St. Timothy's Memorial Hospital, and 161 were treated in the out-patient service.

Health Report.—The prevalence of typhoid fever shows no abatement, the report for the week shows the presence of 134 cases, an increase of 34 over the previous week, with 15 deaths, an increase of one over the preceding week. There are only four wards in which no new cases were reported. The total number of deaths for the week was 408, an increase of 8 over last week, and a decrease of 10 compared with the corresponding period of 1903. In all there were 234 cases of contagious disease reported, an increase of 29 over last week.

Work of City's Bacteriologic Department.—Since the establishment of the bacteriologic laboratory in 1897, 32,878 Widal examinations have been made, representing 28,375 cases of typhoid fever. Statistics show that in 1894 when the use of antitoxin went into effect, 33.3 per cent of the cases of diphtheria reported to the Bureau were fatal. Since the use of the agent has become more general in the city, the mortality is much lower. Last year a mortality of only 17.1 per cent. was reported. Since 1896 there have been 38,981 doses of antitoxin distributed by the city. The milk report of the department for July and August of this year, shows that in July 15,447 quarts were examined; 8,679 quarts were condemned, and 5,958 quarts were infected. In August 194,581 quarts were examined, 6,400 quarts were condemned, and 3,449 quarts were infected, making a total of 353,028 quarts examined, 15,079 quarts condemned, and 9,407 quarts infected.

GENERAL.

Typhoid in Winnipeg.—The number of typhoid patients in the Winnipeg (Man.) General Hospital one week ago numbered 130.

Panama Canal Hospital.—New Orleans is to be the site of a hospital built by the United States Government for Panama Canal patients.

Lack of Physicians for the Poor.—It is stated that the reduction in the force of government physicians in Hawaii has caused a return on the part of many natives to the witch doctors and that the death rate is increasing.

The Dental Congress.—At the Fourth International Dental Congress held at St. Louis, September 1, a gold medal was offered for the best paper. Ten papers were submitted. Willoughby D. Miller, Berlin, Germany, received the medal, and Eugene S. Talbot, Chicago, received honorable mention for the second and third best papers.

Foreign Visitors.—Among the noted medical men from abroad who are speakers at the International Congress of Arts and Science at St. Louis are Dr. Ronald Ross, Liverpool; Dr. Shibasaburo Kitasato, Tokio, Japan, and Dr. Theodore Escherich, Vienna. Dr. Ross, the great authority on malaria, will visit Panama and Jamaica before returning to Europe. While Dr Escherich was in Albany, N. Y., a reception was given in his honor by Drs. Henry L. K. Shaw and Andrew McFarlane, September 12, and on the following evening Dr. Albert Vander Veer gave a dinner in his honor at the Fort Orange Club. In Chicago, Dr. Escherich addressed the Chicago Medical and Chicago Pediatric societies, and was given a banquet. He also made an address in the amphitheater of Cook County Hospital. While in Chicago he was the guest of Dr. A. C. Cotton, who gave a reception in his honor. Dr. Kitasato, the famous bacteriologist of Japan, received a very warm greeting in Honolulu. The Hawaiian Territorial Medical Association gave him a reception and banquet, and there were other functions in his honor.

THE RECENT ARMY MANEUVERS.

Field Practice for the Army Medical Department

(From our Special Correspondent.)

The recent maneuvers in Virginia have attracted much public interest, both because the number of troops participating was

far larger than has ever before been assembled in this country in time of peace for such a purpose, and because the extensive area covered by them embraced the historic fields of the first and second battles of Bull Run.

The operations of the medical department of the two maneuver divisions, the "Blues" and "Browns," which together mustered 26,000 men, presented several features of interest. The medical organization comprised the regimental dispensaries, field hospitals, and a base hospital for each army. The function of the regimental dispensaries was to render first aid on the march and in battle and to treat in camp the mild cases which did not require transfer to the base hospitals. The personnel of these was, for the state troops, furnished by their own medical officers and hospital corps men, and they brought with them the medical equipment furnished by their respective states. Many of the regiments had the new U. S. Army regimental field chests and pouches recently issued to the states under the provisions of the Dick militia bill, while, in the case of others, the medical equipment was more or less obsolete or wanting. Some regiments brought surgeons, but no hospital corps men: "broom handles, but no brooms." There were two field hospitals and two ambulance companies for each army. These were manned and equipped, as were the base hospitals, by the Medical Department of the Regular Army, although surgeons and hospital corps men were taken from such militia regiments as could spare them, and attached to these organizations for purposes of instruction and to fill up as far as possible their shortages in personnel.

The field hospitals are mobile organizations, which march with the troops, there being theoretically one for each brigade. Their function is to give temporary care and shelter to the wounded after battles until they can be transferred to a stationary or base hospital, where can be found the rest and elaborate equipment which field hospitals can not afford.

The ambulance company is in battle the connecting link between the regimental dressing stations on the line of battle and the field hospital in the rear. The widely extended order of modern tactics and the great range of rifles and artillery make this gap a broad one, and the duties of the bearers and ambulances correspondingly arduous. In these maneuvers the labors of the ambulance companies were, however, much lightened by the military ardor of the soldiers designated to play the part of the wounded, for these, being unwilling to leave the exciting scenes at the front, in most cases concealed their tags in their pockets or dropped them behind a convenient bush and remained in action. But though wounded were lacking there were abundant applicants for seats in the ambulances on the part of the undeveloped youths whose strength was not equal to the burden of the blanket roll, rifle and haversack, and who strewed the roadsides during the first maneuver. Later these were left to guard the camps.

The two base hospitals at Thoroughfare and Manassas respectively were models of complete equipment and orderly administration. These received all serious cases of illness or injury which required treatment in bed. Each had the capacity of a field hospital, namely, 108 beds, and while neither was at any time full, several hundred patients were treated in them, including some severe cases of injury, such as fracture of the femur, ulna, radius and clavicle, and one penetrating gunshot wound of the chest caused by the paper bullet of a rifle blank cartridge. The paper bullet usually flies to pieces at the muzzle of the rifle, but in this case the weapon was discharged nearly or actually in contact with the body of the soldier and the conical wad penetrated the blouse, shirt and chest wall in the region of the liver. There was severe shock, but under an aseptic occlusive dressing the wound has done well and the patient is expected to recover.

These maneuvers have been of the greatest educational value to the medical personnel, beside affording an opportunity to test the medical organization and equipment on a large scale. Their value to the state troops would have been vastly increased could they have arrived in camp several days before the beginning of the field operations so as to have had an opportunity to have gained coherence of organization by regimental and brigade drills. This would also have afforded time for the instruction of the regimental medical personnel in their duties. As, however, the movements began the day after the troops assembled, no time was given for the regimental surgeons to learn their place and function in the scheme of medical organization, and some lack of co-ordination was the natural result.

FOREIGN.

Plague is reported in Paraguay and the sanitary conditions are not such as to promise its ready extermination.

Italian Hospital Receives Gift.—The Italian Hospital in the City of Mexico has received $2,000 from King Victor Emmanuel.

European Physicians Studying Yellow Fever in the Americas.—The French committee now in Brazil consists of Drs. Marchoux, Simoni and Salimbeni. Dr. G. Cocchi is in Mexico for the same purpose, delegated by the Italian government. The Associated Press report for the week states that there are only fifteen cases of the disease in all Mexico, and half of these are in the hospital at Vera Cruz. This is a remarkably favorable showing for the month of September, and demonstrates what has been accomplished in the way of preventive sanitation.

Cholera in Persia.—The *Tribune Méd.* comments on the fact that one province of Persia, of which Tauris is the capital, has remained free from cholera during the epidemic that has been devastating the country. The crown prince resides there and his physician was trained in the medical schools of Paris. They co-operated to prevent the importation of the disease, establishing quarantine stations and adopting the measures necessary to stamp out the few cases known to exist. Their efforts were successful, and probably for the first time in history a Persian city has passed unharmed through an epidemic of cholera sweeping over the country. A St. Petersburg exchange states that the disease is still spreading. The deaths in Meschhed numbered 417 between July 26 and August 1. Refugees from this place have carried the disease into Russia, and a Cossack regiment at Merw has become infected, 9 deaths in 53 cases being reported, among the dead being the troop physician. There have also been 9 deaths in 13 cases in the town. The shipping on the Caspian and travel on the central Asiatic railroad is under medical inspection.

DUBLIN LETTER.

Smallpox in Ireland.

Considering how widely distributed smallpox has been in England and Scotland during the past few years Ireland is fortunate in having escaped without any outbreak that could receive the name of epidemic. Both Dublin and Belfast had a considerable number of cases last year, but in neither city did the disease spread to any great extent, and the number of deaths was very small. This is no doubt due chiefly to the very efficient system of vaccination practiced in Ireland, where neither 'conscientious objectors" nor "antivacs" are known. This year, while there is nothing in the nature of an outbreak at any center, several cases of smallpox have been reported from various towns throughout the country. In Armagh, a town of seven thousand inhabitants, there have been over twenty cases, while in Drogheda, Monaghan, Castleblayney and Dublin smaller numbers are reported. The infection seems to have been imported from Glasgow to Drogheda and Armagh, whence it has spread to the other places mentioned.

The Queen's Colleges.

The annual reports from the presidents of the Queen's Colleges of Belfast and Cork, which have recently appeared, give evidence of increased activity in both those institutions. In Belfast, in particular, advance, during the past few years, has been very rapid. Following on the establishment of the Royal Victoria Hospital, and in part as a result of the opportunities it gives for clinical work, the Belfast School of Medicine is now one of the largest in the Kingdom. It is stated that the number of students on the roll this year is greater than that of any other school in Ireland, with the exception of the Catholic University School in Dublin, while only two English schools—Cambridge University and Guy's Hospital—exceed it. The college in Belfast has recently received special funds to provide for pathologic research and teaching, in the endowment of a Musgrave chair and a Riddel demonstratorship in pathology. In none of the Queen's Colleges did the original scheme include a chair of pathology, so that considerable diffi

culty has been met in providing for the teaching of that subject, but it has now been successfully coped with in all three colleges. Great regret is expressed at the departure from Belfast of Dr. Lorrain Smith, who has accepted the chair of pathologic anatomy in the Victoria University of Manchester. The president of the Cork College, Sir Rowland Blennerhassett, has, in consequence of ill health, resigned his office. He was given this post, for which he was little fitted, a few years ago as a reward of political services, but it occupied only a small share of his time, as he spent most of each year on the continent.

Sir Thomas Browne and the Medical Profession.

The proposal which is before the public at present to raise a memorial to the author of "Religio Medici" has roused the wrath of Dr. Conolly Norman, the well-known alienist of this city, and he appears in the columns of the *British Medical Journal* in the character of *advocatus diaboli*. Whatever claims Sir Thomas Browne has to the admiration of merely literary people, as a great master of English prose, he has no claim whatever, says Dr. Norman, in effect, to the respect of the medical profession. He is not a great physician, since he is neither scientific nor humane. For proof of the first of these charges Dr. Norman refers to Browne's works and thinks the charges is justified, while the second charge is based on his action in the trial of the women Demy and Cullender at Bury in 1664, on the charge of causing fits in children by witchcraft. "Sir Thomas Browne of Norwich, the famous physician of his time, was in court and was desired by my lord the chief baron to give his judgment in the case, and he declared that he was clearly of opinion that the fits were natural, but heightened by the devil, co-operating with the malice of the witches, at whose instance he did the villainies." Browne's great influence turned the jury, and the women were condemned. Dr. Norman thinks that belief of this sort in an educated man—a contemporary of Hobbes, Butler and Locke—deprives him of respect from men of science. Many lovers of letters who demand thought as well as expression will thank Dr. Norman for his very just depreciation of one of the most over-rated persons in the history of literature.

Death of Dr. Cranny.

Yet another of Dublin's best-known surgeons has died. Within the last twelve months no less than five—Croly, Smyly, Meldon, Hayes, Cranny—living within a stone's throw, have been removed by death. Dr. John Joseph Cranny, as a young man, was assistant master in the Rotunda Hospital, but of late years had devoted himself altogether to surgery, and for many years before his death was on the surgical staff of Jervis Street Hospital. For some years past he had been in bad health, but his death came nevertheless as a shock to his many friends.

Queries and Minor Notes.

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

CONTRACT PRACTICE.

A physician of West Virginia writes us in regard to contract practice, and states that he has never been satisfied "that it was an altogether ethical practice for a reputable practitioner to engage in. This system is much in vogue in my locality and throughout the mining section of our state. The company or contract physician at the mines agrees for the sum of 50 cents per month for single men and $1.00 per month for men with families to furnish them the necessary medicines and medical and surgical attention. The companies hold back out of the wages of their employes the above mentioned amounts and turn it over to their physician, less 10 or 20 per cent. for collecting." He goes on to say that "this system might be considered a blessing to a very improvident class of people, but I have always thought it was prostituting the practice of the profession too far. It seems to me it would be more in keeping with the dignity of our profession to let them call on whom they please, when needed, and pay accordingly. Your opinion in the Queries and Minor Notes' column would be appreciated."

ANSWER.—From a professional standpoint, nothing good can be said for the so-called "contract" practice to which our correspondent refers. Those who undertake it cheapen the public estimate of our profession. In a few instances county societies have adopted by-laws against the practice, declaring it to be unprofessional conduct. It would not be a bad thing for the profession if all county societies would do likewise. For the man who undertakes "contract" practice there is "nothing in it"—no future, no satisfaction, no adequate compensation, nothing attractive. A strike cuts it short; a corporation shares the income, without adequate pretext. Analyzed, the practice is merely a poorly modified form of health insurance, or, as our British confrères call it, "club practice." The method outlined above, which is the one usually followed, is bad. The doctor sells himself cheap, the employes get what they pay for—and no more. A much better method, not so profitable to the corporation, nor so degrading to medicine, would be the creation of a relief fund by an assessment on the employes, collected monthly by the company without charge. Then a minimum but fair scale of fees for definite services should be agreed on and the physician paid accordingly, each employe to select whomsoever he pleases. Of course, in time of epidemics or disaster, the assessment would increase and in helathy periods would recede, but this could be equalized by an average assessment to cover all conditions. It is high time that our profession insisted on the universal adoption in corporation or company practice of some such plan as this, and then see to it that no recognized physician underbids his fellow. This is by no means Utopian. Some corporations have voluntarily adopted a plan similar to this, contributing regularly themselves to the fund, and the result has been satisfactory. We wish that this matter might be taken up by county societies that are affected.

LIQUOR FERRI ALBUMINATI.

A correspondent calls attention to an abstract on page 1121 of THE JOURNAL, April 26, 1902, in which an author is quoted as saying that the standard liquor ferri albuminati of the Norwegian Pharmacopeia is the best means of administering iron, and desires to know the formula and the method for its preparation.

ANSWER.—There is no formula for this preparation in the Norwegian Pharmacopeia. There is a formula in the Danish Pharmacopeia (1893), but it is an exceedingly poor one. The latest Swedish Pharmacopeia (1901) gives the following excellent formula; Take of, by weight in grams:

Dried egg albumin	40
Solution sodium hydroxid	5
Solution ferric chlorid (50 per cent.)	120
Glycerin	10
Alcohol	100
Cinnamon water, alcoholic, 10 per cent	150
Aromatic tincture	2
Distilled water, to make	1000

The egg albumin is dissolved by shaking in a mixture of 2 grams of the soda solution and 1,000 of water heated to 50 C.; after standing 24 hours the solution is decanted and strained, then warmed to 50 C., is slowly poured, with constant stirring, into a mixture of the ferric chlorid solution and the water. The resulting precipitate is collected and washed with tepid water till the washings, acidified with nitric acid, are only slightly opalescent with silver nitrate, allowed to drain and then mixed with 60 of water to which the remaining 3 grains soda solution has previously been added. The mixture is then heated on the water bath to 80 C. and allowed to cool, when the alcohol, cinnamon water and aromatic tincture are added, together with water to make 1,000 grams. The solution represents 4 per mille iron. It must be kept in bottles protected against light.

PHYSICIANS' CARDS.

FREDERICKTOWN, OHIO, Sept. 5, 1904.

To the Editor:—Please inform me, through "Queries and Minor Notes," the proper form for cards for medical men—not for business, but for social purposes. E. V. A.

ANSWER.—This is wholly a matter of individual taste. The following forms are merely suggestive, but are acceptable anywhere:

DR. JOHN DOE.

JAMES JOHNSON, M.D.
2735 INDIANA AVE.

DR. ALBERT SMITH.
65 Pennsylvania Ave. NEW YORK CITY.

OSCAR O. JONES, M.D.,
NEW ORLEANS.

The above forms are social only. Business cards may properly present office and residence addresses, telephone numbers, and office hours.

EXAMINATION OF MILK

RADCLIFFE, IOWA, Sept. 14, 1904

To the Editor:—Will you please inform me where I can find "Babcock's Method of Examination of Milk," or state how the percentage of fat is obtained by him?

HANS PETERSEN, A.B., M.D.

ANSWER.—Send for eighth Report of the Wisconsin Agricultural Experiment Station, Madison, Wis.

ABSENCE DOES NOT INVALIDATE LICENSE.

DE FOREST, WIS., Sept. 10, 1904.

To the Editor:—I graduated from the College of P. and S., Chicago, in 1886, obtained a medical license and practiced part of the same year in Chicago, but not since. Would the same license permit me to legally practice in Illinois now? J. H. B.

ANSWER.—Yes.

Marriages.

LEWIS C. DOW, M.D., to Miss Alice Lillie, both of Marion, Iowa, September 19.

WILLIAM J. AWTY, M.D., Moorhead, Minn., to Miss Ethel Lord of Charleston, Ill.

RALPH CLINTON CUPLER, M.D., to Mrs. Isabella Larkin, both of Chicago, September 1.

C. GRAHAM DOLD, M.D., to Miss Linda Peyton Manly, both of Lexington, Va., September 7.

MURDOCH BANNISTER, M.D., to Miss Keola Winona Williams, both of Ottumwa, Iowa, September 7.

GARLAND LIGHTFOOT MORRIS, M.D., to Miss Marie Louise Rice, at Manchester, Va., September 7.

JAMES CLAGETT ROBERTSON, M.D., to Miss Katherine F. Groppel, both of Baltimore, September 14.

JOSEPH L. ABELN, M.D., New Vienna, Iowa, to Miss Anna Luthmers of Dubuque, Iowa, September 6.

HOWARD B. HAMILTON, M.D., Ainsworth, Iowa, to Miss Olive McClenahan of Monmouth, Ill., September 21.

MARTIN L. BROOKSHIER, M.D., Graymont, Ill., to Miss Josephine Beier of Weldon, Ill., September 7.

HORACE WARDNER EGGLESTON, M.D., to Miss Mable May Dunn, both of Binghamton, N. Y., September 8.

JAMES MCCANN STODDARD, M.D., Kennard, Ind., to Miss Ruby Eunice Palmer of Anderson, Ind., September 7.

A. BERNARD KUHL, M.D., Walnut, Iowa, to Miss Elizabeth Munchrath of Davenport, Iowa, September 12.

SAMUEL W. HUSTON, M.D., Perry, Iowa, to Miss Elizabeth J. Owen of Columbus Junction, Iowa, September 13.

WILLIAM DUNN POWELL, M.D., Harrodsburg, Ky., to Miss Jane Cecilia Wise, at Leesburg, Va., September 3.

RAYMOND V. GLANN, M.D., of Apalachia, N. Y., to Miss Amelia Mewshaw, at Glen Burnie, Md., September 4.

DAVID ESTE WEATHERHEAD, M.D., Cincinnati, to Miss Clara Virginia Yates of Covington, Ky., at Chicago, September 8.

JUSTIN FRANK GRANT, M.D., Morgantown, W. Va., to Miss Emily Jenks Bray of Boston, at Wilton, N. H., September 7.

GEORGE KETCHAM HAGAMAN, M.D., North St. Paul, Minn., to Miss Mary Wilson Fagundus of Minneapolis, September 14.

WILLIAM H. HUDSON, M.D., Atchison, Kan., to Miss Esther L. Shreve of Chatham, Ont., at Kansas City, Kan., September 5.

WILLIAM BAY STOKER, M.D., Harvard, Iowa, to Miss Malisse Helen Shadley of Belknap, Iowa, at Shenandoah, Iowa, September 2.

Deaths.

Alexander Trent Clark, M.D. Medical College of Virginia, Richmond, 1869, for many years chairman of the Halifax County Board of Health, and once a member of the State Board of Medical Examiners, died at his home in South Boston, Va., September 10, after an illness of several months, aged 62.

William L. Buechner, M.D. University of Giessen, Germany, 1853, one of the oldest practitioners of Youngstown, Ohio, and a founder of the City Hospital, was drowned, September 11, in a runaway accident near Youngstown, in which his horse plunged over an embankment and into a ravine, aged 73.

Charles M. Baker, M.D. Transylvania University Medical Department, Lexington, Ky., 1843, for many years a practitioner, and twice mayor of Henry, Ill., died at the Illinois Western Hospital for the Insane, Watertown, of which he had been an inmate for several years, September 3, aged 82.

Martin S. Kittinger, M.D. College of Physicians and Surgeons in the City of New York, 1853, surgeon with the Army of the Potomac during the Civil War, sometime president of the Niagara County Medical Society, died at his home in Lockport, N. Y., September 11, after a long illness, aged 77.

Edward Payson Buffett, M.D. College of Physicians and Surgeons in the City of New York, 1857, for many years visiting surgeon at Christ's Hospital and the City Hospital, Jersey City, N. J., died at his home in that city, September 9, from heart disease, after an illness of seven months, aged 70.

John Cascaden, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1866, at one time representative for West Elgin in the Ontario Legislature, died at his home in Dutton, Ont., August 31, after an illness of three months, aged 64.

James McCortney, M.D. Cleveland Medical College, 1853, one of the oldest physicians of Davenport, Iowa, surgeon in the Army during the Civil War, died at the home of his daughter in Chicago, September 8, from cystitis, aged 79.

Felix E. Schilling, M.D. Tulane University, New Orleans, 1903, of Collins, Miss., died at the South Mississippi Infirmary, Hattiesburg, September 12, from typhoid fever, after an illness of four weeks, aged 31.

George M. Kellogg, M.D. Medical College of Ohio, Cincinnati, 1852, formerly of Carthage, Ill., and a lecturer for several years in Keokuk Medical College, died at his home in Pasadena, Cal., August 18, aged 73.

A. W. Butler, M.D. University of Tennessee, Nashville, 1903, formerly interne at the Nashville City Hospital, died suddenly from nervous collapse, September 6, at his home in Nashville, aged 24.

Charles Hinkle, M.D. University of Louisville, 1861, surgeon in the Confederate service during the Civil War, died at his home in Hinkleville, Ky., September 13, after a long illness, aged 66.

Harvey C. Chappelear, M.D. Cincinnati College of Medicine and Surgery, 1871, died at his home in Mount Sterling, Ohio, September 14, after a long invalidism, from asthma.

James R. Kelch, M.D. Starling Medical College, Columbus, Ohio, 1864, assistant surgeon of the 155th Ohio Volunteer Infantry in the Civil War, died suddenly at his home in Tarlton, Ohio, September 4, from heart disease, aged 70.

Richard J. Ough, M.D. University of the Queen's College, Coburg, Ont., 1869, supreme physician of the United Order of Foresters, died at his home in Chicago, September 11, aged 65.

Emery F. Redfern, M.D. Ohio, of South Perry, assistant surgeon in the 90th Ohio Volunteer Infantry in the Civil War, died recently, and was buried at South Perry, September 4.

William M. Gough, M.D. University of Louisville, 1848, surgeon in the Confederate service during the Civil War, died at his home in Los Angeles, Cal., September 7, aged 79.

Christine Anderson, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1888, died at her home in Detroit, Mich., August 29, aged 40.

Charles Walton Chaffee, M.D. College of Physicians and Surgeons of Toronto, 1883, died at his home in Toronto, Ont., May 26, from pneumonia, after a short illness.

H. H. L. Yeargan, M.D. Transylvania University Medical Department, Lexington, Ky., 1846, of Barefield, Tenn., died at his home in that place, September 5, aged 84.

Alfred L. Keene, M.D. Jefferson Medical College, Philadelphia, 1888, died at his home in Lancaster, Pa., September 6, from heart disease, aged 43.

P. W. Crum, M.D., died at Borgess Hospital, Kalamazoo, Mich., six months after a fall in which he fractured his hip, September 2, aged 91.

J. Maude George, M.D. Woman's Medical College, Philadelphia, a medical missionary in China, died at her station in Macao, September 4.

S. Sylvester, M.D. University of the Victoria College, Coburg, Ont., 1878, died suddenly at his home in Montreal, April 2, aged 46.

Isaac Pankake, M.D. Medical College of Ohio, 1886, a member of the American Medical Association, of Frankfort, Ohio, died recently.

Robert S. Cheffey, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1871, died at Toronto, September 11, aged 77.

George L. Smith, M.D. Jefferson Medical College, Philadelphia, 1850, died recently at his home in Groveport, Ohio, aged 79.

Paul E. Malmstrom, M.D. University of Lund, Sweden, 1890, died at his home in Kenosha, Wis., September 13, from heart disease.

James K. Griffin, M.D. Columbus (Ohio) Medical College, 1878, died suddenly at his home in Fitzgerald, Ga., September 7.

Frank M. Reasner, M.D. Cleveland Medical College, 1865, died at his home in Los Angeles, Cal., September 11, aged about 70.

Francis X. Spranger, M.D. Ohio, 1864, died suddenly at his home in San Jose, Cal., from apoplexy, September 3, aged 64.

Thomas E. Morris, M.D. McGill University, Montreal, 1899, died at his home in St. John, N. B., September 8, aged 30.

Willis Duff Green, M.D. Medical College of Ohio, Cincinnati, 1844, died recently at his home in Mount Vernon, Ill.

Albert M. Loop, M.D., a member of the Medical Society of the State of Pennsylvania, died recently at Nelson, Pa.

John T. Smith, M.D., died at his home in Cedar Rapids, Iowa, September 2, after an invalidism of ten years.

W. E. McBryde, M.D., died at his home in Colmesneil, Texas, September 3, from congestion of the brain.

William H. Colvin, M.D. Illinois, 1896, died at his home in Chicago, July 6, from pneumonia, aged 34.

John H. Stork, M.D. Kentucky School of Medicine, 1888, died at his home in Stendal, Ind., September 6.

Albert D. Moxley, M.D. New York, 1877, died suddenly at his home in Jefferson, N. Y., August 1.

A. S. Hayhurst, M.D. Indiana, 1887, died recently at his home in Evansville, Ind., after a long illness.

Thomas S. Lackey, M.D., 1849, died at his home in Mayfield, Ky., September 12, aged 82.

James A. Taylor, M.D., died at his home in Wayne, W. Va., September 6.

Book Notices.

ELEMENTS OF GENERAL RADIOTHERAPY FOR PRACTITIONERS. By Dr. Leopold Freund, Vienna. Translated by G. H. Lancashire, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., Assistant Physician to the Manchester and Salford Hospital for Skin Diseases. With 107 Illustrations in the Text and One Frontispiece. Cloth. Pp. 538-59. Price, $5.00. New York: Rebman Co. 1904.

RADIOTHERAPY, PHOTOTHERAPY AND HIGH FREQUENCY CURRENTS. The Medical and Surgical Applications of Radiology in Diagnosis and Treatment. By Charles Warren Allen, M.D., Professor of Dermatology in the New York Post-Graduate Medical School. With 131 Engravings and 27 Plates. Cloth. Pp. 618. Price, $4.50 net. Philadelphia and New York: Lea Brothers & Co.

The rapidly growing literature on the medical uses of the various forms of radiant force, some of which we have but recently become acquainted with, receives here important additions. Freund's work must be regarded as authoritative and fundamental, especially in so far as concerns the essential scientific principles of radiology. The introductory chapters on physics are more exhaustive than in the other books on radiotherapy. The technic of the practical application of these forces is also comprehensively described. A fully illustrated supplement contains adequate descriptions of the various instruments necessary for using high-frequency currents, *x*-rays, heat and light rays. The index is full and a complete list of the authors quoted, and the page where each may be found, together with the corresponding references, is given. The indications for and results to be expected from the various radiotherapeutic measures are discussed on the basis of the existing literature, but we miss any statements concerning the diagnostic value of *x*-rays. We believe we may safely recommend this book to any one who desires to know the fundamental physical laws underlying radiotherapy, as well as its practical application. It should be remembered that Freund is the man to whom we owe more than to any other the introduction of the Roentgen ray in therapy. The work gives every impression of having a commensurate basis of personal theoretical and practical work on the part of the author.

Dr. Allen's book deals with the *x*-ray, light and high-frequency currents. Here the therapeutic and diagnostic aspects are given predominance, the nature of and laws governing the forces employed, receiving comparatively little attention. It has seemed to the reviewer that there is an unnecessary diffuseness in some of the parts dealing with the therapeutic results of the *x*-ray. Surely much of the information here given in regard to the individual cases cited might well have been condensed into smaller space. Both the works are adequately illustrated, Freund's especially from the side of physics and instrumentation, Allen's from the clinical. The suggestion may be allowed that the field for the works of the kind represented by these two books is now well covered by these and other recent publications; it would, therefore, be better if as much energy and attention as possible were given to investigation of the many and important problems of theoretical and fundamental nature that are arising as a result of the introduction of the physical forces considered into medicine.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VIII. Illustrated by Chromolithographs and 435 Half-tone and Wood Engravings. Cloth. Pp. 784. Price, $7.00 per volume. New York: Wm. Wood & Co. 1904.

This volume completes this issue of the Reference Handbooks. Included in this volume is an appendix which contains articles that from one cause or another were omitted from their regular position in the alphabetical order. A most complete index occupying nearly two hundred pages, three columns to a page, closes the work. This index will be found of great value, as it makes reference to any particular subject easy. In the ordinary works arranged alphabetically as is this one, it is not common to go to the expense and trouble of getting out a detailed index, as has been done here, but, if not necessary, it is certainly very convenient.

In our notices of the volumes as they came out, we have repeatedly spoken of the excellent manner in which the subjects were covered. We have also called attention to the fact that while the handbook is published as a revised edition of a work which came out some twenty years ago, it is in reality a new book. A few articles appear unaltered, a few others are modified but slightly from those appearing in the former edition, but the great bulk have been entirely rewritten, and many subjects appear that were not treated in the former edition. The work is a complete encyclopedia of modern medicine, for so far as we are able to discover, nothing that belongs to such a work is omitted. As a rule, the topics are considered in an exhaustive manner, and if published in individual books not a few of the articles would be accepted as complete monographs on the subjects treated. The editor is to be congratulated on the good judgment displayed in allotting the amount of space to be given to a given subject, not an easy matter when the whole field of medicine had to be covered. He is to be especially congratulated on his selection of the writers for the different subjects. In nearly every instance the one selected is an authority on the subject on which he writes, thus guaranteeing reliability. The publishers are to be congratulated on their liberality in illustrating the work and on presenting it in such a satisfactory manner, from a mechanical and typographical point of view. This Reference Handbook is a library of itself; at least, it makes a good foundation for a complete library.

ADENOIDS. By Wyatt Wingrave, M.D., Physician and Pathologist, Central London Throat and Ear Hospital. Cloth. Pp. 128. Price, $1.00 net. Chicago: W. T. Keener & Co. 1904.

In this little book of 194 pages are discussed clearly the various phases of nasopharyngeal adenoids, a subject in which the medical profession has taken an increasing interest, since the attention was definitely directed thereto by Meyer in 1868. Adenoids are described thoroughly from the anatomic, etiologic, and clinical points of view. The operative treatment is given with adequate detail, and a special chapter by Holten George deals with the subject of anesthetics. We can recommend the book to the general practitioner as a trustworthy guide to a thorough understanding of the subject with which it deals.

Miscellany.

A Charity Patient.—A French exchange relates as an anecdote that a woman was given $600 by her husband to pay the expenses of an operation which her physician had declared necessary. She disguised herself as a poor woman and applied to the free public hospital, giving a false address, after having hired the persons at the address given to testify in her favor if questions were asked. She then bought a jewel with the $600 which should have paid for her operation.

Growth of Bacteria in Salt Solutions.—F. Lewandowsky of Strasburg tested a micrococcus and a mesentericus from a vegetable and reports that a 25 per cent. solution of table salt inhibited the growth of the bacteria. On the other hand, they continued to grow apparently unaffected in saturated solutions of potassium nitrate. In a communication to the *Archiv f. Hygiene*, xlix, No. 1, 1904, he ascribes this difference in the action of the solutions to the comparative insolubility of the nitrate and the difference in the molecular concentration and of the specific ions in the two solutions.

Intoxication from Unripe Tomatoes.—A French physician reports in the *Lyon Méd.*, August 21, some cases of illness traced to the eating of tomatoes not perfectly ripe. The discovery of fragments of the tomatoes was the only hint as to the cause of the trouble in the first case. The dilatation of the pupils in all the sick members of the family was a noticeable symptom. As the tomato belongs to the same family as the potato, the intoxication may have been like the solanum poisoning sometimes observed after ingestion of unripe or spoiled potatoes. Recovery was rapid after emptying the stomach.

Automatic Compressive Dressings.—The *Gazette Méd. de Paris* for August 27 contains an illustrated article by P. Mantel of Saint-Omer describing his method of applying a dressing to obtain automatic compression of the parts without straps of any kind. It is shown applied to the head and to the stump after an amputation. The gauze or cotton are applied as usual. Then four or more rather wide strips of gauze are placed flat on the vertex or the bottom of the stump, crossing them at right angles to each other. An assistant pulls on the ends of these strips, and another longer strip of gauze is wound around over them from the periphery toward the center. When this is all in place the loose ends of the crossed strips are brought down over the wound bandage and fastened together flat below. A dressing thus applied to the head does not require any further support, but exerts great pressure on the top of the skull, without the necessity for any straps under the chin or elsewhere.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Sept. 17, 1904:

Field, Peter C., asst.-surgeon, granted thirty days' leave of absence.

Bratton, Thos. S., asst. surgeon, relieved from duty at Fort Sam Houston, Texas, and ordered to Chicago for duty as attending surgeon and examiner of recruits.

Purviance, Wm. E., surgeon, relieved from duty as attending surgeon and examiner of recruits, Chicago, and ordered to Manila, P. I., for duty.

The following named asst.-surgeons are relieved from duty at posts designated after their names, and will report on Oct. 1, 1904, to Col. Charles L. Heizmann, asst.-surgeon general, president of the faculty, Army Medical School, Army Medical Museum Building, Washington, D. C., for a course of instruction at school: Davis, Wm. R., San Francisco; Owen, Leartus J., Fort Myer, Va.; Zinke, Stanley G., Fort Riley, Kan.; Cutler, Robert M., Fort Jay, N. Y.; Weed, Frank W., Fort McHenry, Md.; Wickline, Wm. A., Fort Ethan Allen, Vt.; Brown, Henry L., Columbus Barracks, Ohio; Bailly, Howard H., Plattsburg Barracks, N. Y.; Humphreys, Harry G., Fort Totten, N. Y.; Freeman, Paul L., Fort Slocum, N. Y.

Roberts, Wm. M., asst.-surgeon, granted twenty one days' leave of absence.

Tefft, Wm. H., asst.-surgeon, left Fort Snelling, Minn., for duty at Camp Lakeview, Minn.

Barney, Chas. N., asst.-surgeon, left from duty at Gainesville, Va., on twenty days' leave of absence.

Thornburgh, R. M., asst. surgeon, reports at U. S. Army General Hospital, Washington Barracks, D. C., for temporary duty, from Manassas, Va.

Rockhill, E. P., asst.-surgeon, order for temporary duty at Fort Miley, Cal., revoked.

Chase, A. M., contract surgeon, reports his return to Fort Reno, Okla., from three months' leave of absence.

Burr, R. T., contract surgeon, granted leave of absence for three months.

Bailey, Edward B., contract surgeon, granted leave of absence for one month.

Griswold, W. Church, contract surgeon, granted leave of absence for one month.

Jones, John F., contract surgeon, granted fifteen days' leave of absence.

Marshall, John S., supervising and examining contract dental surgeon, leave of absence extended ten days.

Treuholtz, C. A., contract surgeon, granted leave of absence for two months.

Shellenberger, James E., contract surgeon, granted leave of absence for one month and fifteen days.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Sept. 17, 1904:

Green, E. H., medical inspector, ordered to the Navy Yard, New York, October 1.

Bertolette, D. N., medical inspector, detached from duty as a member of the naval retiring board and of the naval and medical examining boards, Washington, D. C., and ordered to resume other duties.

Price, A. F., medical director, detached from the Navy Yard, New York, October 1, and ordered to duty as a member of the Naval retiring board, Washington, D. C.

Breck, F. W., pharmacist, ordered to the Naval Hospital, New York.

Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the seven days ended Sept. 14, 1904:

Purviance, George, asst. surgeon general, granted extension of leave of absence for one month from Sept. 1, 1904, on account of sickness.

Vaughan, G. T., asst.-surgeon general, detailed to represent the service at meeting of the Association of Military Surgeons, to be held at St. Louis, Oct. 10-15, 1904.

Peckham, C. T., surgeon, granted leave of absence for one month from October 8.

Wertenbaker, C. P., surgeon, detailed to represent the service at the meeting of the Association of Military Surgeons, to be held at St. Louis, Mo., Oct. 10-15, 1904.

Wickes, H. W., P. A. surgeon, directed to proceed to Wilmington, Del., for special temporary duty.

Parker, H. B., P. A. surgeon, granted leave of absence for one month from October 1.

Robertson, H. McG., asst.-surgeon, temporarily relieved from duty at Stapleton, N. Y., and directed to proceed to Washington, D. C., and report at the Bureau for temporary duty.

Rucker, W. C., asst.-surgeon, granted leave of absence for four-three days from September 8.

Goldsborough, R. W., P. A. surgeon, granted leave of absence for three days from September 8.

Horsey, J. L., A. A. surgeon, granted leave of absence for four-teen days from September 10.

Mason, W. C., A. A. surgeon, granted leave of absence for five days from September 19.

Stevenson, J. W., A. A. surgeon, granted leave of absence for seven days from September 3, 1904, on account of sickness.

Tuttle, Jay, A. A. surgeon, granted leave of absence for seven days from September 12.

Goodman, F. S., pharmacist, granted leave of absence for three days from Sept. 3, 1904, under Paragraph 210 of the Regulations.

Scott, E. B., pharmacist, granted leave of absence for twenty-five days from September 19.

Slough, Chas., pharmacist, Department letter of Aug. 3, 1904, granting leave of absence for thirty days from August 10, amended to read nine days from August 17.

RESIGNATION.

Kolb, W. W., pharmacist, resigned, to take effect Sept. 1, 1904

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Sept. 16, 1904:

SMALLPOX—UNITED STATES.

Florida: At large, Sept. 3-10, 19 cases.
Illinois: Chicago, Sept. 3-10, 1 case.
Indiana: Kokomo, Sept. 3-10, 1 case.
Louisiana: New Orleans, Sept. 3-10, 1 case.
Massachusetts: Sept. 3-10, Lowell, 1 case; North Adams, 5 cases, 1 death.
Michigan: Grand Rapids, Sept. 3-10, 1 case; at 42 places, Aug 27-Sept. 3, present.
Missouri: St. Louis, Aug. 27-Sept. 10, 5 cases, 2 deaths.
Ohio: Zanesville Aug. 6-13, 1 case.
Pennsylvania: Philadelphia, Sept. 3-10, 1 case, 1 death.
Tennessee: Nashville, Sept. 3-10, 2 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Aug. 20-27, 1 case.
Brazil: Bahia, July 31-Aug. 13, 22 cases, 1 death.
Canada: Belleville, Aug. 29-Sept. 12, 7 cases; Winnipeg, Aug. 13-27, 2 cases.
China: Shanghai, Aug. 4-11, 1 death.
France: Paris, Aug. 20-27, 7 cases.

Great Britain and Ireland: Aug. 20-27, Dublin, 1 case; Leeds, 1 case; Newcastle-on-Tyne, 7 cases; Nottingham, 2 cases; West Hartlepool, 2 cases.
India: Bombay, Aug. 9-16, 1 death.
Italy: Palermo, Aug. 20-27, 14 cases, 8 deaths.
Mexico: City of Mexico, Aug. 21-28, 1 case, 4 deaths.
Russia: Moscow, Aug. 6-20, 15 cases, 2 deaths; St. Petersburg, Aug. 13-20, 1 case, 4 deaths; Warsaw, July 31-Aug. 6, 22 deaths.
Turkey: Alexandretta, Aug. 13-20, 3 deaths.

YELLOW FEVER.

Ecuador: Guayaquil, Aug. 8-15, 1 death.
Mexico: Aug. 27-Sept. 3, Coatzacoalcos, 4 cases, 1 death; Vera Cruz, 14 cases.

CHOLERA.

India: Bombay, Aug. 9-16, 33 deaths; Calcutta, Aug. 6-13, 4 deaths.

PLAGUE.

Africa: Cape Colony, July 23-30, 2 cases.
Brazil: Bahia, Aug. 5-18, 17 cases, 7 deaths.
Egypt: Aug. 6-13, 4 cases, 3 at Alexandria.
India: Bombay, Aug. 9-16, 44 deaths; Calcutta, Aug. 6-13, 3 deaths; Karachi, Aug. 7-14, 3 cases, 2 deaths.
Mauritius: June 17-July 7, 6 cases, 5 deaths.
Peru: Callao, Aug. 13, 1 case; Aug. 17, Colan, reported; La Sullana, reported; Sechura, reported; July 31-Aug. 6, Lima, 11 cases, 5 deaths; Salaverry, 2 cases, 1 death; Payta, 4 cases, 2 deaths.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Medical Society of the State of Pennsylvania, Pittsburg, September 27-29.
Colorado State Medical Society, Denver, October 4-6.
Idaho State Medical Society, Lewiston, October, 6-7.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, October 12-14.
Assn. of Military Surgeons of the U. S., St. Louis, October 10 15.
Mississippi Valley Medical Association, Cincinnati, October 11-13.
Vermont State Medical Society, Rutland, October 13-14.
New York State Medical Association, New York, October 17-20.
Medical Society of Virginia, Richmond, October 18-21.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Seventeenth Annual Meeting, held at St. Louis, Sept. 13-16, 1904.

Under the presidency of Dr. Walter B. Dorsett, St. Louis.

Addresses of welcome were delivered on behalf of the St. Louis Obstetrical and Gynecological Society by Dr. Louis E. Newman, and on behalf of the city and the exposition by David R. Francis, president of the Louisiana Purchase Exposition. The responses to these addresses of welcome were made by Dr. L. H. Dunning, Indianapolis, and Dr. Herman E. Hayd, Buffalo, N. Y. The meeting was very well attended. The papers were of a high scientific character and the discussions on them full and spirited. The association held only one session a day, in the morning, thus giving the members and their guests an opportunity to visit the exposition in the afternoons and evenings.

Officers for the Ensuing Year.

The following officers were elected for the ensuing year: President, Dr. H. W. Longyear, Detroit; vice-presidents, Dr. D. Tod Gilliam, Columbus, Ohio, and Dr. John Young Brown, St. Louis; secretary, Dr. William Warren Potter, Buffalo, N. Y. (re-elected); treasurer, Dr. X. O. Werder, Pittsburg (re-elected).

The association will meet in New York City in 1905.

(To be continued.)

AMERICAN ROENTGEN RAY SOCIETY.

Fifth Annual Meeting, held in the Louisiana Building, St. Louis, Sept. 9-13, 1904.

The President, Dr. James B. Bullitt, in the Chair.

Election of New Officers.

The following officers were elected: President, Charles Lester Leonard, Philadelphia; vice-presidents, Weston A. Price, Cleveland; Henry Hulst, Grand Rapids, Mich.; Gordon G. Burdick, Chicago; secretary, Russell H. Boggs, Pittsburg; treasurer, Leavitt E. Custer, Dayton, O.; member of the executive committee, George C. Johnston, Pittsburg. The following committees, to be appointed later by the president, were provided for: Committee on Histologic, Physiologic and Bacteriologic Influence of the *X*-Ray, Committee on Technic of Radiotherapy, Committee on Technic of Radiography. The constitution was amended to provide for a Board of Censors, said board to consist of the three last presidents, Drs. George P. Girdwood, Montreal, Canada; A. W. Goodspeed, Philadelphia, and James B. Bullitt, Louisville, Ky. The place of next meeting will be either Detroit or Cleveland, to be determined later by the Executive Committee.

The election of officers was followed by the president's address.

Comparison of X-Ray and Surgical Treatment for Tuberculosis.

DR. BULLITT put two propositions: 1. Is the present surgical treatment of the forms of tuberculosis imminently and entirely successful and satisfactory? 2. What is the probability that the Röntgen ray method of treatment is capable of rendering the treatment of such diseases more rapid and successful? He made inquiry of various operators as to results obtained in the treatment of tuberculosis of long and flat bones, joint structures, tendon sheaths, peritoneum, testicle and lymph glands. No mention was made of the length of time that elapsed between the beginning and the end of the treatment, number of exposures made, conditions of the exposures and technic; nor is it stated that some cases get worse rather than better under the *x*-ray treatment. A possible mortality from *x*-ray treatment is out of the question. The reports indicate that in some cases at least the tuberculous process can be cut short by exposure to the *x*-ray, that a cure can be affected in much shorter time, and, in diseases of the bones and joints, with much better functional results than is to be expected from the usual surgical methods. The Röntgen ray, says the author, is not to be regarded as a perfect method of treatment in tuberculous disease, but may be considered to be of great value. The following summary is presented: Long and flat bones—Cases treated, 71; cured, 33 per cent.; improved, 35 per cent.; not benefited, 29 per cent. Joints—Cases treated, 141; cured, 38 per cent.; improved, 37 per cent.; not benefited, 25 per cent. Tendon sheaths—Cases treated, 27; cured, 70 per cent.; improved, 22 per cent.; not benefited, 0.7 per cent. Peritoneum—Cases treated, 32; cured, 40 per cent.; improved, 25 per cent.; not benefited, 35 per cent. Testicle—Cases treated, 21; cured, 33 per cent.; improved, 48 per cent.; not benefited, 19 per cent. Lymph glands—Cases treated, 226; cured, 35 per cent.; improved, 40 per cent.; not benefited, 25 per cent. Lupus—Cases treated, 616; cured, 68 per cent.; improved, 24 per cent.; not benefited, 8 per cent.

This was followed by a symposium on *x*-ray in tuberculosis

The X-Ray in Tuberculosis and Malignant Diseases.

DR. J. D. GIBSON, Denver, Colo., said that for the treatment of deep-seated growths a light made by a powerful machine and capable of great penetration is required.

The X-Ray in the Treatment of Pulmonary Tuberculosis.

DR. EMIL GRUBBE, Chicago, has found that the *x*-ray is particularly valuable in the acute cases, in which prominent symptoms are loss of appetite, weight and strength, slight rise of temperature, cough and expectoration, but no hemorrhage; and in chronic cases, and that the sooner the treatment is begun the better.

The Roentgen Ray in the Treatment of Tuberculosis.

DR. J. RUDIS-JICINSKY, Cedar Rapids, Iowa, insists on an early diagnosis and plenty of fresh air and sunshine as adjuvants of the *x*-ray treatment of tuberculosis. He uses a tube which has a prolongation from the middle of the *x*-ray field proper made of lead glass except the end where the rays emanate, which must be flint glass, enabling the rays to emerge at this point, which is laid right against the lesion.

The remainder of the tube is enclosed in a special shield. This does not endanger the patient, and only the diseased area is rayed. Since December, 1902, he has treated 20 cases; 5 were of the hemorrhagic variety and improved in ten weeks and are still doing well; 10 cases were of the fibroid variety, and 3 of them died after six weeks, 2 as the result of intestinal complications and 1 from tubercular meningitis; the remaining 4 are slowly yielding to treatment; 2 cases of mixed infection are gaining steadily in weight. Of 6 cases of tuberculosis of the peritoneum, 1 died, and the other 5 are well and have not had a recurrence. Of 19 cases of lupus, 16 are apparently cured, and in 3 the treatment was negative. In glandular tuberculosis, 8 cases are cured, 6 are benefited, 19 are failures and 4 cases are still under treatment and doing well. In tubercular laryngitis he uses the ray as a prophylactic measure only, and 2 cases out of the 8 seemed benefited. Eight cases of joint tuberculosis were cured in six weeks; 4 chronic cases were benefited in four months; 2 cases of tuberculosis of the testicle were cured and have not recurred in three months.

The X-Ray in Tubercular Adenitis.

DR. MAY CUSHMAN RICE, Chicago, reported a case of tubercular adenitis in a girl aged 18, who had been operated on five times, the disease recurring again. X-ray treatments were then given three times a week, ten-minute exposures, with a medium vacuum tube, tube distance three inches. After the third treatment the glands began to diminish in size, and at the end of two months the largest gland was about the size of a bean. There was a corresponding increase in weight and improvement in general health. The second case, a woman, aged 32, disease of five years standing, was treated with the high-frequency current by means of the Tesla coil and static machine, with only slight improvement. The *x*-ray was substituted, and after five months the glands could scarcely be felt.

DISCUSSION.

DR. G. G. BURDICK, Chicago, emphasized the importance of not restricting the treatment of tuberculosis to the *x*-ray, but to look on the *x*-ray as a most valuable agent when used with other remedial agents.

DR. GEORGE E. PFAHLER, Philadelphia, suggested that a great many cases of tuberculosis get well without ever seeing a doctor and without ever knowing that they had tuberculosis, a fact of which we must not lose sight when we draw conclusions as to the efficacy of the *x*-rays in the treatment of tuberculosis. He has had very gratifying results from the use of the *x*-ray in the treatment of all forms of tuberculosis. In treating tubercular glands, especially those of the neck, we should also expose the lung, because most of these cases have some involvement of this organ. He never protects anything except the hair and face of the patient.

DR. C. L. LEONARD, Philadelphia, said that in using the *x*-ray we must be governed by a dosage which is known and can be measured, and that on this will depend the results that are obtained. Its action in tuberculosis is that of an alterative and a stimulant, but we must not depend on that agent alone.

DR. E. G. WILLIAMS, Richmond, Va., emphasized the fact that all his patients had improved in general health under the *x*-ray treatment. One case gained 70 pounds in nine months. The *x*-ray stimulates metabolism more than any other agent.

DR. HENRY HULST, Grand Rapids, Mich., has had good results in the treatment of tuberculosis of glands, joints and peritoneum. He has never used it in pulmonary tuberculosis because a perusal of the literature has convinced him that when the *x*-ray is used critically no good results are obtained.

DR. S. TOUSEY, New York City, reported a wonderful improvement in a case of tuberculosis of the larynx, using the method advocated by Dr. Rudis Jicinsky. In four months the ulcerations had healed almost entirely. He also reported considerable improvement in a case of tuberculosis of the prostate gland which was treated by raying the abdomen and by letting the rays shine into the rectum through a specially constructed tube.

DR. C. E. SKINNER, New Haven, Conn., used the *x*-ray in three cases of advanced pulmonary tuberculosis, but was unable to perceive any influence whatever in any of the cases.

DR. GEORGE C. JOHNSTON, Pittsburg, reported similar results. His experience leads him to prefer climatic to *x*-ray treatment. The treatment of tuberculosis under ordinary climatic conditions by means of the *x*-ray alone is a failure.

This was followed by a symposium on the treatment of malignant diseases.

The Treatment of Epithelioma.

DR. GEORGE C. JOHNSTON, Pittsburg, divides his cases, first, those in which, owing to location, extent, metastasis, condition of the patient, and various other factors, a cure can not be expected, and, therefore, treatment is purely symptomatic; second, those cases in which the location and other conditions are such as to permit of the expectation of a cure. He gives daily treatments for the first ten days, unless an undesirable degree of reaction occurs, when the treatments are given at longer intervals. After the first ten days treatments are given every third day until the desired results are obtained. If the results do not appear, the dose may be increased cautiously, bearing in mind the cumulative tendency of the agent employed. The degree of success obtained will be in direct proportion to the experience of the operator, the correctness of his technic, his familiarity with the apparatus used and his ability to distinguish an active from a worthless tube. He reported 44 cases of epithelioma about the face. The average duration of these cases is four years and eight months; 34 were primary and 10 recurrent cases. The average number of treatments in each case was 22. Metastasis occurred in only 3 cases; 30 cases were cured, 8 were benefited, 3 recurred, and 3 died.

Radiotherapeutic Nihilism.

DR. G. G. BURDICK, Chicago, insists on the importance of having a reliable technic which can be followed by unskilled as well as by skilled operators. He proposes the following: In lupus and other forms of local tubercular involvement, the tube distance should be four inches and the penetration regulated to within half an inch in order to take advantage of the ray of low velocity, which resembles the cathode ray. In carcinoma and epithelioma the tube distance should be ten inches and the penetration calculated to reach the center of the growth, producing irritation at least twice, and then increasing the degree of penetration to a high velocity, in order to get cellular degeneration. Sarcoma requires a very high degree of penetration, depending on the density of the growth. When it is desired to take advantage of the tonic effect of the ray a high tube should be used. Where the lethal effect is desired a low tube should be used. It must be remembered that the tonic action of the ray is due to its fluorescence, this being understood as a form of motion, and that the lethal effects are the result of chemical radiations. All carcinomata which have not ulcerated should be rayed thoroughly before they are removed by operation.

The X-Ray Treatment of Sarcoma.

DR. JOSEPH F. SMITH, Chicago, reported 18 cases of deep-seated sarcoma in various organs and tissues in which *x*-ray proved a most severe disappointment.

The Results of Treatment of Carcinoma.

DR. J. N. SCOTT, Kansas City, Mo., said that one great advantage of the *x*-ray is that it can be applied to large areas and to vital organs, if used with care. One disadvantage is the long period of time over which the treatment must be extended. All tumors operated on and found to be malignant should have a course of *x*-ray treatment, and if at the end of from one to three months no recurrence has set in the patient may be considered as cured, but should be kept under observation.

Carcinoma of the Breast.

DR. CHARLES L. LEONARD, Philadelphia, said that the essential factor of any successful treatment of malignant disease is that it be radical and used early, its severity to be limited only by the patient's general vitality and of the normal tissues that surround the affected area. Thorough surgical treatment.

wherever consistent with the preservation of the function of life of the area involved should be advocated as the primary treatment. If any aid is to be expected from Röntgen ray treatment it must be commenced immediately after the surgical operation, before the patient is out of bed. The healing of wounds and the closing of sinuses are hastened by Röntgen ray treatment. A careful study of the results obtained by this treatment in malignant disease of the breast shows that it has been most affected where it supplements rather than supplants operation. In inoperable and hopeless cases it affords relief from intolerable symptoms, lengthens life and offers the patient the most. The best results are obtained in scirrhus; in fact, the only favorable results of primary treatment have been obtained in these cases. Metastasis can be influenced and held in check by the Röntgen ray treatment. In all other cases surgical removal of the breast and the adjacent lymph glands is always indicated. Technic and experience, as well as local and constitutional treatment, are essential to success in the treatment of malignant disease of the breast. He reported 26 cases treated since 1900. Of this number, 12 are dead, 2 have not been heard from, and the remainder are living. Two had preparatory treatment, and they have lived eighteen and sixteen months respectively. One had a primary inoperable scirrhus; 4 had recurrences, in 3 the recurrence has disappeared entirely and has not recurred in twenty-one, ten and four months respectively. In 1, massive recurrence followed immediately after operation. Of the cases receiving post-operative *x*-ray treatment, 4 are living and are free from recurrence, nineteen, fourteen, twelve and seven months after operation. Of the 12 patients who died, all except 3 were benefited when first seen. Two of them had post-operative treatment, but died eighteen months after the operation. He considers the results very encouraging and urges further study and observation in the treatment of malignant disease of the breast with the *x*-ray.

Variations of Radiotherapeutic Technic.

DR. RUSSELL H. BOGGS, Pittsburg, advocated the employment of more accurate methods and suggested that some perfect results that are reported in the treatment of tuberculosis or malignant disease may be due to the perfect technic employed by the operator or to a wrong diagnosis. He insisted that the most important point is the tube distance, because the intensity of the light varies inversely as the square of the distance. For skin lesions there is no occasion to place the tube more than from 4 to 6 inches from the skin, but that is not the case in the treatment of deep-seated lesions. Another important point is that the *x*-ray should be of large volume when deep lesions are to be treated. A low-vacuum tube at a distance of from 12 to 16 inches will penetrate the tissues effectively. With reference to cancerous disease, he spoke of cases of small epitheliomata situated on the face, which can be cured in from 6 to 8 weeks, depending on the vitality of the patient. In cases in which the disease appears to be localized, the tumor should be removed at once and followed up by *x*-ray treatment. Cases having considerable glandular involvement should be treated for a time with the *x*-ray, then operated on, and treated again with the *x*-ray. Usually, twenty treatments before and twenty after operation are all that are required. Those cases that are considered inoperable should be treated by the *x*-ray because of its inhibitory action on the disease and for the comfort it affords the patient. All cases should be given tonic treatment as well. Alcoholics, syphilitics and anemic patients in general do not, as a rule, improve rapidly. Such cases should receive individual specific medication in addition to the *x*-ray treatment.

Cases of malignant disease were reported by the following: George C. Johnston, C. L. Leonard, J. F. Smith, J. N. Scott, G. G. Burdick, R. H. Boggs, W. W. Johnson, M. K. Kassabian, G. E. Pfahler and E. G. Williams.

The Compression Tube in Skiagraphy of Calculi.

DR. HENRY HULST, Grand Rapids, reported the good results he has obtained from the use of his compression tube, a modification of the Albers-Schoenberg *"compressions-blende,"* in skiagraphy of fat people.

The Interpretation of Radiographs of the Chest.

DR. P. M. HICKEY, Detroit, Mich., said that in order to secure the best results perfect mastery of the tube and employment of stationary secondary current and the use of developers which will secure the greatest detail and contrast are necessary. It is also necessary that the observer should be experienced in the reading of these negatives. The exposure should be made as rapidly as possible with a view to securing the greatest amount of contrast. To interpret these negatives we should know the position of the target of the tube with reference to the area exposed, and a suitable illumination of the negative by means of the illuminating box is essential. Furthermore, careful distinction should be made between physiologic and pathologic conditions, such as a large or vigorously pulsating aorta and an aneurism of the aorta.

The X-Ray in Injuries Near the Wrist.

MR. M. WILBERT, Philadelphia, called attention to the fact that fractures of the lower end of the radius are frequently complicated by other more or less extensive injuries, and that the other bones entering into the formation of the wrist joint are also subject to fracture. Fractures at or near the wrist joint are extremely common and vary considerably, both in location and direction, and in the nature and extent of the injuries to other structures. Of the 26,011 cases of fracture rayed by him, 660 were at or near the wrist joint. When skiagraphing a joint it is important to include as much of the surrounding tissues as possible so that any fractures near the joint may be detected. In fracture of the wrist joint, fracture of the carpal bone is very common.

The Value of Stereoscopic Skiagraphy.

DR. M. K. KASSABIAN, Philadelphia, discussed this subject and exhibited an apparatus which is used for stereoscopic examination.

Diagnosis of Brain Tumors and Softening.

DR. GEORGE E. PFAHLER, Philadelphia, exhibited a series of skiagraphs made for the purpose of diagnosing and locating brain tumors and abscesses of the brain. He said that he would never take the responsibility of an operation on the brain purely on skiagraphic evidence. On the other hand, all cases of brain lesion should be examined by the *x*-ray in order to confirm or add to the clinical evidence.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in everyday practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Heart Disease.

DIET.

Schott, in the *Lancet*, discusses the diet in heart affections, and gives the following two rules: 1. Patients must avoid everything which excites the action of the heart, and 2, they must shun everything which embarrasses the heart's action. The substances which most readily cause excitation of the heart are coffee, strong tea, and alcoholic liquors. These stimulants should be avoided, even in cases where there has been habitual use of them, except in cases where the withdrawal would result in collapse. In these cases, which have been accustomed to the use of alcohol, it is best to give Rhine wine, Moselle, or Bordeaux, which has been matured for from eight to ten years. If it is found necessary to administer other than the light wines, Cognac or whiskey mixed with plain water may be given. No aromatics should be given with the alcohol because of the danger of irritability of the stomach leading to

anorexia and insomnia. Water and milk are the beverages to be preferred. Cocoa deprived of its fat is good, but chocolate does not usually agree. If it is desired to give fats pure cream or cream mixed with milk may be given. To avoid embarrassment of the heart too hearty eating of foods which produce flatulence must de interdicted. They may prove harmful in three ways: 1. The diaphragm is pressed up against the lungs so that respiration is impeded and dyspnea results. 2. The diaphragm is pressed up against the heart, forcing it upward and outward so that its action is carried on with greatly increased effort. 3. Intraabdominal pressure is increased and the abdominal vessels are compressed. Therefore, all effervescing beverages, carbonated waters, champagne, or beer usually disagree with patients suffering from heart disease.

INTERVALS OF FEEDING.

On account of the necessity of avoiding overloading of the stomach, it is best that these patients should eat at three-hour intervals, and the last meal of the day should be taken from two to two and one-half hours before bedtime, otherwise there is danger of disturbed sleep.

KINDS OF FOOD.

Soups should be taken sparingly, chiefly because their nutritional value is too low in proportion to the bulk. A few tablespoonfuls only should be recommended. New bread and freshly baked cakes must be avoided. Toast and zwieback or crust of rolls may be allowed. Of the vegetables, those difficult of digestion and producing flatulence must be avoided, as beans, peas, lentils, sauerkraut, red cabbage, leeks, onions, garlic and celery. Potatoes, boiled or in form of purées, are to be preferred to the less digestible baked potatoes. Turnips and carrots may be eaten when young. Other fresh and easily digested vegetables can not be too highly recommended. Meats are allowable, but the following must be avoided: Eels, fat goose breasts, goose liver pies, rich sauces, mayonnaise on salmon, lobsters, or crabs; highly smoked or salted fish, because of the thirst they produce; fat ham, or bacon, sausages; seasonings and spices, red and black pepper, nutmeg, mace, cinnamon and vanilla.

FRUITS.

Easily digestible stewed fruits are allowed because of their favorable action on the intestinal peristalsis. Raw fruits which have to be peeled are desirable. Grape stones should be removed before grapes are eaten. Raspberries, gooseberries, currants, billberries, cranberries, pineapples, walnuts and Brazil nuts are to be prohibited.

HOT AND COLD DRINKS.

Ice in any form, either as iced drinks, fruit ices, etc., is prone to cause gastrodynia, and may produce congestion of the liver. This should be kept in mind when ice is prescribed for vomiting.

GENERAL INSTRUCTIONS TO PATIENT.

A mixed diet of both meats and vegetables is to be given. Thorough mastication and ensalivation of all the food is as indispensable in affections of the heart as in diseases of the stomach. Of the use of tobacco the author states: "I always recommend patients suffering from heart disease either to give up smoking altogether or else to indulge in it most sparingly, and in the latter case to use very dry tobacco and a long mouthpiece or a pipe. A patient should always be informed that smoking is bad for his heart disease." Drinking at meal time should be restricted. Gentle exercise in the open air for a short time after meals is to be recommended. Each case should be studied and the treatment should be modified in correspondence with the symptoms.

TREATMENT OF CASES WITH ADEQUATE COMPENSATION.

Abram, in the *Lancet*, Aug. 6, 1904, gives the following suggestions for the treatment of various conditions under the following subdivisions:

When compensation is practically equal to the lesion, the author believes that the patient should be told of his trouble in order to obtain his intelligent co-operation in conducting his mode of living. He should be warned against excesses of all kinds, mental and physical. Exercise in moderation may be permitted, but never in competition. If cycling is indulged in care should be taken not to struggle against head winds or up hill. Moderation in the use of alcohol and tobacco must be enjoined; in fact, abstinence is advised. In this stage of a mitral stenosis if a hemoptysis occurs, the author uses a free saline purge with a dose of opium. If the patient is a woman and the lesion aortic she should be barred from marriage. Well compensated cases of mitral regurgitation often pass through pregnancy without trouble. Cases of mitral stenosis should be carefully watched during pregnancy. "Our advice should certainly be against marriage."

TREATMENT OF CASES WITH PAIN AND DYSPNEA ON EXERTION.

In this subdivision are cases in which palpitation, precordial pain, and dyspnea are manifest on exertion, and in a more advanced degree, some passive congestion, with its results in the kidney and liver. In aortic cases throbbing in the neck vessels, headache, and giddiness may be troublesome. Absolutely the best treatment is rest in bed for a week, with limitation of fluid and regulation of the diet and moderate purgation. In aortic cases bromid and iron give relief. General tonics, iron and strychnin, and small doses (two to three minims) of the tincture of digitalis, where rest can not be taken, will aid materially. If there are diseased arteries with high tension, a rigid milk diet and diuretics are indicated.

CASES WITH SIGNS AND SYMPTOMS OF FAILING HEART.

Such cases have to sit upright. Limitation of fluid is often serviceable. The bowels may be gently acted on. For insomnia and the maniacal states frequently seen in aortic disease, trional, sulphonal or paraldehyd are useful, but opium is "our sheet anchor." Of the use of digitalis in aortic cases the author says: "When we find thickened arteries and possibly some increase of tension there is no doubt that the best line of treatment is to limit the fluid taken, open the bowels, and give renal diuretics. If cardiac stimulants are used I prefer strophanthus. When the pulse tension is low digitalis is demanded, and also in cases where the mitral valve has yielded. Dyspnea is often relieved by the use of atropin and strychnin hypodermically. The 'sinking' sensation may be alleviated by the administration of solid opium or 'neat' brandy."

Chronic Colitis.

Shoup, in *Amer. Med.*, gives the following suggestions for the treatment of this condition:

1. He believes the cause to be due in a large measure to displacement of the abdominal organs and the consequent indigestion and its sequelæ; therefore, he replaces the organs and holds them in place by a properly fitted corset. It is the invention of a Paris physician, and has a long, straight front, coming well down over the hips, and as low as can be worn in front, and is held down to the hose by elastic fasteners. It is made to give firm pressure around the hips, and should be put on while the patient is lying down, and laced from below. It may be necessary to change the corset several times before it is suited to the individual case.

2. Make a chemical examination of the stomach contents and select a diet to suit the needs of the individual case. If hydrochloric acid is much diminished or absent, meats should be partially or wholly excluded in the beginning of the treatment. In cases with extreme constipation and passage of mucus, the diet of von Noorden, leaving a large residue and consisting of graham, whole wheat, or corn breads, spinach, cabbage, lettuce, asparagus, cresses, etc., has given the best results. The explanation offered is that a bulky meal passes more quickly out of the stomach and through the intestine and overcomes the constipation, which is a most troublesome symptom. If diarrhea is present the diet should be milk, broths, gelatin, eggs, custards, and peptones. If the patient is nervous, a rest of two hours after the main meal should be insisted on. When patients are thin, fats are indicated, and of these butter, cream and olive oil are to be preferred. The olive oil may be given before breakfast, and in some cases before other meals as well.

3. Assist digestion by the administration of hydrochloric acid and some one of the digestive ferments, such as pancreatin, papain, and diastase and bitter tonics, such as gentian or nux vomica. Allay fermentation by the use of intestinal antiseptics, such as salol, resorcin, and creasote.

4. Keep the bowels open by the use of oils by mouth; when the diet and olive oil fail castor oil is the best remedy to use. Salines are not effective. Massage of the colon is also useful.

5. Local treatment should consist of high enemas of alkaline solutions, followed by an astringent, such as krameria or silver nitrate. Large enemas of olive oil should be given while the patient is in the recumbent position, and allowed to flow by gravitation high up into the colon; they are soothing, healing and lessen constipation.

6. See that the patient gets sufficient rest in the recumbent position, and when practical, a change of air, at the mountains or seashore.

7. Treat the attack of pain which precedes the passage of mucus by a hypodermic of morphin and atropin, and promote evacuation of the bowels by the method mentioned above.

Urticaria.

Van Harlingen recommends the following:

R.	Magnesii sulphatis	℥i	30
	Ferri sulphatis	gr. iv	25
	Sodii chloridi	℥ss	2
	Acidi sulphurici dil.	℥ii	8
	Infus. quassiæ q. s. ad	℥iv	120

M. Sig.: Tablespoonful in glassful of water before breakfast.

Duhring recommends the following for local use:

R.	Acidi carbolici	℥iss	6
	Glycerini	℥ii	8
	Spiritus vini rect.		
	Aquæ amygdalæ amaræ, āā	℥viii	240

M. Sig.: Apply locally two or three times daily to relieve itching and burning.

The following is recommended for use in neurotic subjects:

R.	Liquoris potass. arsenitis	m. xxiv	1 60
	Potassii bromidi		
	Syrupi aurantii corti, āā	℥iv	16
	Aquæ dest. q. s. ad	℥iii	90

M. Sig.: Teaspoonful three times a day.

Medicolegal.

Insane Delusion Defined.—The Court of Chancery of New Jersey holds, in the case of Davenport vs. Davenport, that an insane delusion is a fixed belief based on supposed facts which exist only in the diseased imagination of the deluded person, persisted in against indisputable evidence of its falsity. A mistaken conclusion, arrived at on consideration of existing facts, is not an insane delusion, although the facts may not justify the conclusion.

Indecent Physical Examinations.—The Supreme Court of Iowa says that the case of Garvik vs. the B., C. R. & N. Railway Company was tried as if the charge was rape, by an employe of the company, and that counsel for the company asked that the jury go into a room and examine the man, who consented that it be done. The Supreme Court does not think that the examination by the jury should have been permitted. It says that there was no showing that the private parts were in the same condition as they were when the assault was said to have been committed. Moreover, the ultimate question was not the exact condition of this member, but whether or not the owner was physically incapacitated from having sexual intercourse. The court doubts if this could be determined by a non-expert from a mere examination of the penis. Again, it says, the examination was indecent and should not have been tolerated. Wounds resulting from injuries may undoubtedly be exhibited in open court to the jury, but even here no indecent exposures should be made. Furthermore, the evidence was not demonstrative in character. The court adds that it has found no authority which justified the ruling made by the trial court, and that it doubts if there is any to be found in the books. Be it remembered, it continues, that the plaintiff was entitled to be present during the entire trial with her counsel, and that there were others aside from the witness (employe) who were entitled to be present at the examination of his private parts. "Let it be said, once for all, that we can not lend our support to such a shocking and indecent performance as was permitted in this case."

What Are Included in Privileged Communications.—Section 4,608 of the Iowa Code contains the provision: "No practicing . . . physician . . . who obtains such information by reason of his employment . . . shall be allowed, in giving testimony, to disclose any confidential communication properly entrusted to him in his professional capacity, and necessary and proper to enable him to discharge the functions of his office according to the usual course of practice." The Supreme Court of Iowa says, in the personal injury case of Battis vs. C. R. I. & P. Railway Company, that all will agree that the manifest purpose of this statute is to make it possible for every person to fully and freely consult with a physician, or submit himself to the examination of such physician, without anticipation or fear that the confidence reposed may be broken in on by a subsequent examination of the physician as a witness in some form of legal proceeding. This being true, the statute should have a liberal construction by the courts. Accordingly this court has held that the expression "confidential communications," as used in the statute, is not to be restricted to the mere verbal statements made by the patient, but must be construed to include all knowledge or information acquired by the physician through his own observation or examination. In the case at bar the interrogatories propounded to the physician were intended to elicit from him certain facts respecting the condition of the plaintiff, and it was manifest that whatever knowledge the witness possessed was acquired from the statements made to him by the plaintiff, and from his own examination and observation. Clearly in such a case the statute applies, and the privilege may be insisted on. Nor is the privilege taken away, as contended for, by the fact that while on the witness stand, and elsewhere, the plaintiff bad stated that he was unconscious when taken to, and while he remained in, the office of the physician, and that the testimony sought to be elicited had relation solely to the condition of the plaintiff as to consciousness, the purpose thereof being the impeachment of the plaintiff as a witness. It may be true, possibly, that the knowledge acquired by the physician was not, in point of fact, and strictly speaking, necessary and proper to enable him to perform the functions of his office. But of this the court is not in position to judge, nor is it called on to determine what the fact might be when reduced to a last analysis. It was the condition of the plaintiff that was the subject of the inquiry, and it was the professional judgment of the physician that was called for. The privilege can not be subject to measurement by metes and bounds, and the court may well assume that all that was told to the physician, and all that was developed by his examination or came under his observation, was necessary and proper for his understanding of the condition of his patient. The relation of physician and patient being established, if by any fair intendment communications made have relation to the physical or mental condition of the patient, the court is bound to hold them privileged. With reference to the local surgeon of the company, called by the station agent to see the plaintiff, the court says that it may be conceded that the sole purpose of the agent in calling this physician was that the latter might ascertain the condition of the plaintiff, and thus be prepared to advise the company should occasion therefor arise, or be a witness on its behalf if necessary. Certainly, if the visit of the physician had been confined to the limits incident to such purpose alone, his eligibility as a witness on behalf of the company might not be open to question. Without doubt a railway company with the utmost propriety may thus advise itself of the fact of injury and the character and extent thereof, in anticipation of a possible claim against it for damages. And with that end in view it may send a physician to inspect and take notes, or

otherwise inform himself of existing conditions. But this can avail the company nothing unless the physician shall strictly retain his character as an employe of the company. If, on request or on his own motion, he assumes to advise or administer treatment to the patient, and the latter in any manner acquiesces therein, the physician thereby casts aside his relation as an employe of the company and transfers his allegiance to the patient. In such instances a case is presented where one can not serve two masters at one and the same time. The allegiance of the physician must be wholly on one side or the other. It matters not, in this connection, who calls him in the first instance or who pays him. He may present himself at the side of the patient on his own motion, and he may not expect, or in fact receive, pay. If the physician assumes to advise or treat he should be put in possession of all facts necessary or material to enable him to do so properly. If the patient acquiesce, he should have the right to, and should, communicate freely and fully, without fear of exposure or of having his confidence made common property. It was to this end that the statute was enacted, and manifestly the purpose thereof may not be frustrated by proof that, at the time of rendering professional service, the physician was under control of employment to serve the interest of the person or company subsequently charged with responsibility for the identical injury he is called on or assumes to treat.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

September 10.

1 *The Nature of the Indications for Operation for Fibroid Tumors of the Uterus. Charles P. Noble.
2 *On the Pathogenesis of Chronic Gastric Ulcer. W. G. MacCallum.
3 *Recent Experimental Work on Anesthesia. Torald Sollmann.
4 *Early Recognition and Treatment of Intestinal Obstruction. Andrew S. Lobingier.
5 Rôle of the General Practitioner in the Prevention of Pulmonary Tuberculosis. F. M. Pottenger.
6 *The Principles of the Preservation of Food. Geo. Richter.
7 The Advertising Specialist. Fred D. Lewis.
8 Sea Versus Land Burial. Thomas R. Evans.

1.—See abstract in The Journal, xlii, p. 1585.

2. **Pathogenesis of Chronic Gastric Ulcer.**—MacCallum says that gastric ulcers may be produced by anything which causes necrosis of the mucosa of the stomach, and thus subjects it to the digestive action of the gastric juice. In some cases the inception is very obscure. The persistence of some of these ulcers offers the greatest difficulty of explanation. It is probably true that all gastric ulcers tend to heal, but frequently they last a long time because new ulceration occurs in the same spot.

3. **Anesthesia.**—Sollmann considers the following anesthetics: Chloroform, ethyl chlorid, ethyl bromid, gaseous anesthetics, petroleum ether, scopolamin-morphin, cocain-adrenalin, anesthesin, and yohimbin, describing their action and dosage.

4. **Intestinal Obstruction.**—Lobingier emphasizes the fact that the treatment of true intestinal obstruction is immediately and at all times surgical. Late operative interference, due to late diagnosis or to procrastination, is the principal cause of the mortality. A preliminary gastric lavage will do much to quiet and rest the patient when vomiting is an early and depressing symptom. But the deceptive tranquility, which it sometimes brings, should not allay the fears of the attendant or induce him to believe that his first diagnosis was wrong. Efforts to straighten out volvulus and intussusception by hydrostatic pressure must be made early and with great care, but that is doubtful surgery, and many a life has been lost from rupture and peritonitis when the manipulations were violent or continued until the intestine was gangrenous. If the patient is seen early, before serious necrosis occurs, simple release of the constricting band will often suffice. If destructive changes have occurred, and if the patient is very weak and unable to stand prolonged anesthesia, a primary enterotomy should be done, to be followed by an anastomosis as soon as the patient is sufficiently convalescent. If the patient is sufficiently strong, immediate exsection of the gangrenous segment and anastomosis are indicated. Early diagnosis is, of course, necessary. The symptoms which appear early and on which the diagnosis depends, are obstipation; vomiting, persisting more than fifty hours; pain, more or less severe and constant; shock or collapse; meteorism, of localized character; normal or subnormal temperature; a small rapid pulse and a leucocytosis between 15,000 and 20,000, with a strong reaction of indicanuria, if taken before the third day, and if the ileum is involved.

6. **Preservation of Food.**—Richter considers the preservation of food by drying, freezing, sterilization and the action of chemicals. He has devoted considerable time to the study of the preservation of artificial foods, and has worked out a method which he claims has yielded favorable results. It is well known that gelatin, prepared by the hot extraction of bone and cartilage is a digestible proteid, forming no mean part of our regular diet. Dried gelatin, even if contained in open packages, is not subject to decomposition, but remains unchanged for any length of time. As a jelly, it soon becomes putrid. Gelatin, if prepared in very thin films, will take up moisture from the atmosphere according to the dew-point. Richter has made practical use of this by constructing a self registering psychrometer and to preserve food, especially native albumins. His process demands that the material to be preserved should be in solution. For instance, the juice pressed out of raw meat, or a beef soup, containing all the necessary condiments, or strong tea or coffee or ox-gall, is mixed with about 1 per cent. of primary gelatin (commercial gelatin can not be used for the purpose on account of its glue-like taste) After cooling, a jelly forms. This is cut into thin films and dried in a cold-air current until it becomes brittle. The leaves are then converted into a fine powder, which will keep indefinitely. If not packed airtight it will take up moisture, but not enough for decomposition to set in. It may eventually cake, but the cake is brittle. Insects find the dry substance too hard for their uses. The powder is instantaneously soluble in luke-warm water. To insure the absence of septic or other organisms, the dry powder is heated to about 100 C. before packing, or in the package. Whole milk can not be preserved on this principle as oxygen can not be excluded. After a while the powdered milk turns sour and exhibits a taste and smell of cheese. Egg-gelatin powder has excellent keeping qualities for about ten months, when its solubility becomes less, though it remains perfectly digestible. These preparations are not on the market nor are they likely to be manufactured for the present.

New York Medical Journal.

September 10.

9 *The Treatment Following the Bloodless Reduction of Congenital Hip Dislocation. Dexter D. Ashley and Frederich Mueller.
10 The Present Condition of Tenontoplasty. (To be continued.) Professor Vulpius.
11 Treatment of Mucomembranous Colitis by Colostomy. John M. Elder.
12 *What Can Be Done to Check the Progress of the Age Degenerations? Bradford C. Loveland.
13 *Influenza or Acute Articular Rheumatism? Their Diagnosis, with a Report of My Own Illness. Max Talmey.
14 *Treatment of Status Epilepticus, with Report of Two Cases Annie M. Tremaine.
15 *Immediate Repair of Injuries of the Pelvic Floor. H. C. Coe
16 Case Presenting Unusual Difficulties in Diagnosis. (Chole cystitis Simulating Appendicitis.) Walter G. Elmer
17 Large Fibroids of Uterus Complicating Pregnancy; Porro Operation. William C. Wood.

9. **After-Treatment of Congenital Hip Dislocation.**—Ashley and Mueller consider the after-treatment of unilateral and bilateral congenital dislocations of the hip of group B, that have been corrected by the bloodless reduction method. Their method is that advocated by Lorenz.

12. **How to Check the Age Degenerations.**—Loveland considers those changes in the arteries and smaller arterioles or capillaries incident to advancing years, and imperfect elimination or the gouty habit, in which the walls become thickened,

stiffened, harder than normal, and later pass through the calcareous or atheromatous degeneration. Many conditions are dependent on these changes as a fundamental cause, and a considerable majority of all deaths occurring after middle life may be charged to the account of degenerated arteries. All the causes, save two, nephritis and old age, are removable. Hence, says Loveland, it is logical to suppose that after a removal of the cause the disease should be stayed in its progress. He reports three cases, in which he followed a definite method of treatment, which point to the fact not only that there was a limiting of the process, but from the relief of certain symptoms, it would seem that, in some degree at least, an improved circulation in the parts supplied by the diseased blood vessels would indicate a certain amount of restoration in the diseased territory. This improved circulation and nourishment might result from the absorption of thickenings which had narrowed the lumen of the vessels, or a bettered circulation, with more dilated arterioles and capillaries, affecting to some degree the hardened and thickened vessels with the rest, thereby allowing the passage of more blood. Two of the cases were diagnosed as arteriosclerosis affecting the cerebral circulation. The third case involved the coronary arteries. The treatment of one case consisted of a definitely prescribed diet, cool bathing, and moderate exercise, strychnin, 1/30 gr., and mercury protoiodid, 1/6 gr., three times a day. In the treatment of the second case electricity and sodium phosphate each morning, and 5 gr. each of sodium salicylate and sodium benzoate, in a large glass of water, three times a day, were added. The results in the three cases were excellent, but the author does not believe that the patients referred to will not die from some disease dependent on arterial degeneration. Yet, it seems natural that the mode of living, which will result in so much improvement, if persistently adhered to, should leave the patients to be taken off by some acute disease or to "burn out" with old age.

13. **Differential Diagnosis of Influenza and Acute Articular Rheumatism.**—Talmey cites his own case and questions the diagnosis of acute articular rheumatism made by a brother physician. He bases his contention principally on his family history and his personal history. He terms the disease with which he suffers, and which involves the muscular attachment around the joints, "rheumatoid" influenza.

14. **Treatment of Status Epilepticus.**—Tremaine reports two cases in which she used intravenous saline injections with benefit, hence concludes that in this solution we have a valuable remedy for the treatment of status epilepticus.

15. **Immediate Repair of Injuries of the Pelvic Floor.**—Coe emphasizes his belief that by careful attention to these lesions immediately after labor the patient can be spared the necessity of subsequent operations for pelvic floor lacerations, prolapsus, etc. He says that the modern accoucheur must be a thoroughly trained gynecic surgeon, who not only recognizes the true lesion at the time of its occurrence, but looks into the future and sees the patient's condition months after the injury.

Medical News, New York.

September 10.

18 *An Analytical Study of Twenty-eight Cases of Arthritis, with Special Reference to Gout and Its Treatment. Charles C. Ransom.
19 Contribution to the Pathology and Treatment of Acute Gonorrhea. (To be continued.) Ludwig Weiss.
20 Recent Advances in the Therapeutics of Pediatrics. Noble P. Barnes.
21 Hereditary Chorea in Eighteen Members of a Family, with a Report of Three Cases. Malcolm Mackay.
22 Influenza in Children. Kenneth E. Kellogg.
23 Report of a Case of Addison's Disease Treated by Means of Suprarenal Extract and Adrenalin Chlorid. Douglas Symmers.
24 The Gastro-Intestinal Crisis of Erythema Exudativum: Simulating Appendicitis. A. M. Pond.

18. **Arthritis and Its Treatment.**—Ramson reports 28 cases of arthritis, 12 of which (43 per cent.) were gout. The diagnosis is unquestioned, therefore it is interesting to note the relative frequency of gout. Five of these 12 cases were acute gout, while the other 7 were of the chronic type of the disease. Of the other 16 cases 5 were cases of rheumatic arthritis, 4 acute and 1 chronic; 5 cases of gonorrheal arthritis, 1 septic arthritis, 1 arthritis deformans and 2 cases of erythromelalgia. The cases of acute gout were put on a milk diet, the joints were painted with a mixture composed of oil of gaultheria, 1 dram; ichthyol, 1 ounce, and then wrapped in cotton wool, oiled silk and a roller bandage. Colchicin, 1/100 of a grain, was given every two hours, and, as a rule, could be repeated at two-hour intervals for forty-eight hours. After the acute symptoms had subsided the drug was continued at intervals of four hours until the patient was discharged. In the chronic cases the same method was employed in the case of inflamed joints. Stiff joints were massaged and given passive movements and the patients directed to use the joints as much as possible—a very important factor in the treatment. To affect his purpose Ramson employed an apparatus which he calls a "teeter," consisting of a piece of board twenty-one inches long and eight inches wide. About three inches from the lower end another piece of board about ten inches long is fastened at right angles to the first piece by means of a bracket. On the shelf so formed the foot of the affected leg is placed, the longer board being in contact with the posterior aspect of the leg. The patient, seated in a rocking chair, rocks to and fro, thereby producing a greater or less amount of motion in the knee and ankle joints. It is an advantage over walking, as it not only keeps the weight of the body off the knees, but compels a much greater angle of motion. The apparatus eliminates muscular rigidity and the movements of the joints are limited only by the actual structural changes, which are gradually overcome by persistent use of the "teeter." He also favors the use of colchicum in chronic gout. The ichthyol bath is another measure which he has found useful in chronic cases. An ounce of ichthyol is put into a tub of water. The water is fixed at a temperature of from 98 to 100 F., and the patient remains in the bath for from ten to twelve minutes. The effect of the bath is the immediate relief of stiffness and soreness, which often lasts for forty-eight hours; succeeding baths give longer periods of relief. It is a good plan to precede the massage and movements of the joints by such baths, as there will then be much more freedom of movement and less soreness on manipulating. Good food and tonics are, of course, essential.

Boston Medical and Surgical Journal.

September 8.

25 *What Shall We Do with Patients Having Pulmonary Tuberculosis? Frederick I. Knight.
26 *The Interrelation of Medicine and Surgery in the Treatment of Gastric Ulcer. Hugh Cabot and George S. C. Badger.
27 Spindle-cell Sarcoma of Foot. Amputation. Recovery. Lung Metastases. Death. Autopsy. Charles L. Scudder.

25. **Pulmonary Tuberculosis.**—Knight's paper is a discussion of the present treatment of tuberculosis by means of fresh air, diet and rest.

26. **Gastric Ulcer.**—The indications for the medical and surgical treatment of gastric ulcer are discussed by Cabot and Badger. In acute bleeding ulcer operation is to be advised: 1. After failure of good medical treatment to promptly stop acute hemorrhage. 2. If, though the acute hemorrhage has been controlled, slight but frequently recurring hemorrhage persists. 3. If, after the control of a large acute hemorrhage a second hemorrhage occurs within a short time. It is not wise to defer operation until the patient is so far reduced as to render the risk of surgical operation very great. Medical treatment should be persisted in: 1, in cases of acute hemorrhage not preceded by a train of dyspeptic symptoms and not showing a marked tendency to recurrence; 2, in cases in which acute hemorrhage is followed by apparent complete recovery, and in which the patient is free from serious annoyance from dyspeptic symptoms. Operation is also indicated in perforating ulcers of the stomach; chronic dyspepsia without dilatation, which fails to yield to proper medical treatment, and cases of chronic dilatation of the stomach which fail to yield to medical treatment and are not due to a general visceral ptosis.

Medical Record, New York.

September 10.

28 *The Cycle of the Tubercle Bacillus. A Preliminary Announcement. Stephen J. Maher.
29 *Clinical and Other Features of the Recent Epidemic of Cerebrospinal Meningitis. Henry W. Berg.

30 *Mastoiditis with Paralysis of Facial Nerve; Recovery of Paralysis Following Operation. Seymour Oppenheimer.
31 Regarding Hamlet's Sanity. John W. Wainwright.
32 *Illuminating Gas Poisoning; Its Rational Treatment. Ernest V. Hubbard.

28. Cycle of the Tubercle Bacillus.—Maher details his findings in the cultivation of a large bacillus which he has named *Bacillus maternus* and which he believes represents a mother shape of the tubercle bacillus. He found the organism in a dark barn. The individual rods from blood or milk cultures measure from three to eight microns in length and from three-fourths to two microns in width. One average rod would cover a dozen average tubercle bacilli. It is a non-motile facultative anærobe. It forms a sediment and scum on bouillon and renders it turbid. It forms an opaque, non-spreading colony on the surface of agar or glycerin-agar in tubes or petrie dishes. Deep colonies in agar resemble those of anthrax. It grows at room temperature, and its spores resist more than 100 degrees of moist heat for an hour. It digests but does not curdle milk. It forms a sunken colony in blood serum and only slightly digests the serum. It quickly dissolves gelatin and shrinks to smaller rods. On ammoniated gelatin the rods are somewhat stouter, with a growth of diplococci. After fifty hours on sugar gelatin the colony consists of many large spores and an immense amount of acid-fast amorphous spore matter, which fills to bursting many of the rods, and which is also found in various rounding shapes, free in the microscopic fields. On potato, a dry opaque gray or lemon-colored growth is formed. Maher has not yet been able to grow a pure colony of *Bacillus maternus* from tubercular sputum, but is satisfied that he has several times recognized individuals and groups of this organism in the fields of blue biscuits and pus-nuclei and acid-fast rods, with which we are all familiar. He has isolated what seems to be a pure culture of *Bacillus maternus* from smegma and also from the spleens of guinea-pigs dead with tuberculosis.

29. Cerebrospinal Meningitis.—Berg's usual method of treatment consists of repeated lumbar punctures only when, after a period of improvement, the temperature rises again and symptoms of increased intraspinal and intracranial tension occur. If the cerebrospinal fluid flows from the canula in a continuous stream under tension, the withdrawal of from 15 to 30 c.c. of fluid will do much good. If it escapes drop by drop the puncture will have no effect from a therapeutic standpoint. Sodium iodid is given in considerable doses, from 5 to 10 grains every three hours to a child over a year old; from 15 to 20 grains every three hours to adults. Adults also receive 15 grains of mercuric ointment by inunction in the back of the neck twice daily, until the gums are red. In children with open fontanelles, the oleate of mercury in proper doses is rubbed into the anterior fontanelle. In older children the mercurial ointment is rubbed into the back of the neck and spine, in pieces as large as a bean, several times a day. Icebags should be applied to the head, neck and spine. With these methods, together with the treatment of symptomatic indications, 40 per cent. of recoveries may be expected. When the temperature goes above 103 F. he uses a warm bath, temperature 80 F., in which the patient remains five minutes. The temperature of the bath is then raised to 90 F. and the patient allowed to remain five minutes more. Care must be taken to prevent bed sores, local infection of the skin, eyes, ear, nose and throat. The patient should be placed in a large light room, with plenty of air space and proper ventilation. Sunlight is desirable, as it is one of the most powerful antidotes to the bacteriologic cause of this disease.

30. Mastoiditis and Facial Paralysis.—Oppenheimer reports two cases of mastoiditis with paralysis of the facial nerve, both of which recovered after operation. He offers nothing new.

32. Illuminating Gas Poisoning.—Hubbard reports a case of this kind in a woman, aged 75, in which, following venesection, abdominal hypodermoclysis was done. The pulse, which had been thready and barely perceptible began to improve within a few minutes. The injection was continued until 1,200 c. c. had been given. After an hour the patient showed the first signs of returning consciousness and by nightfall she had quite recovered. Venesection removed much of the poison and the saline infusion diluted the remaining poison, and furnished the heart with fluid to continue its work until the blood making organs could furnish a new supply. The venesection must be performed early in order to ensure success. The amount of blood to be withdrawn will vary in the individual case. When the pulse becomes feeble it is time to stop The saline infusion is injected until the radial artery at the wrist gives a full steady beat. If four or five hours have passed with no evidence of returning consciousness, a second venesection may be done, but with great caution.

Cincinnati Lancet-Clinic.

September 10.

33 Ductus Cysticus Bills. The Duct of the Cholecyst or Gall Bladder. Byron Robinson.
34 Ice-Cream Balls; a Report of Two Cases of Ptomaine Poisoning. F. Hoeffer McMechan.

Buffalo Medical Journal.

September.

35 *Post-partum Hemorrhage. J. W. Grovenor.
36 Adulteration of Food and Food Products. John H. Grant.
37 An Analysis of 50 Herniotomies. Marshall Clinton.

35. Postpartum Hemorrhage.—Grosvenor, in a very excellent article on this subject, calls attention to the following important points: 1, The gravity of the subject; 2, uterine atony, the most frequent cause of postpartum hemorrhage; 3, meddlesome midwifery, a prolific cause of postpartum hemorrhage; 4, profound anesthesia a causal factor; 5, the need of watchfulness and alertness on the part of the accoucheur; 6, the treatment demands that the accoucheur be prompt and resourceful; 7, the necessity of both contraction and retraction of the uterus; 8, although cases left to nature have recovered, a do-nothing policy is strongly condemned; 9, the usefulness of prophylactic treatment, especially in cases which indicate the existence of a hemorrhagic diathesis; 10, heredity a causal factor of the hemorrhagic diathesis; 11, the advantage of medical superintendance of pregnancy from its incipiency to its close; 12, the importance of after-treatment.

Archives of Pediatrics, New York.

August.

38 *Some Considerations Regarding Substitute Feeding During the First Year. Thomas M. Roteh.
39 *The Influence of Breast Feeding on the Infant's Development. Henry D. Chapin.
40 *Primary Malignant Tumor of Both Adrenal Glands with Secondary Affection of the Liver. Samuel Amberg.
41 Simple Method of Modifying Milk in the Tenements. Emelyn L. Coolidge.

38.—This article has appeared elsewhere. See The Journal of September 3, ¶68, p. 697.

39.—Ibid., title 65, p. 697.

40. Primary Malignant Tumor of Adrenal Glands.—Amberg reports a case of this kind occurring in a child two months old. The parents first noticed a slight swelling of the abdomen, which increased rapidly. On examination he found the enlargement, some edema of the abdominal walls and the superficial veins much distended. On palpation, a hard smooth mass was felt, chiefly in the right side of the abdomen, extending from the costal margin down to the right inguinal region, passing deeply into the right flank and filling up the whole space between the ribs and the iliac crest. In the right inguinal region a firm edge was felt, which could be traced from Poupart's ligament toward the navel, passing below the navel and then gradually ascending. To the left of the navel a notch could indistinctly be felt, but it was not possible to distinguish two separate masses. The length of the tumor mass in the median line was 16 cm., the distance from the interclavicular notch to the umbilicus was 21.5 cm., and the greatest circumference of the abdomen was 46 cm. The uniform tumor apparently represented the liver. The red blood corpuscles numbered 2,800,000; the white 11,000, of which 79 per cent. were polymorphonuclears, 18.5 per cent. small mononuclears, 2.3 per cent. large mononuclears and transitionals, and 0.2 per cent. eosinophiles. The child died in convulsions six days after it was seen the first time. The autopsy disclosed a tumor of the left adrenal gland and a very much enlarged liver. The liver was cirrhotic and fatty, and contained numerous masses

of cells, the same as those in the adrenal tumor. The tumor was apparently a malignant one, taking its origin, probably, from the medulla of the adrenal gland. The growth in the adrenal itself was too far advanced to give any information regarding its origin. Morphologically, the tumor may be classed as a carcinoma or as an alveolar sarcoma.

American Journal of Orthopedic Surgery, Philadelphia.

August.

42 President's Address, American Orthopedic Association. Reginald H. Sayre.
43 *Technic of Neuroplasty. Hans Spitzy.
44 Report of a Case of Nerve Anastomosis for the Cure of Infantile Palsy. James K. Young.
45 *Final Results in Tendon Transplantation. Albert Hoffa.
46 *Surgical Procedures for the Relief of Infantile Paralysis of the Lower Leg. John Dane and David Townsend.
47 *Value of Bier's "Congestive Method" in the Treatment of Joint Tuberculosis. Albert H. Frieberg.
48 Distinction Between Fracture of the Neck of the Femur and Epipbyseal Disjunction in Early Life, with Reference to Its Influence on Prognosis and Treatment. Royal Whitman.
49 Operative Treatment of Intracapsular Fracture of the Hip; a Report of Cases. Charles F. Painter.
50 Anatomic Treatment of Fracture of the Neck of the Femur by Which Bony Union Can Be Secured in the Large Majority of Cases. James E. Moore.
51 Extirpation of the Tensor Vagina Femoris for the Correction of Internal Rotation in Spastic Paraplegia (Little's Disease). V. P. Gibney.
52 The Heidelberg Splint; a New Bandage. O. Vulpius.
53 Treatment of Acute and Subacute Inflammations of the Knee Joint by Apparatus Permitting Locomotion with Protected Antero-posterior Motion at the Joint. Newton M. Shaffer.
54 Influence of Growth on the Course and Treatment of Congenital Clubfoot. A. B. Judson.
55 Report of Experiments to Determine Whether Plaster of Paris Contracts or Expands in Setting. J. Torrence Rugh.

43. **Technic of Neuroplasty.**—Experiments on animals, as well as operations on man, have proved that it is possible to establish reciprocal connection between two different nerves. Splitting and grafting of nerves have also been performed on man, and, in some cases, with good results. Spitzy carried on experiments for the purpose of determining the kinds of paralysis that are observed most frequently, and the best methods for correcting the same. Dogs were used, and his results were good. The first rule is most scrupulous asepsis and a careful closure of the incision. The first experiment consisted of grafting the perineal nerve on the tibial. Clinical tests showed a good result. Microscopic sections made from tissue taken from the site of union showed distinctly the passing of nerve fibers from the stem of the tibial nerve into the implanted peripheral stub of the perineal. Other experiments were equally successful. Neuroplasty should be resorted to in cases of paralysis where the period of spontaneous regeneration has passed and when other therapeutic measures have proved useless, if the interruption of the conductivity can not be remedied by means of an operation (excision of the scar, primary or secondary suture, neurolysis.) Neuroplasty is to be recommended in any case before an extensive tenoplasty is attempted. The author expresses the opinion that these plastic operations are, at all events, worth a trial. The advantage of the method is that it does not interfere with any other methods known and practiced, but is an addition and an increase to our therapeutic resources.

45. **Final Results in Tendon Transplantation.** Hoffa says that in order to achieve a good result after a tendon transplantation four conditions are necessary: 1. Perfect asepsis. 2. Prevention of hemorrhage. 3. Healthy muscle material. 4. the tendons must be united under certain tension. Not much can be expected from an operation on a limb totally paralyzed. The leg cannot be made to functionate again, but the patient can be freed from the annoyance of depending on orthopedic apparatus. This can be done in a great number of cases. In other cases a certain amount of tendinous fixation of the joints can be produced which still allows a certain amount of functional activity. In some cases it is possible to bring the muscle back to life. These are the ones in which the regenerative powers are still present in the muscles. By shortening the muscles their elasticity and tone is restored. As to the method of operating, Hoffa believes that the best results can be obtained by combining the operation of Nicoladoni with that of Lange. Of course, the factor of individual experience in the performance of these operations counts for much. The most important essential for the success of the operation is to obtain the highest possible tension with an over correction of the deformity. This necessitates the correction of the deformity before operating. The longer and more careful the after-treatment the better are the final results. Hoffa refers briefly to the good results he has obtained in paralytic club foot, shoulder joint paralysis, spastic contracture of the forearm and elbow, and paralytic talipes calcaneus.

46. **Infantile Paralysis of the Lower Leg.** The authors have made a comparative study of the results of various surgical operations for the improvement of the conditions found in the lower limb as a result of infantile paralysis in 50 consecutive cases, with a view to determining what operations offered the best prospect of a useful limb. As the operations were performed by various surgeons, the equation of personal technic was practically eliminated. It is important to remember, however, that all these cases were dispensary patients, and were cared for in the dispensary after the operation. The present status of 14 cases could not be obtained. These statistics would seem to show

1. That in all cases where an attempt was made to restore the balance of muscular power by means of a transferenoe of either the peroneus tertius or the extensor longus hallucis, the transplanted muscle has failed to hypertrophy to an extent sufficient to cause any benefit. (Eleven such cases fail to show any improvement.)

2. That simply shortening the extensor tendons in cases of equinus, even aided by transplantation of the flexor longus hallucis, is of no prominent benefit. (Two operations, both followed by relapse.)

3. That, where the peronei are inserted into a paralyzed tendo Achillis for the relief of calcaneus, the result is usually disappointing. (Five operations, the result in four being distinctly poor, and in one only fair.)

4. That, in cases where the peronei are transplanted to the inner side of the foot for the correction of a valgus deformity, the results are slightly better, but there are relatively few successes (Six operations. Two results were poor, two fair, and only two good.)

5. That, where a portion of the tendo Achillis is transplanted to the extensor side of the foot for the relief of equinus, the condition is distinctly improved. (Two operations, that in which the tendon was joined to the common extensor giving a stronger foot when it was united with the anterior tibial.)

6. That the best results following tendon transplantation were in cases where the whole or a portion of the anterior tibial was transferred to the outer border of the foot for the relief of equino varus. (Three operations, showing two good results and one that was fair. The latter was performed by the so-called Lange method of lengthening the transplanted tendon by means of braided silk. The silk acted as a foreign body, and sloughed, thus preventing a good result. Experience with cases that are too recent as yet to report would seem to show that, where the transplanted tendon can be given a sub-periosteal insertion in the cuboid, the functional result is better than when it is inserted into the tendon of the peroneus brevis. All the latter cases promising well.)

7. That astragalectomy uniformly yields a good, useful foot (Three cases, and all successful.)

8. That the results of arthodesis of the tibio-astragaloid joint are, as a rule, excellent. (Nine operations, with seven good results. In one of these cases complete immobilization was not secured at the first operation, but a second gave a most excellent result. In the other there was no improvement, due probably to a failure to remove a sufficient amount of the articular cartilage A somewhat stronger foot was found in the cases of arthrodesis than these where astragalectomy had been performed.)

The conclusion would seem to be that, while tendon transplantation may in certain cases yield a satisfactory result, the selection of cases for this operation should be much more careful than it was three or four years ago, and that for the great majority of hospital cases either astragalectomy or arthrodesis offers by far the greatest promise for obtaining a strong, useful foot several years after the operation.

47. **Bier's Treatment in Joint Tuberculosis.**—Freiberg discusses Bier's "congestive method" in the treatment of joint tuberculosis. Originally, the congestion produced was as great as possible; the parts became not only turgid with venous blood, but also cold. Considerable pain had to be endured by the patient, and the constricting bandage was applied for hours at a time. Bier has modified his method so that all possibility of damage by it would seem to be removed. As at present advocated, the congestion should never pass beyond the "hot stage." The patient should feel no pain; the treatment should not be more than one hour daily. Freiberg has found that by using a bandage of elastic cotton webbing the degree of congestion is controlled more easily than when the rubber bandage is used. In patients of ordinary intelligence the proper application of the bandage is very soon learned, so that it can be applied at home. In conjunction with the Bier method, Freiberg insists on immobilization and protection, the same as heretofore. He regards the method as an adjuvant to the re

sources long at our disposal, but by no means destined to supplant them. The improvement in results is unquestionable, but not so great that he would be willing to trust to congestion alone. The congestion method of treatment has an influence on muscular atrophy by accelerating the reparative process. The possibility of cure by congestion, says the author, is never to be ignored. It would seem of special importance in diseases of the wrist and ankle; but to attain success by means of Bier's method requires time, and patience, and care in detail. Unreasonable things should not be expected of it. Three cases are cited in which the method was used successfully.

Journal of the Association of Military Surgeons, Carlisle, Pa.

September.

56 Observations on the Campaign in Western Porto Rico During the Spaish-American War. Palley K. Ashford.
57 *Differential Diagnosis of Typhoid Fever in Its Earliest Stages. William C. Rucker.
58 Report of a Case of Malarial Sciatica. Elon O. Huntington.
59 United States Army General Hospital at the Presidio. Alfred C. Girard.

57. **Differential Diagnosis of Typhoid Fever.**—Rucker gives a splendid review of the differential diagnosis of typhoid fever, covering the entire field, including all the various laboratory methods that serve as a means of diagnosis. He had fused his own experiences with those of many other observers and gives an impersonal résumé of the whole, endeavoring to treat the subject in its entirety rather than make the paper an excuse for a dissertation on one particular point. He summarizes his paper as follows: 1. There is no single symptom on which alone an early diagnosis of typhoid fever can be made. It is only by careful consideration of the symptom-complex that a clinical diagnosis can be arrived at. 2. The most trustworthy, as well as the earliest sign of typhoid fever is the presence in the circulating blood of the bacillus of Eberth. 3. The demonstration of the bacillus of Eberth in the blood is not beyond any fairly well equipped laboratory. 4. The bacillus of Eberth is found in the feces later than in the blood, but with comparative ease. The presence of the *Bacillus typhosus* in the feces is of great value as a corroborative sign. 5. The presence of the *Bacillus typhosus* in the rose spots is a trustworthy sign, but has no advantages over examination of the blood from other localities. 6. The serum reaction of Widal is seldom demonstrable during the earliest stages of typhoid fever. It is of value only in the higher dilutions.

Medicine, Detroit.

August.

60 *The Early Lesions of Arteriosclerosis, with Special Reference to Alterations in the Elastica. W. M. L. Coplin.
61 Acute Suppurative Disease of the Mastoid Complicating Influenza, with Report of Three Cases. P. S. Donnellan.
62 *The Mental Disorders of Neurasthenia. Frank Parsons Norbury.
63 The Trophic Disturbances of the Fifth Pair of Nerves. Harold N. Moyer.
64 The Limitation of Untoward Effects in Anesthesia. Henry B. Hollen.

September.

65 *Bacteriologic Study of Scarlet Fever. J. F. Schamberg and Nathaniel Gildersleeve.
66 Report of a Case of Stokes-Adams Disease. R. L. Pitsfield.
67 *Tentative Surgical Methods in the Treatment of Some Stomach Maladies. Thomas H. Manley.
68 Importance of Antepartum Examination. Frederick Leavitt.
69 The Molar Teeth and the Patellar Reflex in Heredity Syphilitic Interstitial Keratitis. George F. Suker.
70 Brometone in Diseases of the Eye, Ear, Nose and Throat. J. Kyle.
71 Syringomyelia. Richard C. Newton.
72 *Primary Carcinoma of the Vagina. Charles G. Cumston.

60.—This article has appeared elsewhere. See THE JOURNAL of July 16, 98, p. 226.

62.—See abstract in THE JOURNAL of July 30, 52, p. 354.

65. **Bacteriological Study of Scarlet Fever.**—Schamberg and Gildersleeve examined bacteriologically a series of cases of scarlet fever. The cultures were made between the second and sixth day of the disease. The blood of twenty cases was examined and negative results obtained in all. Streptococci and staphylococci were found in the vast majority of the cases. Cultures were made from the throats of 100 apparently well persons, and streptococci were found in 82 per cent. Both streptococci and staphylococci undoubtedly are frequently concerned in the complications of scarlet fever, but are not to be looked on as the specific agent. The diplococcus described by Class as the cause of scarlet fever was found by the authors in a comparatively small per cent. of the cases examined. They do not regard this organism as bearing any etiologic relationship to the disease. They believe that the failure to discover the specific cause of scarlet fever may have been due to the fact that almost exclusive search has been made for vegetable parasites and not for animal parasites. The findings of Mallory, of protozoa-like bodies in the skin of scarlet fever patients, will doubtless stimulate research along these lines.

67. **Tentative Surgical Methods in Stomach Maladies.**—Manley considers mechanical therapy, gastric therapy and therapy of the abdominal walls in their relation to the treatment of affections of the stomach, both functional and organic, reviewing accepted methods and procedures.

72. **Primary Carcinoma of the Vagina.**—This is a full discussion of this subject, particularly the surgical treatment, with a report of one case, the patient dying about four months after the operation.

St. Paul Medical Journal.

September.

73 *On Certain Non-diphtheritic Membranous Anginas. Louis B Wilson.
74 Duodenal Ulcer. Symptoms and Diagnosis. Christopher Graham.
75 Notes on the Management of Fractures of the Lower Extremity, with Hodgen's Splint, with Report of Cases. W T. Adams.
76 *Subparietal Injuries of the Kidneys. Walter Courtney.
77 *Pneumonia. A. T. Conley.
78 The Abuse of Drugs. C. R. Christenson.
79 *Surgical Treatment of Varicose Veins. C. H. Mayo.

73. **Nondiphtheritic Membranous Angina.**—Wilson divides the non-diphtheritic pseudomembranous anginas into several groups, each of which is a more or less distinct clinical entity associated with a species of micro-organism either alone or in great preponderance. These nondiphtheritic anginas are important not only because of the necessity of differentiating them from diphtheria, but also because they are frequently transmissable; and their treatment should vary according to the micro-organism present. Carefnl clinical observations, in connection with full bacteriologic investigations, should be made in each case. In order to determine as early as possible the etiologic factor in anginas, cover-slip or slide preparations from the membrane, as well as cultures on diphtheria media, should be made by the physician on his first visit. These should be dried without healing, then fixed by heat, and either stained by the physician, or sent to a laboratory with the culture for further examination. Wherever possible, more extensive bacteriologic investigation should be made. Among the associated organisms found by Wilson were streptococci, diplococcus pneumoniæ, Friedlander's bacillus, spirillum of Vincent, and blastomyces. He believes that the blastomyces is a much more common cause of angina than is believed. These cases present a clinical history of onset with chill, somewhat rapid rise in temperature, malaise and considerable prostration The tonsils are congested, swollen, and rapidly become covered by a thin, grayish white membrane, which in most cases extended forward from the tonsils over the anterior faucial pillar, and in some cases upward, involving the uvula and soft palate. The membrane does not yield readily to local treatment, to silver nitrate, iodin, lactic acid, carbolic acid, or formalin. Antitoxin has been used without any effect on the membrane. Two cases in which no other organisms were obtained in culture proved fatal. Blastomyces were found alone in 136 cases, and in 97 cases they were associated with bacillus diphtheriæ. The organism grows abundantly on the ordinary laboratory media, forming a thick, white and moist growth. In fluid media the growth sinks to the bottom of the tube in a few days. Glucose and maltose are fermented, but without the formation of alcohol. No fermentation occurs in lactose. The organism stains readily, but unevenly, showing nuclei, vacuoles, and chromatophilic granules. No spore formation has been produced.

76. **Injuries of the Kidney.**—Courtney discusses this subject,

reports four cases, and concludes by saying that the inference to be drawn is that nephrectomy should only be performed early when the renal vessels are known to be torn, or when there is such unmistakable disorganization of the kidney structure as to make it reasonably certain that resumption of function can not be expected.

77. **Pneumonia.**—Conley gives a short review of the treatment of pneumonia for the last fifty years, but offers nothing new.

79. **Surgical Treatment of Varicose Veins.**—Mayo is of the opinion that the essential predisposing cause of varicose veins is a congenital defect in the vessels or their innervation, which, in some cases, may be aggravated by occupation, injury, childbearing or constipation. He favors a partial Schede operation or oval incision above a large ulcer combined with excision of the ulcer and skingrafting. At the same time, the Trendelenburg operation, or the more extensive excision of the internal saphenous vein from the upper third of the thigh to a point six or eight inches below the knee, is also performed. The removal of short areas of veins is reserved for those cases with involvement of the veins of the posterior thigh or the external saphenous. In a very few cases where the veins are enormously and irregularly dilated, the stripping process, described below, is impossible through the whole extent of the saphenous. The Bristol method is then used as an adjunct to the enucleation treatment. The author's method is as follows: The vein is sought for and severed in the upper third of the thigh. The proximal end is ligated, the lower end is clamped an inch from the end, which is passed through the ring of the enucleator (a ¼ in. ring of steel with a long handle, not unlike a blunt uterine currette) or placed in the tube of the forceps (which are hollowed out in each blade so as to form a long tube, when closed, about ¼ of an inch in diameter) and the clamps are transferred to the end of the vein. By gentle pushing force the ring or forceps is pushed down the vein, held under tension for six or eight inches, tearing off the lateral branches when the point of the instrument is forced against the skin from beneath, and a small incision made in the skin to the ring or forceps, which is pushed through the opening holding the vein in it like a thread in a needle eye. The vein loop is drawn out of the opening and also from the instrument, which is removed and re-threaded and again forced through the new skin opening, following the vein, and is pushed down to a lower point where a small incision is again made and the same process of removal repeated. The small lateral branches are torn off and, as a rule, have enough muscle structure to close themselves. Below the knee, the branches are larger and the vein is more adherent, so that a short distance can be traversed. Hemorrhage is avoided by position. An ordinary gynecologic standard is placed in position and the leg raised in straight or extended position and supported by the ankle. This renders the limb partially bloodless and secures elevation and accessibility of the field of operation. More than momentary hemorrhage can be checked by a small pack, or an assistant can check it by pressure pad held against the skin over the region from which the blood escaped from the vessels. This method has reduced the time for operation very considerably, and has placed it in the class of relatively trivial operations, although sepsis may render it one of the most serious.

Cleveland Medical Journal.

September.

80 *Syphilis of the Stomach. Charles F. Hoover.
81 *A Year's Experience with the Convulsions of Children. D. S. Hansen.
82 Eclampsia and Its Treatment. Martin Stamm.
83 Paranoia. E. C. Brown.

80. **Syphilis of the Stomach.**—Hoover says that the varied characters of syphilis of the stomach, and the symptoms it may produce, have so many points in common with other diseases that the diagnosis during life must rest on the therapeutic test. Three cases in point are reported, each presenting entirely different symptoms. In none of the cases was there a palpable tumor or area of maximum tenderness. Nothing abnormal could be detected in physical examination, as far as the stomach was concerned. In two cases the only symptoms referable to the stomach were pain, and vomiting, after the ingestion of food. Although two cases gave a clear history of syphilis, no evidences of syphilis were apparent on physical examination. The third case had a saddle nose and perforated soft palate. In these cases it is important to make a diagnosis so that proper treatment can be followed. Unless the physician is strongly impressed with the possibility of syphilis being the etiologic factor, iodid of potassium will not be given on account of its irritating properties to the stomach. When in doubt, give iodid of potassium, is a maxim easily followed when the stomach is not at fault. But the administration of iodid of potassium in a doubtful case in which gastric pain and vomiting are the conspicuous symptoms, is abhorent to the mind of the therapeutist unless the idea of syphilis is paramount in his speculations.

81. **Convulsions of Children.**—Hanson details his experience with the convulsions of children, making special reference to the etiology of the cases observed, and emphasizes the importance of chloroform inhalations, chloral enemata, hypodermic injection of morphin, and the inhalation of oxygen in the treatment of these cases, each to be used as indicated.

Indiana Medical Journal, Indianapolis.

August.

84 Paretic Dementia. Ernest C. Reyer.
85 *Will the Long-Continued Administration of Digitalis Induce Cardiac Hypertrophy? Frank B. Wynn.
86 Case of Mechanical Ileus Due to a Constricting Band and Angulation with Adhesions. L. H. Dunning.
87 Use of the Galvano Cautery in Enlarged Prostate Through the Median Perineal Incision. Wm. N. Wishard.
88 Perineal Prostatectomy the Treatment of Choice in Prostatic Hypertrophy. Joseph Ribs Eastman.
89 Club-foot. J. H. Oliver.

September.

90 *Intestinal Obstruction, with Report of Cases. L. G. Bowers
91 *Treatment of Fractures and Dislocations According to Modern Principles. J. B. Fattic.
92 *The Yeast Poultice, with Instances of Its Successful Use. E. J. Kempf.

85.—This article appeared in THE JOURNAL of July 16, p. 164

90. **Intestinal Obstruction.**—Bowers discusses the etiology, dynamics, and symptoms of intestinal obstruction, and reports two cases, one a man aged 45 years, in which a Meckel's diverticulum was the cause of the obstruction; the second case, a boy 3 years old, in which the obstruction was caused by a portion of the bowel being forced through a slip in the mesentery. An end-to-end anastomosis with the Murphy button was performed in the first case, and the patient recovered. The second patient died from the results of a very extensive gangrene of the bowel.

91. **Points in Treating Fractures and Dislocations.**—This is a general discussion of the subject, as indicated in the title, in the course of which Fattic sounds a note of warning with reference to the improper use of the *x*-ray in determining whether or not a fracture has been attended to properly. Patients sometimes are inclined to base their intention of bringing suit for malpractice on the ground that the fracture was not set properly because the *x*-ray's shadow shows badly and oftentimes gives the appearance of deformity when for all practical purposes it was perfect. In this way, in incompetent hands, the *x*-rays may wreak injustice on innocent practitioners.

92. **Yeast Poultices.**—Kempf reports six cases of sepsis and gangrene in which the yeast poultice was used with satisfaction. His method is as follows: Beer yeast, one quart; corn meal, finely sifted, one pint; mix and place the mixture near a fire until it rises. Then mix the thin raised dough with about two ounces of finely powdered charcoal. Apply the mixture on a thick cloth directly to the affected part and renew every twenty-four hours. It becomes dry and adheres to the parts but can be removed readily with warm water. This is a most efficient antiseptic poultice for the treatment of gangrene, erysipelas, eczema, ulcers, etc.

Medical Fortnightly, St. Louis.

August 10.

93 Is the Profession Growing Less Ethical? M. V. Ball
94 American Archeology from the Medical Standpoint A. I. Benedict.
95 Ocular Lesions in Scarlatina. Eliet O. Sisson.

August 25.

96 The X-Ray as a Therapeutic Agent. Edwin Walker.
97 *Mental Disorders of Neurasthenia. Frank P. Norbury.
98 An Analysis of Last Year's Work in the Municipal Dispensary of the City of St. Louis. Henry J. Scherck.

97.—See abstract in THE JOURNAL, xlii, p. 1440

Virginia Medical Semi-Monthly, Richmond.

August 12.

99 Appendicitis. John T. Graham.
100 Complications and Sequelæ of Parotitis. D. L. Kingsolver.
101 Success in Medicine and the Way It May Be Achieved. George Tully Vaughan.
102 Chloroform Anesthesia. A. Jacoby.
103 Should the Proposed New Constitution and By-Laws of the Medical Society Be Adopted? George B. Jennings.
104 Professional Union; Or, A United Profession. J. G. Carpenter.

August 26.

105 Adenoids and Enlarged Tonsils. Joseph A. White.
106 State Medical Organizations and the American Medical Association. Landon R. Edwards.
107 Smallpox Occurring During Pregnancy. Lewellyn Eliot.
108 "Arthritis Deformans," with Report of Case. Emmett F. Reese.
109 A Case of Acute Yellow Atrophy of Liver, Complicating Appendicitis. Lewis C. Bosher.
110 Plea for the Use of a Standard Whisky. Thomas R. Evans.
111 Hebb's Improved Clamp for Earle's Method of Operating for Hemorrhoids. S. Earle, Jr.

Annals of Ophthalmology, St. Louis.

July.

112 An Improved Scale for Determining Muscular Insufficiencies. Harold Bailey.
113 Case of Bilateral Enlargement of Lachrymal Glands. William T. Shoemaker.
114 Microphthalmos and Congenital Ankyloblepharon; Two Cases. Walter H. Snyder.
115 Paralysis of the Upward Movements of the Eyes. William C. Posey.
116 Suggestions as to Postmydriatic Refraction Tests. George M. Gould.
117 Pemphigus of the Conjunctiva, with Report of a Case. S. H. Brown.
118 Observations on the Pathology of the Crystalline Lens. E. S. Thomson.
119 Historic Note Regarding the Optic Chiasm and Some Points Referring to Monocular and Binocular Vision. M. Marquez.

Atlanta Journal-Record of Medicine.

August.

120 Study of a Case of Lateral Curvature of the Spine; A Report of an Operation for the Deformity. (Concluded.) Michael Hoke.
121 The Prevention of Diarrhea, with Special Reference to Bacteriology. Robert W. Hynds.

Denver Medical Times.

August.

122 Normal Obstetrics. (To be continued.) T. Mitchell Burns.
123 An Outline of Hematuria. Edward C. Hill.
124 A Model Act to Protect the Public Health and Regulate the Practice of Medicine. S. D. Van Meter.

Merck's Archives, New York.

August.

125 Teaching and the Text-Books of Materia Medica and Therapeutics. John Forrest.
126 Index of Disease Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Memphis Medical Monthly.

August.

127 Pneumonia. James S. Rawlins.
128 Hints on the Diagnosis and Treatment of Pneumonia in Young Children. Hermon Hawkins.
129 Technic of the Operation for Appendicitis. J. E. Johnson.
130 Clinical Notes on Three Cases of Appendicitis. Alfred Moore.
131 Two Recent Cases of Extra-Uterine Pregnancy. John M. Maury.
132 The Management of Typhoid Convalescence. J. R. Nelson.
133 Conjunctivitis. B. S. Penn.
134 Treatment of Chronic Posterior Urethritis. John L. Jelks.

Texas Medical Journal, Austin.

August.

135 The Medical Profession; A Contributory Factor to the Death Rate of Consumptives. C. H. Wilkinson.
136 Albargin Joint Review, with Personal Experience. Dr. Selfert.

St. Louis Courier of Medicine.

August.

137 Modern Treatment of Cholera Infantum. Robert M. Sterrett.
138 Value of Differential Leucocyte Count in the Diagnosis of the Diseases of Infancy. John Zahorsky.
139 Angioneurotic Edema; Report of a Case. M. George Gorin.
140 Brief Notes on Three Cases of Strangulated Hernia. John Young Brown.
141 Serum Treatment of Typhoid Fever. E. A. Babler.

Oklahoma Medical-News Journal, Oklahoma City.

August.

142 Typhoid Fever; Diagnosis and Treatment. Charles Blickensderfer.
143 Elbow Joint and Some of Its Abnormalities R. H. Tullis

Interstate Medical Journal, St. Louis.

August.

144 Diagnostic Considerations of Hemorrhage from the Stomach F. Gregory Connell.
145 Fracture of the Forearm Followed by Contracture of the Flexor Tendons; Report of a Case. Clifford U. Collins
146 Surgery of Arthritic Deformans. Hermann B. Gessner.
147 Plastic Surgery. C. E. Ruth.

Medical Age, Detroit.

August 25.

148 Chronic Laryngitis as Treated by the General Practitioner J. T. Pratt.
149 Tuberculous Spondylitis; Diagnosis and Prognosis. John L. Porter.

Carolina Medical Journal, Charlotte, N. C.

August.

150 The Treatment of Prostatic Hypertrophy. Lewis C. Bosher
151 Cholera Infantum. W. F. Chenault.
152 Fecal Vomiting in Intestinal Obstruction. A. K. Bond.

Medical and Surgical Monitor, Indianapolis.

August 15.

153 The Typhoid Ulcer: Its Surgical Aspect. Thomas B. Noble
154 Important Triangles of the Thigh. H. R. Allen.
155 Etiology and Diagnosis of Scarlet Fever. A. L. Wilson.
156 Intestinal Obstruction, with Report of Cases. L. G. Bowers
157 Fracture of Skull Base. Remote Effects. F. W. Foxworthy
158 Experience and Theory. J. W. Crismond.

Fort Wayne Medical Journal-Magazine.

August.

159 Surgical Diagnosis. Miles F. Porter.
160 Some Atypical Cases in Abdominal Surgery. Hal C. Wyman

Northwest Medicine, Seattle, Wash.

August.

161 Address, Washington State Medical Association. Frantz H Coe.
162 The Clean Milk Problem. Kenelm Winslow.

Colorado Medicine, Denver.

August.

163 Acute Otitis Media and Mastoiditis; Recent Cases. Wm. C Bane.
164 Tuberculosis in Its Relation to Public Health. C E. Cooper
165 The State Board of Health and Tuberculosis. J. N. Hall

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Practitioner, London.

September.

1 *Tremors. F. W. Mott.
2 Total Enucleation of the Prostate for Radical Cure of Enlargement of That Organ. P. J. Freyer.
3 *The Diagnostic Value of Hemiplegia of Gradual Onset as a Sign of Cerebral Tumor. R. T. Williamson.
4 Diagnosis of Pulmonary Tuberculosis in Infants and Young Children. S. V. Pearson.
5 *Ulcus Carcinomatosum. B. G. A. Moynihan.
6 Some Distinctions Between Hysteria and Neurasthenia, and Their Association with Other Diseases. W. L. Ascherson.
7 *An Unusual Variety of Pleurisy in Children. C. Riviere.
8 Paralytic Deformities and Their Modern Treatment. J. Jackson Clarke.
9 Recent Work in Anesthesia. J. Blumfeld.

1. **Tremors.**—Mott classifies the tremors arising in disease as follows: 1. Organic disease of the nervous system. 2. Tremors due to poisoning. 3. Tremors in infectious diseases. 4. Neuropathic tremors of degenerates. 5. Tremors of neuroses: (*a*) exophthalmic goiter, (*b*) paralysis agitans, (*c*) neurasthenia, (*d*) hysteria. No classification is quite satisfactory. Very often the tremor is polymorphic—at one time, or in one case, existing only during repose, in another disappearing during rest. Several diseases may present a fine vibratory tremor, such as Graves' disease, neurasthenia, emotionalism and alcoholism. The author believes that tremor is due to a disturbance of the normal innervation currents passing from the spinal motor neurons to synergic groups of muscles, whether these are in action or in passive tonic contraction. A functional or organic disturbance of the nervous structures which regulate and adjust the outflow of the innervation currents from these spinal motor neurons would serve as a cause of tremor. Tremors should be investigated by a consideration of the following questions: 1. Are the tremors local or general? 2. Are they continuously present, or only transitory and called for by certain circumstances, such as emotion, attention, irri

tation or bodily fatigue? 3. Do they occur in the part at rest? Do they cease during sleep? Are they provoked by intentional movements? 4. Is the amplitude of the oscillations extensive or not—in other words, is the tremor coarse and obvious or fine and only discoverable by careful examination? 5. Is the rhythm quick (8 to 9 oscillations a second) or slow (4 to 5 oscillations)?

3. **Hemiplegia With Cerebral Tumor.**—Williamson calls attention to the value of hemiplegia of gradual onset as a sign of brain tumor, even when optic neuritis is absent, or when optic neuritis, headache, and vomiting are all absent. Stated in other words—provided there are no indications of cerebral abscess—progressive hemiplegia, or hemiplegia of gradual onset, in which weeks or a few months elapse before the paralysis is complete, may be regarded as strong evidence of cerebral tumor even when optic neuritis is absent, or when optic neuritis, headache and vomiting are all absent.

5. **Ulcus Carcinomatosum.**—Moynihan reports one case of malignant disease of the stomach in which both the clinical history and microscopic examination showed that the origin of the growth was a chronic ulcer.

7. **Unusual Variety of Pleurisy in Children.**—Riviere reports six cases of loculated effusion occurring over the middle lobe and closely simulating other pathologic changes occurring in children in the same situation, such as pneumonia with subsequent effusion at the base; fibrosis of the middle lobe; pulmonary or glandular tuberculosis; pulmonary collapse and chronic lung disease in the opposite side of the chest, either tubercular or bronchiectatic in nature. The diagnosis was not confirmed with the exploring syringe in any of these cases, the author not deeming such a measure justifiable under the circumstances.

Intercolonial Medical Journal of Australasia, Melbourne.

July 20.

10 Clinical Examination of the Blood. R. R. Stawell.
11 *Two Cases of Splenectomy. R. A. Stirling.
12 *Six Cases of Splenic Anemia in One Family. J. W. Springthorpe.
13 Notes on a Case of Splenic Anemia. H. Sexten.
14 Notes on a Case of Leucocythemia. Alex. Lewers.
15 Notification of Consumption. A. Jefferis Turner.

11. **Splenectomy.**—Stirling reports two cases of splenectomy for splenic pseudoleukemia that recovered from the operation, but makes no mention of their subsequent history. Both cases were alive one month after operation, and the blood findings had improved remarkably. The red cells in one case numbered 4,820,000, and in the other 4,600,000; leucocytes, 8,000; hemoglobin, 85 per cent. The author considers the following indications for splenectomy: Malarial spleen, splenic pseudoleukemia, splenic leukemia, Banti's disease, wandering spleen, abscess of the spleen, rupture, sarcoma, and possibly hydatids of the spleen.

12. **Six Cases of Splenic Anemia.**—These six patients stood in the relationship of three sisters and one brother, and the latter's son and niece. Two brothers and ten cousins have not been examined to determine whether they are or are not affected. There was no family history of congenital syphilis or of acquired syphilis, except in one instance. The ages of the patients were 28, 19, 23, 30, 7 and 10 respectively. Splenectomy was performed in two of the cases who were still doing well one year after the operation.

Australasian Medical Gazette, Sydney.

July 20.

16 Presidential Address. Melville Jay.
17 *Alexander's Operation on the Round Ligaments. W. J. Stewart MacKay.
18 Presidential Address. A. Andrews.
19 *Early Operation in Typhoid Perforation. A. Jefferis Turner.
20 *Gunshot Wounds in the Abdomen. W. A. Verco.
21 Gunshot Wound of Liver, Aorta, Spine; Survival for 33 Days. B. Poulton.
22 Glioma of the Spinal Cord. J. McDonald Gill.
23 Two Cases of Macrocephaly. A. S. Joske.
24 *The Recent Epidemic of Infantile Paralysis. R. B. Wade.
25 *Ibid. W. F. Litchfield.
26 *Epidemic Polyneuritis. Patrick Blackall.
27 *An Unusual Case of Pneumothorax. W. Morrison.

17. **Alexander's Operation.**—McKay describes, in full, Alexander's operation and concludes as follows: Retroflexion of the uterus in virgins and married women when there is no prolapse and when there are no adhesions present is the condition for which this operation is most suitable. Retroversion of the uterus he considers a suitable condition, for, though a retroversion may cause no symptoms, still if the uterus is allowed to remain in its abnormal position the abdominal pressure may in time convert the retroversion into a prolapsus or a retroflexion. If after performing the curettage he finds the uterus retroverted he shortens the ligaments as a routine practice. If with retroflexion or retroversion there is slight prolapse of the uterus, shortening the round ligaments is a good operation when used in conjunction with amputation of the cervix and colporrhaphy. This allows the uterosacral ligaments (the chief supports of the uterus) to regain their tone. In well-marked cases of prolapsus the operation may be done if the woman is in the child-bearing period; if the menopause is passed, or if near at hand, ventrofixation is the proper operation for severe prolapse, though of late he has adopted a plan of removing the uterus by vaginal hysterectomy. It is such an easy matter to explore the ovaries and tubes through the internal ring that he has adopted this method in preference to the median incision when he wishes to remove a small ovarian cyst or a hydrosalpinx.

19. **Typhoid Perforation.**—Turner says that when a recognizable perforation occurs during an attack of typhoid fever an operation should be performed, and at once.

20. **Gunshot Wounds of the Abdomen.**—Verco says that although military authorities are agreed to leave abdominal bullet wounds alone, as they find that this treatment gives the greatest percentage of recoveries, yet in civil cases, the surroundings being favorable, the abdomen ought to be opened as soon as possible after the injury, and the wounds of the viscera, if any, sewn over. In military practice the wound is often inflicted with the stomach and intestines comparatively empty, and hence there is little danger of leakage. Just the opposite is true of most civil cases. Again, when the stomach and intestines contain much fluid the "explosive action" of the bullet makes a much larger hole. Furthermore, it should be remembered that in the case of missiles fired at close quarters there is much tearing of the hollow organs, and not the clean penetration that occurs in a wound from a missile fired at a distance.

24-25. **Epidemic of Infantile Paralysis.**—Wade details his observations made on 34 cases of epidemic infantile paralysis, 16 of them males and 18 females. The youngest patient was 13 month olds, the oldest 7 years. In each case the onset was sudden, the disease being initiated by anorexia, fever and vomiting. In 2, the vomiting was absent; in 3, the attack was ushered in with fever, vomiting and diarrhea; in only 1 case were there convulsions, and this was in an epileptic; in 1, the paralysis occurred during pneumonia; in 1, during measles, and in only 1 case was there apyrexia. The fever in each case persisted for from four to ten days, ranging between 100 and 102. The most marked symptom was pain in the affected limbs, and this was present in 28 out of the 34 cases. Marked tenderness existed in the affected muscles and persisted for some time, in one case lasting two months, and in most cases from three to four weeks. In only two cases was tenderness absent. The muscles of the limbs which were affected in all cases, either alone or in conjunction with others, belong without exception to the extensor groups, and were the trapezius, supraspinatus and infraspinatus, deltoid, triceps and extensors of the fingers in the upper limb; while in the lower were the quadriceps, peronei and extensors of the foot. The flexors and adductors were never involved alone, but only as a part of the general paralysis of the limb. With the onset of paralysis the affected muscles became limp and flabby, but no wasting was noticed. A certain amount of recovery is the rule, but in every case there are some muscles or groups of muscles that show no indication of it. Recovery is slow, does not begin until about six weeks afterward, and in some cases improvement is still going on after four months. The superficial skin reflexes and the knee-jerks were present or not, according as their corresponding muscle was paralyzed or not. Kernig's sign was present in 3 cases; in each case the erector spinæ

was involved. During the acute attack, before the onset of the paralysis, the essential factor to help in arriving at a diagnosis is the tenderness of the muscles. After the appearance of the paralysis, it has to be distinguished from multiple neuritis, which may be done by its acute onset, the want of symmetry and the permanency of the paralysis. The treatment must be expectant. When the paralysis is established, massage and the use of the constant current is indicated, but must be delayed until the tenderness has become diminished.

Litchfield gives a brief summary of 25 cases observed by him. The treatment consisted of keeping the paralyzed limbs warm, massage and measures to prevent deformity, the latter in some cases necessitating the use of splints.

26. **Epidemic Polyneuritis.**—Blackall reports six cases of epidemic polyneuritis, all between the ages of 3 and 18. The disease comes on gradually. The patient feels out of sorts for one day, and the next is very ill and complains of headache. Vomiting now usually comes on, together with pains in the abdomen, more especially in the neighborhood of the cecum. The tongue is thickly coated and the bowels are constipated. Temperature, 101 or 102. Pulse is slightly and the breathing considerably accelerated. At this stage of the attack it is apt to be mistaken for appendicitis, but there is an entire absence of muscular rigidity when pressure is made over the seat of pain. A day later the vomiting is less severe or gone, the pain in the abdomen is less, but pains are felt all over the body, more especially in the limbs. At this stage the disease simulates subacute rheumatism, but is differentiated by the absence of swelling or heat or weakness locally, and the absence of pain in the joints. The pains in the limbs become less, but the loss of muscular power becomes absolute. The reflexes are lost. The *tache méningéale* is well developed. There may be retention of urine. The breathing is short and gasping and is entirely diaphragmatic. The patient speaks with difficulty. The temperature remains up from a week to three weeks. The paralysis gradually disappears, but in three cases out of four that regain their usual health the patients are unable to extend one arm from the body, although they can flex, extend and rotate the forearm, and the power of grasp is not diminished. The muscles that cover the scapula, the shoulder joint and the arm waste away, but the muscles of the forearm are not affected. In two cases the right arm, and in one the left, was affected. The time that has elapsed since recovery from the illness is too short to offer an opinion as to whether the paralysis is likely to be permanent.

27. **Pneumothorax.**—This was a case of suppurating hydatid cyst, about the size of a small orange, filled with daughter cysts.

Presse Médicale, Paris.

28 (No. 63.) *Les indications de la cure de déchloruration. A. Javal.
29 *De la nécessité de l'enseignement obligatoire de l'otologie dans les facultés de médecine. A. Politzer.
30 Assimilation légale des maladies professionelles aux accidents de travail. J. P. Langlois.
31 *La diète dans les néphrites. Köster. Abstract.
32 *Diagnostic différentiel de la fièvre jaune (yellow fever). M. A. Lengua. Abstract.
33 (No. 64.) *Le rôle des lencocytes dans l'absorption et l'élimination des substancea étrangères à l'organisme (of foreign substances). M. Labbé.
34 *Le levurargyre. L. Jullien.
35 L'insuffisance respiratoire; traitement par la gymnastique et la ré-éducation respiratoirea. G. Rosenthal.
36 Report of Seventh International Congress of Otology, Bordeaux, August 1-4.
37 *Mosquitoea on Ships. J. Dupuy. Abstract.
38 (No. 65.) The Balance Sheet of Radiotherapy in Cancer. P. Desfosses and G. Haret.—Le bilan de la radiothérapie dans le cancer.
38½ *Les fausses perforations typhiques (simulated). Rochard. Abstract.
39 Recherchea sur la sensibilité vibratoire. G. Marinesco.
40 (No. 66.) L'assistance médicale indigène à Madagascar. L. D'Anfreville.
41 *Du danger de la mort apparente. Icard (Marseilles).
42 La fièvre bilieuse hemoglobinurique, existe-t-elle en Algerie? Gros.
43 Report of Fourteenth French Congress of Neurology and Psychiatry, Pau, August 1-7. (Commenced in No. 65.)
44 (67.) Yellow Fever According to Most Recent Works. J. Sanarelli (Bologna). La fièvre jaune, etc.
45 Action des rayons *x* sur le sang leucémique. E. Aubertin and B. Beaujard.
46 La cellule nerveuse normale et pathologique. Altérations histologiques des centres nerveux dans lea délires toxi-infectieux des nicoolliques, le délirium trémens et le délire algu. H. Carrier. Abstract of Lyons' thesis.

28. **Indications for Dechloridation.**—Dechloridation or suppression of the ingestion of salt is merely treatment of a single symptom, the retention of salt in heart or kidney disease. But this retention has so many consequences that it is of great clinical importance, especially in Bright's disease, and also in cases of cardiac edema, ascites, hyperchlorhydria, and even in certain cutaneous affections with exudation. Javal gives the detailed history of 2 patients with severe Bright's disease under the influence of intermittent dechloridation. The curves are instructive in several respects. They show that theobromin is valuable as an adjuvant but is unable to take the place of dechloridation. Also that the milk diet is unnecessary—all that is needed is a diet free from salt. This alone will frequently accomplish all that is needed or required, and any medication is superfluous and hence more or less harmful. The changes in the body weight parallel the fluctuations in the salt retention. Daily weighing is thus an important means of detecting slight edema and its preliminary phases, long before they become clinically evident. Abrupt increase in weight is pathognomonic of retention of salt and its retinue of fluids. Each 5 or 6 gm. of salt retained holds back with it a liter of water, equivalent to a kilogram of weight, that is, 2.2 pounds. By daily weighing we learn the exact condition of the retention of salt and can regulate the amount of salt allowed in the diet to correspond with the amount retained.

29. **Otology in the Medical Curriculum.**—Politzer's article was one of those presented to the recent International Congress of Otology, which voted affirmatively on his conclusions. These were to the effect that every faculty of medicine should have a chair of otology and that it should be made one of the compulsory branches of medical instruction.

31. **Diet in Nephritis.**—Köster's article was published in 1903 and proclaims the necessity for a strict milk diet in acute nephritis, in case of uremic symptoms and during exacerbations of chronic nephritis. When the excretion of albumin and the sediment of the urine has attained a fixed amount, the régime can be varied without danger. He advises interposition of a few days of milk diet occasionally.

32. **Differential Diagnosis of Yellow Fever.**—Lengua comments on the difficulty of differentiating a severe case of pernicious malarial fever from fulminating yellow fever. He describes a case in which a man previously healthy suddenly developed symptoms typical of fulminating yellow fever, with the sole exception that there was no icteric aspect. This latter symptom, however, is not invariable in yellow fever. He diagnosed the case as one of pernicious malaria solely from the antecedents of the case. The fever had come on suddenly two weeks after working in a marshy field, and symptoms of tertian malaria had been noted in the interim, the health having always been good before this time. He rapidly recovered under vigorous quinin medication.

33. **Absorption and Elimination by Leucocytes of Foreign Substances.**—Among the points emphasized in this study of the rôle of the leucocytes in respect to foreign substances, we note that Maurel affirms that the amount of a poison necessary to kill the animal is the same proportion as is necessary to kill the single leucocyte. Opium paralyzes the leucocytes and prevents phagocytosis, consequently it is illogical to administer it in affections in which the co-operation of the leucocytes is desired. The leucocytes incorporate the foreign particles and digest them if possible. If not, the digestion is completed in the lymphatic ganglia where the leucocytes carry them, or the foreign particles accumulate in the ganglia if absolutely insoluble. Labbé reviews a large number of the latest theoretical and experimental researches on this subject. They demonstrate that we need not hesitate to use insoluble substances in therapeutics. They may act less rapidly, but they are utilized in time by the intermediation of the leucocytes, and, although somewhat late, their action is all the more durable. The part played by the leucocytes in draining the system of injurious substances and transporting them out of

the organism, rehabilitates the old method of fixation abscesses as a therapeutic measure of great value in certain infections and intoxications.

34. **Levurargyre.**—This term is a combination of the words meaning yeast and mercury, and is applied to a mercurial nucleo-proteid extracted from brewer's yeast grown in a wash containing a certain proportion of bichlorid of mercury. It thus combines the properties of yeast and mercury and seems to display therapeutic action against the general cutaneous manifestations of syphilis. Jullien qualifies the clinical results obtained with this new product as very encouraging.

37. **Ships and Mosquitoes.**—Dupuy's investigations showed that both steam and sailing vessels are liable to have mosquitoes blown or brought on board. They find congenial lurking places in the cabins and hold. Mosquitoes bred on board can not be infected, but those that come on the ship in an infected port are liable to be dangerous to man. He advises that ships should dock where they would be inaccessible to mosquitoes, and also that doors and windows should be kept screened, especially toward evening. As soon as the ship is in the open sea, pyrethrum powder should be burned in the cabins, and they should be energetically aired and ventilated. The Clayton apparatus should be used in the hold, and again on arriving.

38½. **Simulated Perforation in Typhoid.**—The classic arguments in favor of operating in case of typhoid perforation are re-enforced by Rochard's experience with a case in which the assumed perforation had no existence in fact, but the laparotomy had evidently a curative action. A convalescent from typhoid suddenly presented the typical syndrome of intestinal perforation, and was operated on the third hour. The large intestine, duodenum, stomach, and gall bladder were carefully examined but found apparently sound, the only abnormal appearance being exaggerated vascularization of the transverse colon. Nothing further was done and the abdomen was sutured, the patient recovering rapidly without complications. He cites two similar cases published in France in which at the laparotomy nothing was found to explain the symptoms of typhoid perforation, except slight redness of the small intestine in one and congestion with false membranes at the ileum in the other. Rochard thinks that the congestion observed was a sign of incipient peritonitis, and that the severity of the symptoms induced was due merely to the extreme sensitiveness of the peritoneum in persons convalescing from typhoid. The uneventful recoveries in these cases, the manifest curative action of the laparotomy alone, and the inevitably fatal outcome in case of unoperated true perforation, impel to prompt surgical intervention.

41. **Danger of Apparent Death.**—Icard of Marseilles, France, has been investigating every case of resuscitation after apparent death of which he has learned during the last twelve years. The lay press frequently publishes stories of this kind, but in nearly every instance inquiry of the parties interested showed that the stories had no foundation. Even a single authentic case of burial alive should impose on the conscience of every physician the most scrupulous care before he signs the certificate of death. Icard has collected eleven cases in which the physician's certificate of death was followed by the revival of the subject later, and another case in which there was no medical opinion. The revival occurred before burial in every instance. He also knows of other cases, but they lack the strict scientific data of the series he describes in detail. In one case the revival occurred in the mortuary room of a German city where the dead are kept by law until evident signs of putrefaction. He includes in the list an instance personally observed. A woman had taken lodgings at a hotel and sent for her lawyer to change her will. He arrived and went to her room with a bell boy. There was no reply to their knock, and when the door was opened she was found inert and insensible in the bed, the body cold and the limbs rigid. The police were notified, the family informed, and Dr. Icard was sent for to deliver the certificate so that the corpse could be removed. When he arrived, the hotel-keeper met him, grumbling at his delay, and urging him to sign the certificate at once, as the presence of a corpse in the hotel was ruining the business. Icard found some warmth in the body, and perceptible but very faint heart beat, and the patient was soon revived. Hotel-keepers are in such haste to hurry a corpse out of the building that they are liable to antedate the hour of death, and the physician should be on his guard especially in such cases. In another instance the physician attending a prominent citizen was convinced that death had arrived and so notified the family circle. The patient had long suffered from gangrene and chronic arteritis, and in the presence of the physician all the manifestations of life gradually ceased and he was declared dead. Twenty minutes later faint signs of respiration were detected, and the physician's stimulating measures restored him to life. Death occurred finally forty days later. In another case the attending physician had signed the death certificate, which was countersigned by the priest. The latter returned the next day to see the sick daughter of the deceased, and in passing through the room where the corpse lay on the bier he noticed unmistakable signs of life, and assisted in the woman's restoration. The details of each of these twelve cases are given with names, addresses and dates. In conclusion, Icard presents the provisions of the laws in France in regard to the certification of death. They are very prudent and conservative, but are practically a dead letter, never being enforced according to the spirit of the regulations. They provide for careful examination of the subject before the certificate of death is signed by the registered physician, and he must wait for cadaveric rigidity and putrefaction before he signs. The legal interval of twenty-four hours before burial is permitted should commence from the moment when the authorities are notified of the death, and not from the moment of supposed death. Until the expiration of the twenty-four-hour interval the subject should be regarded as a sick person and not as a corpse, and treated as such. The public authorities urge that every family should be instructed in the care to be given the subject until the complete expiration of the legal interval. This interval may be shortened in certain cases on condition that the death has been certified with the greatest care, and that it is known to be real and not apparent. Icard's study of the subject in other lands besides France shows him that death certificates are liable to be signed haphazard by physicians anywhere, sometimes without actual inspection of the supposed corpse. He mentions one instance in which the certificate was signed blank and left with the mother of a sick child, for her to fill in the exact hour of death and forward to the authorities. Icard has this blank certificate in his possession and regards it as a monument of inexcusable carelessness. He cites Brouardel to the effect that 3 instances at least are known in which apparent death lasted a long time, but the supposed corpses were finally restored to life. The subjects he mentions are the men hung at Boston and Perth, and Roger's case of revival after burial. Apparent death is life under the external aspect of death. Every dying person passes through this phase before death is finally complete.

Semaine Médicale, Paris.

47 (XXIV, No. 32.) Editorial Comment on Jacob's Pulmonal Infusion.—De la sincérité dans les observations médicales et des limites de l'expérimentation thérapeutique. See page 557.

48 *Le chylothorax traumatique. F. Munch.

49 *Report of Fourteenth French Congress of Neurology and Psychiatry, Pau, August 1-7. (Commenced in No. 31.)

50 (No. 34.) *Les formes cliniques du cancer de l'estomac. L. Bard.

51 Des troubles cardiaques tardifs consécutifs aux angines. P. Busquet. Abstract.

52 Hétérotopie thyroïdienne. E. Tavel. Abstract.

53 Etude des abcès du foie chez l'enfant (liver abscess in children). Corvington. Abstract.

48. **Traumatic Chylothorax.**—Four of the 10 cases of traumatic chylothorax on record terminated fatally. In 2 cases the effusion was spontaneously reabsorbed. Others recovered after nine or ten punctures, and death in the fatal cases seems to have been due principally to the large amount of fluid—six or seven liters—found in the pleura, actually suffocating the patient. Aspiration is not always successful, however, one subject succumbing from inanition after the tenth puncture.

Port has reported excellent results from thoracotomy in one case, and it is quite a question whether immediate thoracotomy is not the preferable procedure when the diagnosis of traumatic chylothorax is once definitely established.

49*a*. **Localization of Motor Functions in Spine.**—This was one of the subjects on the order of the day at the recent neurologic congress. Addresses were presented by Sano of Antwerp, Grasset of Montpellier, and Parhon of Bucharest. They emphasized the fact that much further study is needed on this subject, and also that the various theories proposed are all too exclusive.

49*b*. **The Criminal Insane.**—After long discussion of this subject the congress adopted resolutions asking for the creation of special asylums for the particularly dangerous insane as an urgent necessity. This would include the criminal insane.

49*c*. **Mode of Arresting Epileptic Seizure.**—Crocq of Brussels has found that the clonic spasms can be suppressed and the consciousness restored by placing the epileptic on his left side during the tonic period. This method of arresting the seizure was first proposed by McConaghey of Edinburgh, and Crocq has found it successful in every instance in which he has applied it.

49*d*. **"Combined Plantar" Sign of Hysteria.**—The same author calls attention to the simultaneous abolition of the cortical plantar reflex or flexion reflex, and of the spinal plantar reflex or fascia lata reflex, which he calls the "combined plantar reflex." He regards its abolition as pathognomonic of hysteria.

49*e*. **Radium in Nerve Therapeutics.**—Foveau de Courmelles describes numerous experiences to show the great sedative power possessed by radium. It soothes pain, whether organic or cancerous, nervous or neuralgic. Some cases of facial neuralgia and one of sciatica, long rebellious to other measures, yielded to the action of the radium rays. The girdle pains in 2 cases of ataxia were cured, one by the radium and the other by the Röntgen rays. The subjects were not informed in regard to the nature of the treatment, so he thinks that suggestion may be excluded.

49*f*. **Sodium Nitrite in Tabes.**—Oberthur has cured the pains in rebellious cases of tabes by sodium nitrite given by mouth or subcutaneously.

50. **Clinical Forms of Cancer of the Stomach.**—Bard proposes tentatively a classification of gastric cancers which he thinks will aid physicians in prognosis and in their decisions, and will improve the results, both immediate and remote, of surgery. He divides the 3 main groups, pyloric, extra-pyloric and subperitoneal cancers, into the subgroups of typical, abortive and latent. The abortive forms are the most puzzling. In the pyloric group it includes the annular, colloid cancer, inducing insufficiency of the pylorus instead of stenosis. The latent form includes the submucous cylindroid cancer or Brinton's plastic linitis, which substitutes esophageal symptoms for the ordinary pyloric ones. The abortive form of extra-pyloric cancer includes the painful dyspeptic form (generally an ulcer-cancer at some distance from the pylorus), and the cachectic form without gastric phenomena. The latent form of extra-pyloric cancer includes the variety simulating pernicious anemia, generally owing to frequent slight hemorrhages, and the variety inducing symptoms of stenosis. The cancer in the latter case may be near the cardia, and the secondary stenosis may simulate cancer of the esophagus, or it may be gastro-colonic, simulating cancer of the colon and terminating in a gastro-colonic fistula. It may, further, be the cancerous form of hour-glass stomach, or it may be a gastrohepatic cancer with extensive perigastric adhesions, fixation of the liver and effacement of the stomach from a longitudinal stricture, simulating a chronic subhepatic peritonitis. The latent form may induce early and predominating symptoms in remote organs, either in the liver, simulating primary cancer of the liver or cirrhosis, or it may assume a peritoneal form, simulating tuberculous peritonitis or portal cirrhosis. The subperitoneal form is very rare. There is usually a palpable tumor, and the symptoms all indicate peritonitis without apparent participation of the stomach. Secondary cancers in the stomach generally occur in this locality. He has observed several of this kind of thyroid, and some of ovarian origin. He urges that the statistics of cancers operated on should be classified according to this or some similar plan. By this means it would be possible to learn which forms are legitimate subjects for intervention, and which are best left alone. He is convinced that operative results will be found particularly encouraging in certain cases of scirrhous annular pyloric cancers, in ulcer-cancers, in the extra-pyloric variety of the dyspeptic type and in plastic linitis, no matter how extensive. He reviews in detail the indications for the various palliative and radical operations, concluding with the remark that the latent gastro-colonic variety of cancer might suggest benefit from an artificial anus, but this would entail only disappointment.

Berliner klinische Wochenschrift.

54 (XLI. No. 32.) Fall von familiärer Tabes dorsalis auf syphilitischer Basis. Tabes bei der Mutter und ihren zwei hereditär syph. Töchter (mother and 2 daughters). M. Nonne.
55 *Polymyositis und Polyneuritis bei Morbillen (measles). W. Jessen and E. Edens.
56 Das Rhinophyma und deren operativen Behandlung. S. L. Bogrow (Moscow).
57 Fracture of Neck of Femur in Child. R. Lammers.—Fall von Schenkelhalsfraktur beim Kinde.
58 Belladonna Poisoning in Ophthalmic Practice. J. Fejer (Budapest).—Ueber Belladonnavergiftungen in der augenärztlichen Praxis.
59 (No. 33.) *Stones in Gall Bladder and Their Treatment. Franz König.—Steine in der Gallenblase und deren Behandlung.
60 *Recent Progress in Dentistry. Warnekros.—Ueber neuere Fortschritte in der Zahnheilkunde.
61 Metastatische Sarkomatose der Lungen mit Epikrise, diagnosticirt auf Grund des mikroskopischen Befundes der Primärgeschwülste. S. S. Burt (New York.)
62 *Weitere Erfahrungen zur Scopolamin-Morphin-Narkose (further experiences). B. Korff (Freiburg).
63 (No. 34.) *Talma Operation. S. Talma (Utrecht).—Chirurgische Oeffnung neuer Seitenbahnen für das Blut der Vena Portæ.
64 Follicilis und Erythema induratum Bazin. A. Alexander.
65 The Art of Increasing or Diminishing the Body Weight at Will. M. Einhorn (New York).—Die Kunst das Körpergewicht nach Belieben zu erhöhen und zu erniedrigen.
66 *Important Roentgen Findings in Case of Shot in Eye. A. Kohler.—Schrotschuss ins Auge.
67 Electro-diagnostische Untersuchungen mit Condensatoren-Entladungen (examination with condenser discharges). L. Mann (Breslau). (Commenced in No. 33.)

55. **Polymyositis and Polyneuritis in Measles.**—Jessen describes in detail a case of measles diagnosed the sixth day. The sixteenth day the symptoms indicated acute articular rheumatism, but these rheumatoid manifestations were evidently the first indications of a severe, acute polymyositis, which he attributes to the measles. Edens describes a case of polyneuritis due to measles. The illness began with stormy onset, soon complicated by bronchopneumonia, and later with otitis media, followed by the polyneuritis. He knows of only one other case of polyneuritis due to measles on record.

59. **Treatment of Stones in the Gall Bladder.**—König reports the operative treatment of the milder forms of cholelithiasis requiring surgical intervention, as practiced at the Charité clinic. He describes 7 cases to show the variety of operations devised to meet individual indications.

60. **Hygiene of the Teeth.**—As recent progress in dentistry Warnekros describes electrolysis to prepare a tooth for filling. A current of from 1 or 2 milliamperes is passed through the tooth, wet with salt solution, for five minutes; a temporary filling is applied and the electrolysis repeated a few days later. This sterilizes the tooth completely, ready for the filling. The bactericidal action is due to the generation of nascent chlorin and oxygen at the positive pole. He advises the alternate use of hard and soft tooth brushes, of varying shapes. The use of a single brush or of a single shape causes certain parts of the teeth and gums to be unduly scrubbed and others neglected, with abrasions in some parts. Energetic use of the teeth in chewing is the best mode of cleansing them. He urges physicians to order their patients in prolonged illness to chew some indifferent substance, and in all cases to chew vigorously. The spectacle of a neglected mouth, a hot-bed for bacteria, which is so frequently observed in the sick, would become rarer. He also advises physicians to order more solid food for children who still have their first dentition. The best plan

for the development of the teeth would be to have weakly children always given hard, black bread, but as this is impracticable, hard slices of chocolate or the like might be used to advantage. This might hasten the decay of the milk teeth, but would aid in the strong development of the permanent teeth. He observed in Egypt that the first dentition suffered from caries, but that the permanent teeth were much more perfect than among corresponding European children. He attributes this soundness of the permanent teeth to the constant practice of sucking and chewing sugar cane. It does not prevent the decay of the milk teeth, but insures stronger permanent teeth. He pays a high tribute to American dentistry, remarking that America still leads the world in dentistry in the present as in the past. In conclusion, he urges the general adoption in hotels, depots and other public places and private houses of cuspidors fashioned on the principle of dentists' basins with a rinsing jet of water. Prohibition of spitting in public places, and the uninviting aspect of the cuspidors now in use may lead to the swallowing of infectious saliva or sputa. Dentists will gladly co-operate with surgeons and hygienists and others in this and similar questions, and their advice may frequently prove very valuable.

62. **Further Experiences with the Scopolamin-Morphin Narcosis.**—Korff summarizes the results observed in 200 cases of this narcosis. In the dosage he uses (see THE JOURNAL, xli, page 1568), it is free from danger to heart or lungs. No disturbances on the part of kidneys, liver, digestive tract, etc., have ever been observed. The general practitioner can employ it without a special anesthetist. The action of the narcosis varies with different individuals. Sometimes a further dose of .0002-3 gm. scopolamin and .005 to .01 gm. morphin may be required, or chloroform or ether. The chief advantages are the absence of the tendency to vomit during and after the operation. Also that fluids can be ingested immediately before the narcosis and directly afterward. The precaution must be observed not to allow the tongue to fall back and obstruct the breathing, especially in toothless subjects, during the profound sleep during and after the operation, the result of the narcosis. Drawing the lower jaw forward draws up the tongue and obviates this danger.

63. **Talma on the Talma Operation.**—Three questions are discussed in this communication: Does the collateral deviation of the blood induced by the operation affect cirrhosis of the liver favorably? Can the omentopexy reduce the danger of hemorrhage from the overfilled veins? and can the establishment of collateral circulation in case of portal thrombosis compensate the worst of the circulatory disturbances? Talma reports experiences which compel an affirmative answer to the first two questions. In respect to the third question, he cites a case of pronounced phlebo-sclerosis of the portal vein, the probable cause of the thrombosis observed. It is the only case of which he has knowledge from which an opinion can be formulated in regard to the significance of omentopexy in case of occlusion of the portal vein in man. The patient was a man of 50, who had been subject for fourteen years to atrophic, annular cirrhosis of the liver, with ascites but no icterus; attacks of violent pain from fibrous splenitis and caput Medusæ. Omentopexy was performed, and for two months the patient was free from ascites. The collateral vessels became much enlarged at the point of attachment and around the esophagus. Then the ascites recurred from portal thrombosis, a consequence of old phlebo-sclerosis and partial occlusion of the portal vein with an old organized thrombus. In Umber's case the portal vein had been congenitally occluded, and likewise the splenic vein, but the collateral circulation had always been sufficient, and no disturbances had been noted. The liver was sound. The omentum was adherent to the liver, kidneys, spleen, intestines and abdominal wall, and there were numerous adhesions between the intestines, etc. The occlusion of the portal vein was a necropsy surprise, the collateral circulation having obviated all disturbances until fresh thrombosis occurred in the collateral circulation. The conclusions which Talma draws from this and his own case are that it is a good plan to make the omentopexy multiple, that is, to fasten the omentum at several points. Another case of recent thrombosis in an old phlebitis has recently been described in Holland, remarkable on account of the hyperemia of the abdominal wall and the development of wide veins at the points where the spleen and diaphragm had become adherent. Stephan has also reported a case of acute thrombosis of the portal vein followed by fatal necrosis of a large part of the intestines. Comparing the findings in this case with those in the case of long-established occlusion of the portal vein, shows better than any words the importance of collateral side routes circulation for the blood in case of liver cirrhosis.

66. **Radiogram of a Shot in the Eye.**—Köhler obtained a good radiogram of the shot, but when the subject looked upward the rays cast shadows of two pieces of shot, when in fact there was only one. This confirmed the assumption that it was located in the eyeball.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

68 (XXX, No. 32.) *Das Trauma als Aetiologie bei Aortenklappen Insuffizienz. F. Sinnhuber (Berlin).
69 Fate of Nucleinic Acid Introduced Into Circulation. A. Schittenhelm and E. Bendix.—Schicksal der in die Blutbahn eingebrachten Nukleinsäure.
70 *Ueber Misch Infektion durch Typhus- und Paratyphus Bazillen. H. Conradi.
71 *Ueber die chirurgische Behandlung der otogenen eitrigen Cerebrospinal-Meningitis. E. P. Friedrich (Kiel).
72 *Ein neuer Gesichts-Punkt bei der Behandlung der Aphonia spastica. E. Barth (Frankfurt a. O.).
73 Zum 70 Geburtstag von Ewald Hering (seventieth birthday). P. Grützner.
74 (No. 33.) Zur Typhus-Diagnose. K. Walter.
75 *Ueber aktive Immunisierung des Menschen gegen Cholera E. Bertarelli.
76 Ueber die Agglutination des Milzbrand-Bacillus (anthrax) A. Carini.
77 *Beiträge zur Methodik der klinischen Stuhluntersuchung (examination of stools). E. v. Koziczkowsky.
78 *Der heutige Stand der Neuron-Theorie. A. Bethe.
79 *Diabetes insipidus, behandelt mit Strychnin-Injektionen. B Leick.
80 Gout in Boy from Infancy. R. Lunz (Moscow).—Fall von Gichterkrankung bei einem 7 jährigen Kinde.
81 *Mein 60 bronchoskopischer Fremd-Körper Fall. G. Killian
82 *Ueber eine neue Methode der Behandlung der chronischen Urethritis. H. Lohnstein.
83 Xiphophagus Duplicitas parallela. H. Singer. (First part in No. 27.)
84 Progress in Appliances for the Care of the Sick. P. Jacobsohn.—Fortschritte der Krankenpflegetechnik.

68. **Trauma in Etiology of Aortic Insufficiency.**—Sinnhuber thinks that far too little attention has been paid hitherto to trauma as a factor in the production of valvular affections. The text-books suggest it only as a bare possibility, and very few instances have been published, among them Hektoen's case (1892) of rupture of the aortic valves. During the last year and a half Sinnhuber has had occasion to observe 3 cases at the Berlin Charité in which the symptoms of aortic insufficiency were traceable to a contusion or fall on the chest. Two of the patients applied for relief without referring to any traumatism in their antecedents, and it was only learned by direct questioning. The particulars are detailed, and also the post-mortem findings in a fourth case. The latter was diagnosed as traumatic aortic insufficiency, but the necropsy revealed merely a chronic, recurring endocarditis. The patient was a man of 38, previously healthy, whose business was the moving of safes. With 8 other men he had carried a very heavy safe up a flight of stairs, then walked a mile home and slept for several hours. When he awoke he experienced progressive dyspnea, and the next day much pain in the abdomen and in the region of the stomach, and vomited all that he ingested; the vomitus was blood streaked. The dyspnea became so excessive that he entered the hospital the tenth day. Traumatic aortic insufficiency was diagnosed, but the necropsy revealed merely chronic, recurring endocarditis. Notwithstanding these negative findings in this case, Sinnhuber thinks there can be no mistake in the diagnosis of the 3 other cases. One man had been devoted to athletics and had been found perfectly sound when examined eleven months before the accident, while four weeks after, a severe heart defect was discovered. He presented the symptoms of severe aortic insufficiency, with hypertrophied left ventricle, and other symptoms visible even from a distance. The second patient was a cabinet-maker of 42, who had worked steadily until the accident. Two months afterward he was unable to work at all on account of symptoms

suggesting aortic insufficiency. A year and a half later his heart measured 22 cm. at the base (over 8.5 in.). In the third case a history of malaria eight years, and of gonorrhea one year before suggests the possibility of endocarditis *ad valvulas aortæ*. But the man had been apparently in good health when the trauma occurred, and it was followed by a stormy onset of dyspnea, unbearable beating of the vein trunks, symptoms of distress, suffocations and other signs of the severest aortic insufficiency, compelling the diagnosis of a traumatic valvular affection.

70. **Mixed Typhoid and Paratyphoid Infection.**—A child ate pieces of ice from a pond known to be infected with typhoid and paratyphoid bacilli. She developed an irregular fever, enlargement of spleen, roseolæ, mild intestinal disturbances and retarded heart action, suggesting an atypical typhoid. Typhoid and paratyphoid bacilli were found growing on agar plates inoculated from the stools on the fifth day. Conradi further describes an epidemic at Metz in which typhoid bacilli were isolated from the stools of certain patients and the paratyphoid from those of others. The attending physician was examined and, although he was and remained in the best of health, both typhoid and paratyphoid bacilli were isolated from his stools. They were not numerous, merely from three to five on each plate. They were unmistakably derived from contact infection, but the agglutination test was always negative in his case.

71. **Surgical Treatment of Otogenous Suppurative Cerebrospinal Meningitis.**—Friedrich advocates operative treatment of otogenic suppurative arachnitis by opening up the cranial cavity and subarachnoid space combined with a counter-opening at the lowest point of the spinal canal. He has thus operated in 2 advanced cases, but was unable to avert the fatal termination. It might prove a very valuable measure, however, he thinks, for the isolated basal and spinal form of suppurative cerebrospinal meningitis of otitic origin, if taken in time. The lesion here is, in fact, a kind of phlegmon of the posterior cranial fossa with involvement of the ventricle, basal cisterns and spinal arachnoid sac, while the convexity of the cerebrum is not affected. Such an affection is usually a gradually progressive, chronic involvement of the arachnoid and pia. In its insidious course the pus collection becomes localized and encapsulated. Here belong the cases of chronic otitis media, especially those of cholesteatoma formation. The anatomic findings in his 2 cases confirmed the assumption of a localized pus collection in the basal and spinal subarachnoid spaces. Why should we not apply, he asks, to irritated meninges the same surgical principles which we employ so successfully in purulent peritonitis? After the laminectomy and opening of the arachnoid the fluid must not be withdrawn too rapidly by the lumbar puncture below. A tampon should be applied to soak up very slowly the pus-containing cerebrospinal fluid. With these precautions he has never had any mishaps occur from lumbar puncture in a single instance in his extensive experience with it, even when as much as 15 c.c. are withdrawn at a sitting. It is not enough to drain away the fluid and pus; the thick pus is liable to collect and adhere to the spinal canal and must be rinsed out. Cordero has demonstrated experimentally the feasibility of such a procedure, substituting the natural fluid with salt solution. He found it possible to send from 10 to 40 c.c. through the spinal canal without eliciting nervous symptoms. If this rinsing out of the spinal canal seems too hazardous, the re-formation of cerebrospinal fluid might be promoted by intramuscular injections of salt solution. Friedrich's experience seems to indicate that the first symptoms of the affection in question—a localized endocranial pus collection—are those of serous meningitis. The high temperature indicates the toxic character of the exudate and the rigid muscles at the back of the neck, with the absence of symptoms of brain irritation, aid in localizing the inflammation at the base. When lumbar puncture fails to demonstrate any permanent benefit, laminectomy is in order, but it is too late for it when the bacteriologic and cytologic findings of lumbar puncture indicate that the entire arachnoid sac is diffusely suppurating. [At the International Congress of Otology, held at Bordeaux in August, Lermoyez and Bellin of Paris reported 2 cases in which surgical treatment was applied in otogenic meningitis, with the complete recovery of the patients. The first was a young woman long subject to otorrhea. After a month of vague general disturbances symptoms of acute diffuse meningitis developed: Intense headache, rigidity of the muscles of the back of the neck, facial paralysis and Kernig's symptom. Lumbar puncture showed 58 per cent. lymphocytes and 40 per cent. polynuclears. The carious petrous bone was widely opened up, the wall of the labyrinth found necrotic, the dura fungous. The temperature returned permanently to normal the next day, but the Kernig symptom persisted several days longer. The lumbar puncture was repeated a week later, and the lymphocytes were found very numerous, but scarcely 1 per cent. of polynuclears. In two weeks the fluid was entirely normal. The circumstances were similar in the second case, but the trouble was more protracted. The first patient was cured by merely an ample craniectomy, relieving the compression. In the second case actual drainage had to be established both by the cranial and the spinal routes. The meningitic symptoms reappeared twice after a few days' interval of peace. In both cases the infection had spread to the meninges from pyo-labyrinthitis, but a cure was obtained without trephining the labyrinth, leaving to Nature the task of eliminating the sequestrum in the labyrinth. This was successfully accomplished in time, although it delayed the healing for several months in the second case. The cure has been complete and permanent for eighteen months in the first and for eight months in the second case. Neither of the patients display any evidences of impaired equilibration.—ED.]

72. **New Standpoint for Treatment of Spastic Aphonia.**—Barth noticed certain indications which convinced him that spastic aphonia is a disturbance in co-ordination. The muscles forget their co-ordinating action, and by mechanically restoring this action the idea of the co-ordination is rearoused in the brain and transmitted to the muscles. He describes a few cases treated on this principle with surprisingly favorable results. He interposes a sound or the endolaryngeal electrode between the arytenoid cartilages. Normal tones were produced at once and the aphonia was conquered in some cases permanently, while others required daily repetition of the co-ordination exercise for a few days. The success depended usually on the duration of the aphonia.

75. **Active Immunization Against Cholera.**—Bertarelli's research has confirmed the value of the Shiga method of immunization by injection of free receptors. After positive results on rabbits and guinea-pigs he tried it on himself with equally positive results. The degree of immunization is very small and the amount of receptors required is too voluminous at present. The technic will have to be modified to obtain a higher degree of immunity with more concentrated material before it can be generally adopted.

77. **Clinical Examination of the Stools.**—This article issues from Senator's clinic and describes the methods in vogue there. The repeated finding of invisible blood in the stools seems to be pathognomonic of cancer, as in case of ulcer the occult bleeding is more erratic and intermittent. The blood occurs during exacerbations and vanishes as the ulcer heals. Blood was frequently found in the feces in cases of hypersecretion without positive clinical signs of ulcer. These occult bleedings are a valuable means of differentiating ulcer from nervous gastralgia, cholelithiasis, etc., and also for the discovery of gastrointestinal cancer inaccessible to palpation. The aloin test has proved much more reliable than the guaiac test (see THE JOURNAL, xli, p. 1566). No food or medicine containing blood should be taken, and articles containing chlorophyll or iron should also be avoided. The diet should be restricted to milk, flour, bread, eggs, fruit and not too much fat. The sample of stool should have the fat extracted by evaporating on the water-bath and then extracting with ether. It is sometimes advisable to rub up a dark stool with considerable alcohol and then filter it out to remove the urobilin. After the fat is removed the stool is digested with glacial acetic acid

for a minute or two, poured into another vessel and extracted with a small amount of ether. For 5 gm. of stool 5 gm. of acetic acid and 5 to 10 c.c. of ether are the usual proportions. Over the filtered or unfiltered mixture is then poured, from a graduated pipette, 1 to 1.5 c.c. of ozonized turpentine, and above this about .5 c.c. of a fresh 2 to 3 per cent. solution of aloin. The most convenient technic is to have .3 gm. of pulverized aloin on hand and dissolve it in 10 c.c. of a 65 to 70 per cent. alcohol. On the above diet repeated positive findings of this test may be confidently accepted as evidence of occult hemorrhage, in the absence of other known sources of the blood found. The technic of determining the albumin residuum in the feces is also described, and the determination and clinical significance of the length of time in which the food remains in the digestive tract. It is astonishing that so little attention has been paid to this latter point from the diagnostic point of view. A test diet is given, five meals during the day, the totals consumed being 1.5 liters milk, .25 liter bouillon, 6 zwieback, 40 gm. oatmeal, 40 gm. butter, 2 eggs (80 gm.), and 200 gm. soft mashed potato. He demarcated this test diet with .5 gm. carmin given just before it was commenced. He found that it remained in the digestive tract from fifteen to twenty-five hours in subjects free from appreciable intestinal disturbances. In pathologic cases the shortest interval was four hours, and in such cases the sublimate test for transformation of bilirubin into urobilin in the feces was negative. He accepts as the standard unit the time from the commencement of the diet to the appearance of the first red-stained stool —the German term *Verweildauer* being used to express this standard interval. The author recommends this simple technic as a valuable method for obtaining information in regard to the intestinal functions and disturbances in them. The findings are destined to throw light on many questions which have hitherto been merely vague surmises. The alkaline or acid reaction of the stools is determined by adding a small portion of the stool to one of two wide-mouthed reagent glasses containing equal amounts of a 10 per cent. aqueous litmus tincture. Comparing the glasses by daylight will readily show the alkaline, neutral or acid reaction.

78. **Present Status of the Neuron Theory.**—Bethe relates the particulars of recent research on the finer structure of the nerve elements, especially in the lower forms of life. His article is illustrated, and he remarks in conclusion that he does not understand how any one who reviews the material therein presented can fail to become convinced that the neuron theory is played out. The neuron is not a cellular unit. A fibrillar anastomosis between the various neurons is unmistakably established in crustacea and is more than probable in man. Recent embryonal and histologic research has established that at least the axis cylinders of the peripheral nerves are of multicellular origin. It is very probable that, besides the neuron-complexes, there are other nerve elements genetically independent of them. The term neuron should be retained, but not the meaning hitherto ascribed to it. We must understand that these complexes do not make up the entire nervous system, that they do not exist in the nerve network, that they are not morphologically of equal value, that they are not units either from the trophic or physiologic point of view, and that they shelter guests, the neurofibrils, whose origin is still a mystery.

79. **Strychnin in Diabetes Insipidus.**—A man of 49, previously healthy, developed a typical diabetes insipidus after a severe concussion of the nervous system. Strychnin was administered—fifteen injections during twenty days—a total of .0905 gm. strychnin nitrate. The urine subsided from a daily 8,000 c.c. to 3,400 c.c. The strychnin was discontinued on account of symptoms of intoxication, but the urine continued its downward course to 2,400 and 1,700 c.c. and the patient is apparently cured. The density of the urine remained uninfluenced by the strychnin. It ranged from 1,007 to 1,002. The persistence of this figure for the specific gravity forbids the assumption of a complete cure, but the subsidence of all the symptoms certainly justifies further trials of strychnin in such cases.

81. **Bronchoscopy.**—Killian reports the sixtieth case of extraction of a foreign body under bronchoscopy. He does not understand why it is not more generally adopted. "Why make a hole through the wall to get into the house when a wide front door and spacious steps are at our disposal?"

82. **New Instrument for Treating Chronic Urethritis.**—The instrument looks like a sound with two openings near the tip. After it is inserted in the urethra, by turning a thumbscrew in the handle, two small curette spoons merge from the two openings, spreading apart from each other at an angle of 45 degrees more or less. A graduated scale in the handle shows the exact distance between the tips of the curettes. The aim is to spread them to distend the walls of the urethra and by moving them just as much as can be done without causing pain, twisting and working the instrument, to curette the walls and evacuate the adjoining glands, combined with a sort of massage of the parts. Lohnstein has used the instrument in 20 cases and found that it more than fulfilled all his anticipations. It was particularly useful for the removal of polyps and other excrescences, and in case of infiltrations and chronic follicular urethritis.

Münchener medicinische Wochenschrift.

85 (LI, No. 32.) *Heart Disturbances in Scarlet Fever. Schmaltz.—Herzstörungen beim Scharlach und ihre Folgen.

86 *Comparative Study of Hydrochloric Acid, etc., in Stomach Troubles. S. Heichelheim and H. Kramer.—Vergleichende Untersuchungen über die Wirkung von Salzsäure, Salzsäure Pepsin und Gasterine bei Hypochylia und Achylia gastrica.

87 *Physiologic Action of Natural Gastric Juice (pigs). W. Erb. —Ueber die physiol. Wirksamkeit des "natürlichen" Schachmagensaftes (dyspeptine Dr. Hepp).

88 *Pressure in Auricle in Valvular Defects. A. Horner.—Ueber den Vorhofdruck bei Klappenfehler.

89 2 Cases of Bullet Wounds of Brain. A. Schott.—Zwei Fällen von Schussverletzungen des Gehirns.

90 Zur Kasuistik der Perinealen Luxationen. F. Seiderer.

91 Einfaches Modell einer Milch-Pumpe (breast pump). H. Koeppe (Giessen).

92 *Congestion and Age in Origin of Tumors. E. Rössle (Kiel). —Die Rolle der Hyperämie und des Alters in der Geschwulstentstehung. (Commenced in No. 31.)

93 Superstition Before and During Childbirth. A. M. Pachinger. Der Aberglaube vor und bei der Geburt des Menschen.

85. **The Heart in Scarlet Fever.**—Schmaltz emphasizes the necessity for rest in case of scarlatinal heart complications. He cites a number of examples from his own experience to illustrate the danger of allowing demands to be made on the heart before it is entirely restored. He never witnessed a case of death from these heart complications unaccompanied by sepsis or nephritis, but in 29 cases the cardiac symptoms persisted at the time the patient was dismissed. In 15 there were evidences of mitral insufficiency, in 9 merely a systolic murmur, and in 2 marked dilatation without murmurs was noted as late as the fifty-first and sixty-second day. Examination of these patients later disclosed permanent mitral insufficiency in 16. In 5 of this number the cardiac defect had caused insignificant symptoms during their stay in the hospital, which had become aggravated later. In 5 of the patients with pronounced cardiac defects at this later examination there had been nothing abnormal when they had been dismissed from the hospital. In only 3 of the patients had the heart disturbances noted on dismissal retrogressed later. The interval had been from six months to five years. These experiences indicate that scarlatinal heart affections entail permanent heart disturbances more frequently than the diphtheritic, and they seem to be more serious, although never directly fatal. In 33 cases that came to autopsy, recent changes in the valves were discovered in only 3. The disturbances are evidently due to myocardial changes. Greater attention should be paid to the heart in and after scarlet fever. Prolonged rest for the heart and possibly local application of the icebag are indicated. He never derived any appreciable benefit from digitalis in these cases.

86. **Natural Gastric Juice and HCl in Stomach Affections.**—Eleven patients at Riegel's clinic were treated with hydrochloric acid or a combination of the same with pepsin or with gasterine, or dyspeptine, a natural gastric juice. Comparative study of the results shows that gasterine has a favorable action on the digestion of the meal with which it is given, provided as much as 100 to 150 c.c. is given, but it is no more effective than hydrochloric acid alone or in combination with pepsin. The HCl has a pronounced action in stimulating the

secretion of pancreatic juice and possibly also of the bile. The conclusions are all favorable to the administration of hydrochloric acid, both transiently and continuously, in addition to dietetic measures, in all cases of hypochylia or achylia gastrica when the appetite is depressed, and there are fermentations in the stomach, with diarrhea. The digestive power was wonderfully increased, in many cases by giving from 100 to 300 c.c. of a one-tenth normal hydrochloric acid solution. When pepsin was added it was in the proportion of 5 gm. to 100 c.c. of the same. Some of the patients drank the solution through a glass tube; others had it introduced through a stomach tube. None complained of the taste.

87. **Physiologic Study of Natural Gastric Juice (Pigs).**—Erb argues that the gastric juice derived from pigs by a Pawlow fistula can never be a physiologic secretion. The operative intervention renders it always more or less pathologic.

88. **Pressure in the Right Auricle in Valvular Defects.**—Horner has been giving the Gaertner test a thorough trial on healthy subjects and on those with valvular defects. It was described in these columns, page 687 of vol. xlii. The arm is lifted slowly and passively, and the point at which the veins collapse is marked by comparison with the standards Gaertner has established. Horner's tests confirm the great value of this new technic, with certain restrictions. He reports a number of cases of mitral incompetency, etc., to show the characteristic findings in various valvular defects.

92. **Role of Hyperemia and Age in Origin of Tumors.**—Rössle proposes a theory to account for the origin of tumors by variations in the cells of the organism caused by age and congestion. Histologic and physiologic study of old age is the most promising line for research on the origin of malignant cancer.

Gazzetta degli Ospedali, Milan.

Last indexed page 850.

94 (XXV, No. 49.) Alopecia areata in seguito a trauma. V. Ramazotti.
95 *Infezione puerperale ed iniezioni endovenose di sublimato corrosivo. G. Fabio.
96 *Contributo alla cura della pneumonite crupposa colla digitale ad alte dosi. A. Amncano.
97 (No. 52.) Intorno alia radio-activita dei fanghi e delle acque di Abano. De Giovanni.
98 *Dell' importanza della siero-agglutinazione nella diagnosi precoce della tubercolosi primitiva dell' orecchio medio (of middle ear). A. De Simoni.
99 Study of Bullet Wounds of Brain. A. Amantini.—Contributo allo studio delle lesioni cerebrali per ferita d'arma da fuoco.
100 (No. 58.) Contributo alla setticemia pura da tetragono. U. Baccarani.
101 Il reflesso di Babinski. S. Ceraulo.
102 *Limitazione dell' area cardiaca mediante il palpamento. G. Bassi.
103 Contributo alla splenoplessia. A. Ceccherelli.

95. **Sublimate in Puerperal Infection.**—Fabio describes a case of severe puerperal infection, apparently in the last stages when first seen. He injected intravenously 3 mg. of a 1 per thousand solution of sublimate, with local measures. The temperature declined a little the same evening and there was slight abatement of the symptoms. Six intravenous injections were thus made in the course of a week, after which the patient was soon restored to health, an extensive ulceration of a laceration of the vagina having healed completely. Bidoli has recently published a similar case of recovery under sublimate as a last resource (*Policlinico*, July 9). The patient was apparently moribund.—ED.]

96. **Digitalis in Croupous Pneumonia.**—The patient had previously passed through four attacks of croupous pneumonia between the ages of 16 and 33. They had been treated by the ordinary measures, with the usual protracted course. At 34 another attack occurred and 3 and 4 gm. of digitalis leaves were infused and administered on following days. The disease was arrested and recovery rapidly ensued, in marked contrast to the preceding attacks, and notwithstanding the fact that the onset had been stormy. Digitalis evidently has different effects on a healthy and a pneumonia subject. It may have some specific bactericidal action on the causal germ, or the intense leucocytosis induced may have the same result, or the leucocytes may be rendered more resistant. Carbone insists that pneumococcus infection is due to an intoxication of the system by absorption of the products of the elemen's of the blood, destroyed by the pneumococci. If this be true, then treatment with digitalis, to enhance the resisting power of the leucocytes, is the logical indication, and experience is crowning it with success.

98. **Sero-Diagnosis of Primary Tuberculosis of the Middle Ear.**—De-Simoni cites 3 cases to show how valuable the agglutination test may prove long before other signs are available. He tabulates the findings in 14 other cases in which the test was negative, and the course of the affection confirmed its non-tuberculous character.

102. **Palpation of the Heart Outlines.**—Bassi urges that greater reliance should be placed on the palpation findings in the diagnosis of heart disease. He has found palpation a particularly valuable means of controlling percussion findings. The heart action in children is so vigorous that palpation gives very significant results in their case. He adds two diagrams to illustrate the findings in severe cases of organic mitral defect. The heart area determined by palpation coincides with the area of relative dullness in case of long established mitral defects, while it coincides with the area of absolute dullness in recent cases. The heart can not be outlined by palpation in non-febrile adults free from heart affections.

Russkii Vratch, St. Petersburg.

Last indexed pages 437 and 851.

104 (II, No. 43.) O endotheliom pleuri i eya histogeneseye. A. I. Burtzeva. (Commenced in No. 42.)
105 Differentiation of Cirrhosis of Liver and Angiocholitis. G. I. Bolintzeff.—Zheltzie tzirrosi i angiokholiti. Otzyenka ikh priznakov v chirurgitcheskom otnoshenii.
106 Case of Ovarian Pregnancy. G. I. Olekhno.—Slutchai vnyematotchnoi yaitchnikovoi beremennosti.
107 Preventive Legislation. L. Y. Jacobsohn.—Kakimi myerami slyeduet borotsya s rasprostranenyem veneretcheskikh boly ezni sredi utchastchikhsva?

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE SUPPRESSION OF TUBERCULOSIS, Together with Observations Concerning Phthisiogenesis in Man and Animals and Suggestions Concerning the Hygiene of Cow Stables and the Production of Milk for Infant Feeding, with Special Reference to Tuberculosis. By Prof. E. von Behring, University of Marburg. Authorized Translation by Charles Bolduan, M.D. First Edition. First Thousand. Cloth. Pp. 85. Price, $1.00. New York: John Wiley & Sons London: Chapman & Hall, Limited. 1904.

FOOD INSPECTION AND ANALYSIS, for the Use of Public Analysts, Health Officers, Sanitary Chemists and Food Economists. By Albert E. Leach, S.B., Analyst of the Massachusetts State Board of Health. First Edition. First Thousand. Cloth. Pp. 787. With 120 Figures and 40 Full-page Half tones. Price, $7.50. New York: John Wiley & Sons. London: Chapman & Hall, Limited. 1904.

A TREATISE ON OBSTETRICS. For Students and Practitioners. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in Jefferson Medical College. New (2d) Edition, Thoroughly Revised and Much Enlarged. With 274 Engravings and 39 Full-page Plates in Colors and Monochrome. Cloth. Pp. 800. Price, $5.00 net. Philadelphia: Lea Bros. & Co. 1904.

A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY. For Students and Practitioners of Medicine. By Charles E. Simon, M.D., late Resident Physician Johns Hopkins Hospital. New (2d) Edition. Revised and Enlarged. Cloth. Pp. 500. Price, $3.25 net. Philadelphia and New York: Lea Bros. & Co.

THIRTY-EIGHTH ANNUAL REPORT OF THE COLUMBIA HOSPITAL FOR WOMEN AND LYING-IN ASYLUM for the Fiscal Year Ending June 30, 1904. Washington, D. C. Paper. Pp. 35. Washington, D. C.: Government Printing Office. 1904.

SEVENTEENTH ANNUAL REPORT OF THE SUPERINTENDENT OF THE ST. LAWRENCE STATE HOSPITAL to the State Commission in Lunacy For the Year Ending Sept. 30, 1903. Paper. Pp. 52. Albany J. B. Lyon Company. 1904.

THIRTIETH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN for the Fiscal Year Ending June 30, 1902. Cloth. Pp. 254. Lansing Mich.: Robert Smith Printing Co. 1903.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. Vol. XVI. For the Year 1903. Cloth. Pp. 483. New York: Rooney & Otten Printing Co. 1904.

FIFTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF FLORIDA. Jacksonville, Fla., Feb. 9, 1904. Paper. Pp. 203. Jacksonville: The Drew Press.

ON FTISENS BEHANDLING Paa Sanatorier. Af Klaus Hanssen. Overlæge ved Bergens Sygehus. Paper. Pp. 40. Bergen: John Griegs Bogtrykkerl. 1904.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, for the Year 1904. Cloth. Pp. 503. Published by the Society. 1904.